



# ACCOUNTING FINANCE FOR BANKERS



2<sup>nd</sup>  
Edition

INDIAN INSTITUTE OF BANKING & FINANCE

  
ft  
MACMILLAN

# **ACCOUNTING FINANCE FOR BANKERS**



**INDIAN INSTITUTE OF BANKING & FINANCE**  
'THE ARCADE', WORLD TRADE CENTRE, CUFFE PARADE  
MUMBAI 400 005

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- To develop professionally qualified and competent bankers and financial professionals primarily through a process of education, training, examination, consultancy/counselling and continuing professional development programs.

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**OBJECTIVES**

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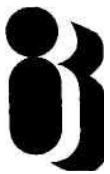
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# **ACCOUNTING FINANCE FOR BANKERS**

(For JAIIB/Diploma in Banking &  
Finance Examination)

2nd Edition



Indian Institute of Banking & Finance



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# FOREWORD

The world of banking and finance is changing very fast and banks are leveraging knowledge and technology in offering newer services to the customers. Banks and technology are evolving so rapidly that bank staff must continually seek new skills that enable them not only to respond to change, but also to build competence in handling various queries raised by customers. Therefore, there is a need for today's bank employees to keep themselves updated with a new set of skills and knowledge.

The Institute, being the main provider of banking education, reviews the syllabus for its associate examinations, viz., JAIIB/CAIIB and various other examinations with the help of Expert Groups from time to time to make the contents relevant and contemporary in nature. The latest revision has been done by an expert group under the Chairmanship of Prof. Y.K. Bhushan. This book and the other two books mentioned below are the courseware for JAIIB, which aims to impart up-to-date knowledge in the field of banking and finance and equip the bankers to face the emerging challenges of today and tomorrow.

As there is a growing demand for qualified manpower in the banking sector with accent on banking knowledge and skills, together with technology-familiarity, customer-orientation and hands-on application skills - which will substantially reduce the training intervention at the bank level before/ immediately after they are employed - the institute has launched the Diploma in Banking & Finance in 2007 for graduation-plus level candidates. Candidates to the course will get extensive and detailed knowledge on banking and finance and details of banking operations. The Diploma is offered in the distance learning mode with a mix of educational support services like provision of study kits, contact classes, etc. The key features of the Diploma is that it aims at exposing students to real-life banking environment and that it is equivalent to JAIIB.

The JAIIB and the Diploma in Banking & Finance has three papers, viz.

1. Principles & Practices of Banking
2. Accounting & Finance for Bankers
3. Legal & Regulatory Aspects of Banking

This book, the courseware for the second paper on **Accounting & Finance for Bankers**, provides the basic knowledge necessary to understand the accounting principles and practices of different entities with special focus on banks, and apply these numeric and accounting skills to aid decision making while working on a branch banking desk. This would help the students to understand the various steps involved even in a computerized banking system since the mechanization is based on the basic accounting principles only.

The Institute had constituted teams consisting of eminent bankers and academicians to prepare the reading material for all the subjects as self-instructional study kits obviating the need for the intervention of a teacher. This book represents the outcome of this endeavour to bring out self-contained comprehensive courseware/book on the subject. The Institute acknowledges with gratitude the valuable services rendered by the authors in preparing the courseware in a short period of time

The team, which developed the book, has made all efforts to cover the entire syllabus prescribed for the subject. However, the candidates could still refer to a few standard textbooks to supplement this

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material which we are sure, will enhance the professional competence of the candidates to still a higher degree. We have no doubt that the study material will be found useful and will meet the needs of the candidates to prepare adequately for the examinations. In addition, we are sure that these books will also be useful to practitioners, academicians, and other interested readers.

We welcome suggestions for improvement of the book.

*Mumbai*  
3.7.2008

**R. Bhaskaran**  
*Chief Executive Officer*

### **RECOMMENDED READING**

The Institute has prepared comprehensive courseware in the form of study kits to facilitate preparation for the examination without intervention of the teacher. An attempt has been made to cover fully the syllabus prescribed for each module/subject and the presentation of topics may not always be in the same sequence as given in the syllabus.

Candidates are also expected to take note of all the latest developments relating to the subject covered in the syllabus by referring to Financial Papers, Economic Journals, Latest Books and Publications in the subjects concerned.





# **PAPER 2- ACCOUNTING & FINANCE FOR BANKERS**

**OBJECTIVES:** To introduce the students to the basics of financial mathematics, accountancy and to develop an understanding in the basic financial concepts

## **MODULE A - BASICS OF BUSINESS MATHEMATICS**

Calculation of Simple Interest and Compound Interest - Fixed and Floating Interest Rates-Calculation of EMIs - Calculation of the Front End and Back End Interest - Calculation of Annuities - Calculation of Provisions for NPA and Risk Weights for Basel II - Interest Calculation using Products/Balances

Amortisation and Sinking Funds

Bonds-Calculation of YTM-Duration-Bond Pricing-Premium and Discount Bond Valuation Rules Preliminary Method, Definition of Debt, Rules on Compounding in Respect of Loan Accounts, Penal Interest, etc.

Capital Budgeting - Discounted Cash Flow - Net Present Value - Pay Back Methods

Depreciation - Different Types - Methods of Calculation Foreign Exchange

Arithmetic for Beginners

## **MODULE B- ACCOUNTING IN BANKS/BRANCHES**

Definition & Scope and Accounting Standards - Nature and Purpose of Accounting; Historical Perspectives - Origins of Accounting Principles Accounting Standards and its Definition and Scope.

Generally Accepted Accounting Principles - USA

Transfer Price Mechanism

Basic Accountancy Procedures - Concepts of Accountancy - Entity Going Concern - Double Entry Systems, Principles of Conservatism - Revenue Recognition and Realisation -Accrual and Cash Basis.

Record Keeping Basics - Account Categories - Debit and Credit Concepts - Journalising - Maintenance of Cash/Subsidiary Books and Ledger - Trial Balance -Adjusting and Closing Entries - Day Book and General Ledger Posting.

## **MODULE C - BANK ACCOUNTING AND BALANCE SHEET**

Rules for Bank Accounts, Cash/Clearing/Transfer Vouchers/System - Subsidiary Book and Main Day Book - General Ledger - Branch v/s Bank Accounts. Bank Balance Sheet Structure - Accounts - Categories - Assets, Liabilities and Net Worth Components.

Accounting for NPA/Provisioning/Suit Filed Accounts.

Preparation of Final Accounts - Final Accounts of Banking Companies - Disclosure Requirements.

## **MODULE D - OTHER ACCOUNTS**

Partnership Accounts - Partner's Fixed Capital Accounts - Current Accounts - Loan Accounts - Treatment of Intangibles like Goodwill - Admission/Retirement/Death of Partner- Company Accounts - Classes of Share Capital - Issue/Forfeiture of Shares - Issue of Bonus Shares.

Bank Reconciliation Statement - Capital & Revenue Expenditure/Depreciation/Inventory Valuation/ Bill of Exchange/Consignment Account/Joint Venture-Special Accounts - Leasing and Hire-Purchase Company Accounts - Accounts of Non-Trading Concerns - Accounting from Incomplete Records - Receipts and Payments Account - Income and Expenditure Account, Ratio Analysis.

### **Computerised Accounting**

Accounting in Electronic Environment - Methods-Procedures-Security-Rectification.

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# MODULE-A

## BASICS OF BUSINESS MATHEMATICS

**Unit 1.** Calculation of Interest

**Unit 2.** Basel II Accord - An Overview

**Unit 3.** Calculation of YTM

**Unit 4.** Capital Budgeting

**Unit 5.** Depreciation

**Unit 6.** Foreign Exchange Arithmetic





# CALCULATION OF INTEREST

## STRUCTURE

- 1.0 Objectives
- 1.1 Introduction
- 1.2 What is Simple Interest?
- 1.3 What is Compound Interest?
- 1.4 Equated Monthly Instalments (EMIs)
- 1.5 Fixed and Floating Interest Rates
- 1.6 What are Annuities?
- 1.7 Calculating the Future Value of an Ordinary Annuity
- 1.8 Calculating the Present Value of an Ordinary Annuity
- 1.9 Calculating the Future Value of an Annuity Due
- 1.10 Calculating the Present Value of an Annuity Due
- 1.11 Amortisation of a Debt
- 1.12 Present Value of an Annuity
- 1.13 Future Value of Annuity
- 1.14 Check Your Progress
- 1.15 Sinking Funds
- 1.16 Sinking-Fund Method of Retiring a Debt
- 1.17 Keywords
- 1.18 Terminal Questions



## **1.0 OBJECTIVES**

The objectives of the unit are to understand:

- (a) The mathematical calculations involved in simple interest, compound interest, annuities and sinking fund.
- (b) Applications of mathematics involved in the banking industry.
- (c) Cost-benefit analysis, through application of mathematics.
- (d) Mathematics involved in creation of a sinking fund.

## **1.1 INTRODUCTION**

Banking business mainly consists of lending. On lending to customers, the bank charges a certain interest at a specified rate. The interest is payable either at periodic intervals or at the end of a loan period. The calculation of the interest will be based on the terms of agreement, i.e. whether at a definite interval or at the period end. Sometimes, it also happens that the customer is interested in paying a part of principal along with interest. As the customers pay the principal in instalments, the impact of the interest gets reduced over the tenure of loan. It may also happen that the bank may want to recover the loan in equal instalments called annuities. Annuities are essentially a series of fixed payments required to be paid at a specified frequency over the course of a fixed period of time. Payment of annuities may be at the beginning of each period or at the end of each period. The calculations of annuities are different for each situation. Sometimes, the bank also needs to make a cost-benefit analysis of the series of annuities and is required to calculate the present value of all the annuities by suitably discounting the annuities receivable at the end of each period. The sums of the present value of the annuities are compared with the cash outflow to reach certain decisions.

## **1.2 WHAT IS SIMPLE INTEREST?**

When money is loaned, the borrower usually pays a fee to the lender. This fee is called 'interest'. Based on the method of calculation of the amount of interest given on the amount lent or borrowed, the interest can be simple interest or compound interest. 'Simple' interest or '**flat rate**' interest is the amount of interest paid each year in a fixed percentage of the amount borrowed or lent at the start.

The formula for calculating simple interest is as follows:

$$\text{Interest} = \text{Principal} * \text{Rate} \times \text{Time}$$

Where:

'**Interest**' is the total amount of interest paid,

'**Principal**' is the amount lent or borrowed (This amount remains unchanged during the period of the loan.)

'**Rate**' is the percentage of the principal charged as interest each year. The rate is expressed as a decimal fraction, so 100 must divide percentages. For an illustration, if the rate is 15 per cent, then use 15/100 or 0.15 in the formula.

'**Time**' is the time in years of the loan.

The formula for simple interest is often abbreviated in this form: I

$$= PRT$$

Three other variations of this formula are used to find the P, R and T.  
The Illustration problem below shows you how to use these formulas:

**Illustration**

A student purchases a computer by obtaining a loan on simple interest. The computer costs Rs. 1,500 and the interest rate on the loan is 12 per cent. If, the loan is to be paid back in weekly instalments over two years, calculate:

1. The amount of interest paid over the two years,
2. The total amount to be paid back,
3. The weekly payment amount.

Given: Principal: 'P' = Rs. 1,500, Interest rate: 'R' = 12% = 0.12, Repayment time: T = 2 years

Part 1: Find the amount of interest paid.

Interest:  $T = PRT$

$$= 1,500 \times 0.12 \times 2 =$$

$$\text{Rs. } 360$$

Part 2: Find the total amount to be paid back.

Total repayments = Principal + Interest = Rs.

$$1,500 + \text{Rs. } 360 = \text{Rs. } 1,860$$

Part 3: Calculate the weekly payment amount

$$\text{Weekly payment amount} = \frac{\text{Total repayments}}{\text{Loan period, T, in weeks}}$$

$$\frac{\text{Rs. } 1,860}{2 \times 52} = \text{Rs. } 17.88$$

per week

**1.3 WHAT IS COMPOUND INTEREST?**

In the simple interest formula, it is presumed that interest is charged only once during the given period. Against this, if the interest is charged more than once during the period and the interest is reinvested, we need to compound the interest.

Compound interest is paid on the original principal and accumulated part of interest. For an illustration

P = Principal (Initial amount you borrowed or deposited) r = Annual rate of interest (per cent) n =

Number of year the amount of deposit

A = Amount of money accumulated after n year including interest.

When interest is compounded once in a year  $A = P(1 + r)^n$

if you borrow for 5 years the formula is

$$A = P(1 + r)^5$$

Frequently compounding of Interest What if the

interest is paid more frequently? Annually =  $P(1 + r)$

= Annual compounding Quarterly =  $P(1 + r/4)^4 =$

Quarterly compounding Monthly =  $P(1 + r/12)^{12} =$

Monthly compounding

We all know that the interest is computed on an account balance (i.e. a saving account). However, when interest is added to the account versus returning it immediately to the customer, the interest itself will earn interest during the next time for computing the interest. This is compounding interest or more simply stated compound interest.

The time interval between which the interest is added to the account is called the compounding period.

The interest rate together with compound period and balance in the account determines how much interest is added to each compound period.

The basic formula is

$$P = A(1 + r/n)^{nt}$$

Where P = the principal

A = the amount deposited

r = the rate (expressed as fraction, e.g. 6 per cent = 0.06)

n = number of times per year that interest is compounded

t = number of years invested

Note: The above is more easily understandable by thinking in terms of a simplified compound interest. When the interest is only compounded once per year (n = 1) the illustration simplifies.

$$P = 10,000 (1 + 0.06)^1 = 10,600$$

The following table shows the final principal (P) after t = 1 year of an account initially with P = 10,000 at 6 per cent interest rate with given compounding (n)

Table 1.1

1	(yearly)	10,600
2	(semiannually)	10,609
4	(quarterly)	10,613
12	(monthly)	10,616
52	(weekly)	10,618

As you can see, there is an advantage to compounding more frequently. If the balancing interest rate and length of the deposit all remain the same, more interest is earned by increasing the compounding periods per year.

Special Note: When interest is compounded continually (in other words, when  $n$  approaches infinity) the compound interest equation takes the form  $P=Ae^n$  where  $e$  is approximately 2.71828 (the exponential number).

The Rule of 72: Allows you to determine the number of years before your money doubles whether in debt or investment. Here is how to do it;

Divide the number 72 by the percentage rate you are paying on your debt (or earning on your investment).

For an illustration: You borrowed Rs. 1,000 at 6 per cent interest. Then, 72 divided by 6 is 12. That makes 12 the number of years it would take for your debt to double to Rs. 2,000, if you did not make any payment. Similarly, a saving account with Rs. 500 deposited in it, earning 4 per cent interest, will take 18 years for Rs. 500 to double to Rs. 1,000 if you do not make any further deposit, as 72 divided by 4 is 18.

Simple interest questions can be solved by applying the following formulas:

$$A = P \times (1 + rt) \quad I$$

$$= A - P$$

$$I = P \times r \times t$$

A : accumulated amount (final value of an investment) P :  
principal (initial value of an investment) r : annual  
interest rate in percentage (%) I : interest after t years.

#### Illustration

Mohan invested Rs. 5,000 in mutual fund with the interest rate of 4.8%. How much interest would he earn after 2 years?

#### Answer

$$P = \text{Rs. } 5,000$$

$$r = 4.8\%$$

$$t = 2 \text{ years}$$

$$I = P \times r \times t$$

$$I = (\text{Rs. } 5,000) (4.8\%) (2) = \text{Rs. } 480$$

Hence, Mohan would earn Rs. 480 after 2 years.

#### Illustration

Jhangir has one savings account with the interest rate of 3.3%, and one money market account with the interest rate of 5.1%, in a bank. If he deposits Rs. 1,200 to the savings account and Rs. 1,800 to the money market account, how much money will he have after 6 years?

#### Answer

Savings account:

$$P = \text{Rs. } 1,200$$

$$r = 3.3\%$$

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$$\begin{aligned}A &= P \times (1 + rt) \\A &= (\text{Rs. } 1,200)[1 + (3.3\%)(6)] \\&= (\text{Rs. } 1,200)(1.198) \\&= \text{Rs. } 1,437.60\end{aligned}$$

Money market account:

$$\begin{aligned}P &= \text{Rs. } 1,800 \\r &= 5.1\% \\t &= 6 \\A &= P \times (1 + rt) \\A &= (\text{Rs. } 1,800)[1 + (5.1\%)(6)] = (\text{Rs. } \\&1,800.00)(1.306) = \text{Rs. } 2,350.80 \text{ Total amount} = \text{Rs. } \\&1,437.60 + \text{Rs. } 2,350.80 = \text{Rs. } 3,788.40\end{aligned}$$

Hence, Jhangir will have Rs. 3,788.40 after 6 years.

### Illustration

Your friend borrows Rs. 1,000 from you to help with the down payment on a new car. She expects to be able to pay you back the Rs. 1,000 in a year. You agree that 8% interest is fair, and she will pay that in a year, too.

Calculation:  $\text{Rs. } 1,000 \times 8\% \times 1 = \text{Rs. } 80$  in interest. She will owe you Rs. 1,080 at the end of the year.

### Illustration

Your friend expects to pay you the principal back after she files her tax return, but you would like to receive the interest monthly. The extra step here is that the interest rate of 8 per cent is the annual rate and this needs to be divided by 12 to get a monthly rate.

**Calculation:**  $\text{Rs. } 1,000 \times 0.667\% \times 1 = \text{Rs. } 6.67$  in interest each month.

Note: Rs. 6.67 times 12 equals Rs. 80. Because the principal amount remained the same for each month, the calculation in either way will get the same result.  $\text{Rs. } 1,000 \times 0.667\% \times 12 = \text{Rs. } 80$  for 12 months.

Our first two illustrations for calculating of simple interest assumed the principal amount remained the same for the entire period the loan was outstanding. In the real world, it is not usually the way consumer loans are done. Most of us receive payment on a regular basis, say every two weeks or perhaps monthly, so it makes more sense to match the repayment of the loans to the way we are paid. Here is what happens with monthly payments and simple interest:

### Illustration

Your friend wants to repay you on a monthly basis rather than the whole amount all at once at the end of the year. The extra step here is that she will owe you less in principal each month. This is where it starts to get complicated, but the formula is the same. We just have to do it 12 times.

Calculation: The principal payment each month will be Rs. 83.33 (Rs. 1,000 divided by 12)

*First month:* Interest =  $\text{Rs. } 1,000 \times 0.667\% \times 1 = \text{Rs. } 6.67$  plus Rs. 83.33 for a total payment of Rs. 90. The principal owed at the end of the month is Rs. 916.67.

*Second month:* Interest = Rs. 916.67 \* 0.667% x 1 = Rs. 6.11 plus Rs. 83.33 for a total payment of Rs. 89.44.

*Third month:* Interest = Rs. 833.34 x 0.667% x 1 = Rs. 5.56 plus Rs. 83.33 for a total payment of Rs. 88.89.

And so on for the twelve months. Easy to see why calculators and computers are used, right? Table 1.2 provides the break-up of all the payments calculated.

Table 1.2

Balance	Principal Payment	Interest Payment	Total Payment
1,000.00	83.33	6.67	90.00
916.67	83.33	6.11	89.44
833.34	83.33	5.56	88.89
750.01	83.33	5.00	88.33
666.68	83.33	4.44	87.77
583.35	83.33	3.89	87.22
500.02	83.33	3.33	86.66
416.69	83.33	2.78	86.11
333.36	83.33	2.22	85.55
250.03	83.33	1.67	85.00
166.70	83.33	1.11	84.44
83.37	83.33	0.56	83.89
	999.96	43.34	1,043.30

#### Illustration

Your friend says, 'look, I want to pay the same amount every month and not have to look up this table.' No problem, the monthly payment is Rs. 86.94.

**Calculation:** Add up the twelve monthly payments (Rs. 1,043.29) and divide that by twelve to get Rs. 86.94 in equal monthly payments.

### 1.4 EQUATED MONTHLY INSTALMENTS (EMIs)

The most commonly adopted method of repayment of loan in present day banking is 'Equated Monthly Instalments' (EMIs). Under this system, the principal and the interest thereon is repaid through equal monthly installment over the fixed tenure of the loan. The EMI is fixed based on the loan amount, interest rate and the repayment tenure.

The formula for calculation of EMI given the loan, term and interest rate is:

$$(PT) \frac{d + r)^n - 1}{d + r)^n - 1}$$

Where P = principal (amount of loan), r = rate of interest per instalment period, i.e. if the interest is 12% p.a., r = 0.01, n = no. of instalments in the tenure, (the 'PMT' function in an EXCEL spreadsheet can be used to find out the EMIs.)

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For example, for a loan of Rs. 1,00,000, at an interest rate of 12% p.a., is to be repaid in 12 months, the EMI is calculated as under.

$$P = 1,00,000$$

$$r = 12\%/12 = 1\%, \text{ i.e. } 1/100 = 0.01$$

$$n = 12$$

$$\begin{aligned} \text{EMI} &= \frac{(1,00,000 \cdot 0.01)(1+0.01)^{12}}{(1+0.01)^{12}-1} + \frac{1,000 \cdot 1.01^{12}}{1.01^{12}-1} = \frac{1,000 \cdot 1.126825}{0.126825} \\ &= 8,884.8789 \text{ rounded to } 8,885. \end{aligned}$$

Thus, the EMI = 8,885.

Though it is an unequal combination of the principal repayment and interest cost, it remains constant all through. The interest is calculated on a monthly reducing basis, which means that the principal amount you pay every month is deducted when calculating the interest for the following months. Therefore, for a payment made on 15 January, the interest rate adjustment takes effect from the next month. The EMI payment loans are heavily tilted towards the interest payments at the start and principal repayments towards the end of the loan tenure.

For example, the appropriation towards the interest and principle out of the EMI payments based on the above given example is given below assuming that the loan is taken on 15th January, 2006.

Table 1.3

	EMI	Interest @ 12% p.a. on the loan o/s after adjusting previous remittance	Balance of EMI towards Principal	Loan Outstanding
15.01.2006	–	–	–	1,00,000
15.02.2006	8,885.00	1,000	7,885	92,115
15.03.2006	8,885.00	921	7,964	84,151
15.04.2006	8,885.00	842	8,043	76,108
15.05.2006	8,885.00	761	8,124	67,984
15.06.2006	8,885.00	680	8,205	59,779
15.07.2006	8,885.00	598	8,287	51,491
15.08.2006	8,885.00	515	8,370	43,121
15.09.2006	8,885.00	431	8,454	34,667
15.10.2006	8,885.00	347	8,538	26,129
15.11.2006	8,885.00	261	8,624	17,505
15.12.2006	8,885.00	175	8,710	8,796
15.01.2007	8,885.00	89	8,796	–

### Illustration

Find out the EMI for a housing loan of Rs. 10,00,000/- at an interest rate of 10.50% per annum repayable in 15 years.

**Solution**

$$P = 10,00,000$$

$$r = 10.50\%/12 = 0.00875$$

$$n = 15 * 12 = 180$$

$$EMI = P * r \frac{1.00875^{180}}{(1 + r)^n - 1} = 10,00,000 * 0.00875 \frac{1.00875^{180}}{1.00875^{180} - 1}$$

$$8,750 * 4.797761 = 11,054$$

$$3.797761$$

**1.5 FIXED AND FLOATING INTEREST RATES**

There are two different modes of interest. They are

1. Fixed Rates
2. Floating Rates also called as variable rates.

**Fixed Rate:** In the fixed rate, the rate of interest is fixed. It will not change during entire period of the loan. For example, if a home loan, taken at an interest rate of 12 per cent, is repayable in 10 years, the rate will remain the same during the entire tenure of 10 years even if the market rate increases or decreases. The fixed rate is, normally, higher than floating rate, as it is not affected by market fluctuations.

**Floating Rate:** In the floating rate or variable rate, the rate of interest changes, depending upon the market conditions. It may increase or decrease. For example, if a home loan is taken at an interest rate of 12 per cent, repayable in 10 years, in April 2006, and if the market rate increases to 12.5 per cent in April, 2007, the interest rate of this loan will also be increased to 12.5 per cent. If the loan is under an EMI system, depending upon the change in interest rate, the repayment period varies, but equated monthly instalment remains the same.

Depending on the prevailing market conditions, people may choose between the fixed rate and a floating rate.

**1.6 WHAT ARE ANNUITIES?**

At some point in your life, you may have had to make a series of fixed payments over a period of time - such as rent or car payments - or have received a series of payments over a period of time, such as bond coupons. These are called annuities. If you understand the time value of money and have an understanding of the future and present value, it would be easy to understand annuities.

Annuities are essentially a series of fixed payments required from you or paid to you at a specified frequency over the course of a fixed period. The most common payment frequencies are yearly (once a year), semi-annually (twice a year), quarterly (four times a year), and monthly (once a month). There are two basic types of annuities: ordinary annuities and annuities due.

*Ordinary Annuity:* Payments are required at the end of each period. For an illustration, straight bonds usually make coupon payments at the end of every six months until the bond's maturity date.

*Annuity Due:* Payments are required at the beginning of each period. Rent is an illustration of annuity due. You are usually required to pay rent when you first move in at the beginning of the month, and then on the first of each month thereafter.

Since the present and future value calculations for ordinary annuities and annuities due are slightly different, we will first discuss the present and future value calculation for ordinary annuities.

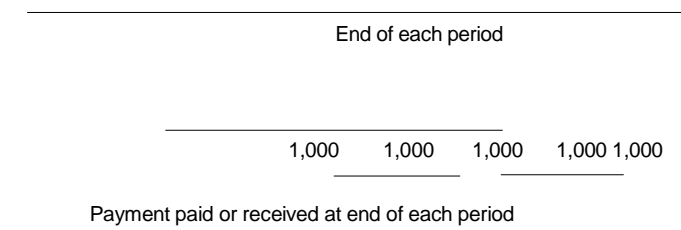


## 12

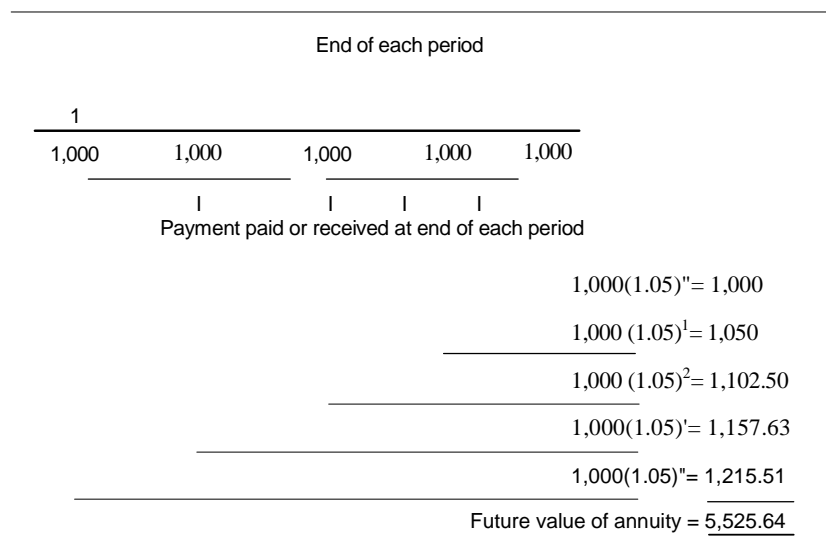
### 1.7 CALCULATING THE FUTURE VALUE OF AN ORDINARY ANNUITY

If you know how much you can invest per period for a certain time period, the future value of an ordinary annuity formula is useful for finding out how much you would have in the future by investing at your given interest rate. If you are making payments on a loan, the future value is useful for determining the total cost of the loan.

Let us now run through the illustration 1. Consider the following annuity cash flow schedule:



In order to calculate the future value of the annuity, we have to calculate the future value of each cash flow. Let us assume that you are receiving Rs. 1,000 every year for the next five years, and you invest each payment at 5 per cent. The following diagram shows how much you would have at the end of the five-year period:



Since, we have to add the future value of each payment, you may have noticed that, if you have an ordinary annuity with many cash flows, it would take a long time to calculate all the future values and then add them together. Fortunately, mathematics provides a formula that serves as a short cut for finding the accumulated value of all cash flows received from an ordinary annuity:

$$FV(\text{Ordinary Annuity}) = C * \frac{(1+i)^n - 1}{i}$$

C = Cash flow per period

i = interest rate

n = number of payments

If we were to use the above formula for the illustration 1 above, this is the result:

$$\begin{aligned} \text{FV (Ordinary Annuity)} &= 1,000 * \frac{(1+.05)^5 - 1}{.05} \\ &= 1,000 * [5.53] \\ &= 5,525.63 \end{aligned}$$

Note that the Rs. 0.01 difference between Rs. 5,525.64 and Rs. 5,525.63 is due to a rounding error in the first calculation. Each of the values of the first calculation must be rounded to the nearest paise. The more you have to round numbers in a calculation the more likely rounding errors will occur. Therefore, the above formula not only provides a short cut to finding FV of an ordinary annuity but also gives a more accurate result.

### 1.8 CALCULATING THE PRESENT VALUE OF AN ORDINARY ANNUITY

If you would like to determine today's value of a series of future payments, you need to use the formula that calculates the present value of an ordinary annuity. You would use this formula as part of a bond pricing calculation. The PV of ordinary annuity calculates the present value of the coupon payments that you will receive in the future.

For the illustration 2, we will use the same annuity cash flow schedule as we did in the illustration 1. To obtain the total discounted value, we need to take the present value of each future payment and, as we did in the illustration 1, add the cash flows together.

1
<div style="display: flex; justify-content: space-around; border-bottom: 1px solid black;"> <span>1,000</span> <span>1,000</span> <span>1,000</span> <span>1,000</span> <span>1,000</span> </div>
<div style="display: flex; justify-content: space-around;"> <span>1,000</span> <span>1,000</span> <span>1,000</span> <span>1,000</span> <span>1,000</span> </div>
End of each period Payment paid or received at end of each period
$1,000 / (1.05)^1 = 952.38$ <hr style="width: 20%; margin-left: 0;"/>
$1,000 / (1.05)^2 = 907.03$ <hr style="width: 20%; margin-left: 0;"/>
$1,000 / (1.05)^3 = 863.84$ <hr style="width: 20%; margin-left: 0;"/>
$1,000 / (1.05)^4 = 822.70$ <hr style="width: 20%; margin-left: 0;"/>
$1,000 / (1.05)^5 = 783.53$ <hr style="width: 20%; margin-left: 0;"/>
Present Value of an Ordinary Annuity = <u>4,329.48</u>

Again, calculating and adding all these values will take a considerable amount of time, especially if we expect many future payments. As such, we can use a mathematical shortcut for PV of ordinary annuity.

$$\text{PV (Ordinary Annuity)} = C * \frac{1 - (1+r)^{-t}}{r} =$$

Cash flow per period

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r = interest rate

n = number of payments

The formula provides us with the PV in a few easy steps. Here is the calculation of the annuity represented in the diagram for Illustration 2:

$$\begin{aligned}
 \text{FV (Ordinary Annuity)} &= 1,000 * \frac{[0.05(1.05)^5]}{f \ 0.27628} \quad \text{"I"} \\
 &= 1,000 * \frac{[0.05(1.27628)]}{J \ 0.27628} \\
 &= 1,000 * \\
 &\quad 0.063814 = \\
 &1,000 * 4.3295 = \\
 &4,329.45
 \end{aligned}$$

## 1.9 CALCULATING THE FUTURE VALUE OF AN ANNUITY DUE

When you are receiving or paying cash flows for an annuity due, your cash flow schedule would appear as follows:

Beginning of each period				
1				
1,000	1,000	1,000	1,000	1,000
Payment paid or received at the beginning of each period				

Since, each payment in the series is made one period sooner; we need to discount the formula one period later. A slight modification to the FV-of-an-ordinary-annuity formula accounts for payments occurring at the beginning of each period. In the following Illustration 3, let's illustrate why this modification is needed when each Rs. 1000 payment is made at the beginning of the period rather than the end (interest rate is still 5 per cent):

End of each period				
0	1			
1,000	1,000	1,000	1,000	1,000
Payment paid or received at beginning of each period				
				$1,000(1.05)^1 = 1,050$
				$1,000(1.05)^2 = 1,102.50$
				$1,000(1.05)^3 = 1,157.63$
				$1,000(1.05)^4 = 1,215.51$
				$1,000(1.05)^5 = 1,276.28$
				Future value of annuity due = 5,801.92

Notice that when payments are made at the beginning of the period, each amount is held for longer than at the end of the period. For example, if Rs. 1,000 was invested on 1 January rather than on 31 December of each year, the last payment before we value our investment at the end of five years (on 31 st December) would have been made a year prior (1 January) rather than the same day on which it is valued. The future value of annuity formula would then read:

$$FV (\text{Annuity Due}) = C$$

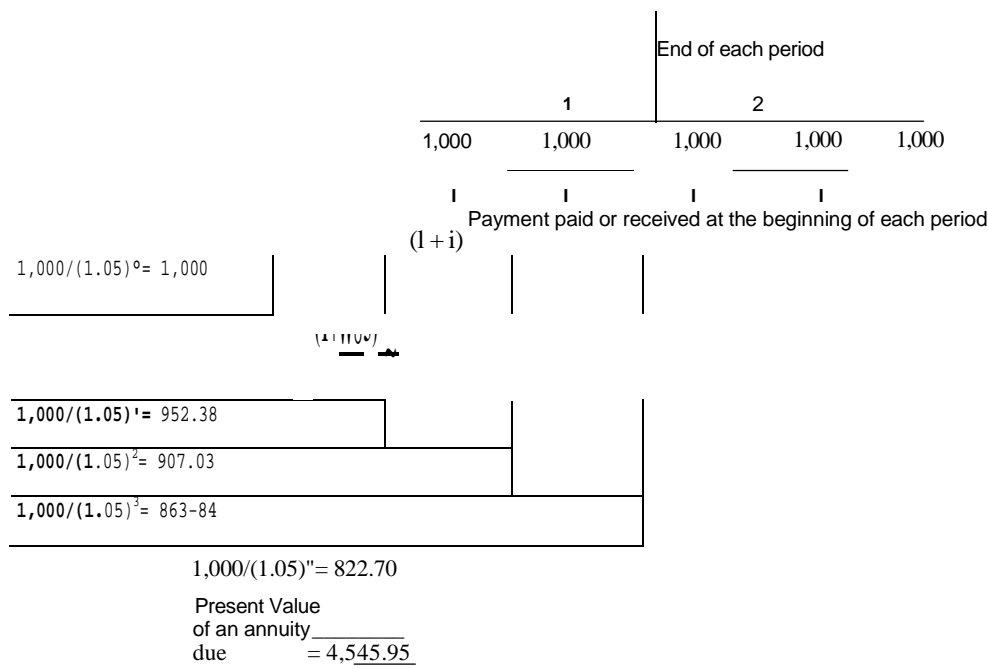
Therefore,

$$\begin{aligned} FV (\text{Annuity Due}) &= 1,000 * (1 + .05)^5 \\ &= \text{Rs. } 1,000 * 5.53 * 1.05 \\ &= \text{Rs. } 5,801.91 \end{aligned}$$

### 1.10 CALCULATING THE PRESENT VALUE OF AN ANNUITY DUE

For the present value of an annuity due, we need to discount the formula one period forward, as the payments are held for a lesser amount of time. When calculating the present value, we assume that the first payment made was today.

We could use this formula for calculating the present value of your future rent payments as specified in a lease you sign with your landlord. Let us say for the illustration that you make your first rent payment at the beginning of the month and are evaluating the present value of your five-month lease on that same day. Your present value calculation would work as follows:



Of course, we can use a formula shortcut to calculate the present value of an annuity due:

$$PV (\text{Annuity Due}) = \frac{C}{r(1+r)} \times (1 + r)$$

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Therefore,

$$PV (\text{Annuity Due}) = 1,000 \times \frac{(1.05/-1)}{.05(1.05)^5} \times 1.05$$

$$0.063814 =$$

$$1,000 \times 4.3295 \times 1.05 = 4,545.92$$

Recall that the present value of an ordinary annuity returned a value of Rs. 4,329.48. The present value of an ordinary annuity is less than that of an annuity due because the further back we discount a future payment, the lower is its present value: each payment or cash flow in ordinary annuity occurs one period further into future.

Now you can see how annuity affects and how you calculate the present and future value of any amount of money. Remember that the payment frequencies, or number of payments, and the time at which these payments are made (whether at the beginning or end of each payment period), are all variables you need to account for in your calculations.

### Illustration

Find the compound amount of Rs. 1,500 for 6 years 7 months, at 5.2 per cent compounded semi-annually.

### Solution

Using formula, we could find the value of compound amount.

However, in these kinds of problems, generally we use compound interest for the full interest period and simple interest for the fractional interest period. Here we find the compound interest for 13 interest periods and simple interest for 1 month.

Required compound amount

$$1500^{(1+.52)3} \frac{(1+.5^{12})}{1200} 200$$

$$= 1,500(1.026)^{13} (1.0043) =$$

Rs. 2,144

### Illustration

The simple interest in 3 years and the compound interest in 2 years on a certain sum at the same rate are Rs. 1,200 and Rs. 832 respectively. Find (i) the rate of interest, (ii) the principal, (iii) the difference between the C.I. and S.I. for 3 years.

### Solution

(i) Let the principal be Rs. P and rate of interest be  $R$  per cent *p.a.*  
According to the first condition of the question,  $(P \times R \times 3)/100 = 1200 = *P \times R = 40,000 \dots (1)$

According to the second condition of the question,

$$(P + 832) = P(1 + R/100)^2, \text{ or, } (P + 832)/P = (1 + R/100)^2$$

equation 1, we get,  $[832 * R * (100)^2]/40,000 = (100 + R)^2 - (100)^2$

$$\Rightarrow 4[(100)^2 + R^2 + 2 \cdot 100 \cdot R - (100)^2] = 832 R$$

$$\Rightarrow R^2 + 200 R = 208 R \Rightarrow R^2 + 200 R - 208 R = 0$$

$$\Rightarrow R^2 - 8R = 0 \Rightarrow R(R - 8) = 0$$

$$\Rightarrow \text{Either } R = 0 \text{ or } R - 8 = 0$$

$\Rightarrow$  Either  $R = 0$  or  $R = 8$ , but  $R$  cannot be zero.

Hence the rate of interest = 8% p.a.

(ii) On using (1), we get  $P \cdot 8 = 40,000$ , so  $P = 5,000$

(iii) Rate of compound interest = 8% p.a. and principal = Rs. 5,000

$$\text{Amount due after 3 years} = \text{Rs. } 5,000 \times (1 + R)^3$$

$$= \text{Rs. } 5,000 \times 1.2597 = \text{Rs. } 6,298.56$$

$$\text{Hence, C.I. for 3 years} = A - P = \text{Rs. } 6,298.56 - \text{Rs. } 5,000 = \text{Rs. } 1,298.56$$

$$\text{The difference between the C.I. and S.I. for 3 years} = \text{Rs. } 1,298.56 - \text{Rs. } 1,200$$

$$= \text{Rs. } 98.56$$

#### Illustration

The population of an industrial town is increasing by 5 per cent every year. If the present population is 1 million, estimate the population five years hence. Also, estimate the population three years ago.

#### Solution

Present population,  $P = 1$  million, rate of increase = 5% per annum

Hence, the population after 5 years

$$= 10,00,000 (1.05)^5$$

$$= 12,76,280$$

$$\text{Population three years ago} = 10,00,000 / (1.05)^3 = 8,63,838$$

Since the population three years ago, compounded at 5 per cent, is equal to 1 million, today.

#### Illustration

Avichal Publishers buy a machine for Rs. 20,000. The rate of depreciation is 10 per cent. Find the depreciated value of the machine after 3 years. Also, find the amount of depreciation. What is the average rate of depreciation?

#### Solution

Original value of machine = Rs. 20,000,

Rate of depreciation,  $i = 10\%$

$$\text{Hence, the book value after 3 years} = 20,000(1-0.1)^3 = 20,000(0.9)^3$$

$$20,000 (0.729) = \text{Rs. } 14,580.$$

$$\text{Amount of depreciation in 3 years} = \text{Rs. } 20,000 - \text{Rs. } 14,580 = \text{Rs. } 5,420$$

Average rate of depreciation in 3 years

$$= (5,420/20,000) \times (100/3) = 9,033\%$$

it\*

### 1.11 AMORTISATION OF A DEBT

In this chapter, we shall discuss different methods of repaying interest-bearing loans, which is one of the most important applications of annuities in business transactions.

The first and most common method is the amortisation method. By using this method to liquidate an interest-bearing debt, a series of periodic payments, usually equal, are made. Each payment pays the interest on the unpaid balance and repays a part of the outstanding principal. As time goes on, the outstanding principal is gradually reduced and interest on the unpaid balance decreases.

When a debt amortises, by equal payments at equal payment intervals, the debt becomes the discounted value of an annuity. The common commercial practice is to round the payment up to the next rupee. Thus, an annuity is a sequence of payments made at regular periods over a given time interval (e.g. loan repayments). The total time, is called the term of the annuity. The regular periods, where the repayments are made, are called the payment periods. Annuities, where the payments are made at the end of the payment period, are called ordinary annuities. When the payments are made at the beginning of the payment period, the process is called an annuity due.

### 1.12 PRESENT VALUE OF AN ANNUITY

$$\frac{R}{r} \left[ 1 - (1+r)^{-n} \right]$$

The present value of the annuity involves 'moving' each of the payments R to the present. Not an easy task, for the 300 monthly payments of a 25 year loan. Hence, the following mathematical formula can help:

$$A = R \left[ 1 - (1+r)^{-n} \right] / r$$

This represents the present value A, of an annuity of Rs. R per payment period, for n periods, at the rate r per period.

Or,  $R = Ar / [1 - (1+r)^{-n}]$  Which gives the periodic payment R of an annuity whose present value is A.

For an illustration, if the plan is to get paid Rs. 20,000 a year for 20 years and do it with an annuity, when the interest rate is 5 per cent, the amount you would need to invest in the annuity is

$$A = 20,000 \left[ 1 - (1 + 0.05)^{-20} \right] / 0.05 = 4,00,000(1 - 0.37689) = \text{Rs. } 2,49,244$$

The present value of quarterly payments of Rs. 250 for 5 years at 12 per cent compounded quarterly, is

$$r = 0.12/4 = 0.03 \quad n = 5 \times 4 = 20$$

$$A = 250 \left[ 1 - (1 + 0.03)^{-20} \right] / 0.03 =$$

$$3,719.37$$

The regular payments over 5 years are equivalent to having Rs. 3,719.37 now.

Rs. 25,000 is borrowed over 8 years. What will be the monthly repayments at 18 per cent compounded monthly?

$$r = 0.18/12 = 0.015$$

$$n = 8 \times 12 = 96$$

$$R = 25,000 \times 0.015 / [1 - (1 + 0.015)^{-96}] = 493.08$$

Monthly repayments should be Rs. 493.08

A person wishes to borrow Rs. 5,000 now and Rs. 4,000 two years from now. Both loans require a repayment of equal monthly payments made at the end of the month for the next five years. What is the monthly payment? (Assume 10 per cent compounded monthly)

Bring everything back to the present value. Loans are presently worth

$$= 5,000 + 4,000(1 + 0.1/12)^{24}$$

$$= 5,000 + 3,277.64 = 8,277.64$$

The present value of the repayments is

$$r = 0.10/12$$

$$n = 12 \times 5$$

$$A = R * [1 - (1 + 0.10/12)^{-60} / 0.1/12]$$

$$\text{Then, } 8,277.64 = R * [1 - (1 + 0.10/12)^{-60} / 0.1/12] R = 175.88 \text{ (i.e., Monthly repayment)}$$

If Arlene thinks in terms of living exactly 15 years from today, how much money should she spend per year? It turns out that we can calculate this; using a loan amortisation formula. We can think of Arlene as lending the bank Rs. 3,00,000 for 15 years, and the bank paying her back in equal annual instalments at a rate of 3 per cent interest. When a loan is repaid in equal instalments, part of the payment covers interest and the rest covers principal. The formula for paying back a loan in equal instalments is known as the amortisation formula. The amortisation formula is

$$R = Ar / [1 - (1 + r)^{-n}]$$

Where R is the annual instalment, r is the annual interest rate, A is the initial loan balance, and n is the number of years to repay the loan. Plugging in Rs. 3,00,000 for A, 0.03 for r, and 15 for n, we have R = Rs. 25,130. This says that by lending (investing) her Rs. 3,00,000 at an interest rate of 3 per cent, Arlene can live for 15 years on Rs. 25,130 per year.

If there were no inflation, then Arlene would receive exactly Rs. 25,130 a year. If there is inflation of, say, 2 per cent per year, then the nominal interest rate will be 5 per cent and the real interest rate will be 3 per cent. Arlene will receive Rs. 25,130 the first year, Rs. 25,130 (1 + .02) the second year, and so on. That is, each year, her annuity payment will rise 2 per cent, in order to keep up with inflation. Adjusting for inflation is what makes this a real annuity.

In the real world, there are some complications. First, not all annuities are adjusted for inflation. Although inflation is important, all too often the elderly live on fixed incomes, which are annuities that do not adjust for inflation. Second, insurance companies need to earn a profit. If the insurance company earns 0.5 per cent, then Arlene will receive an annuity based on 3.0-0.5 or 2.5 per cent real interest. This will reduce the amount of her annuity.



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Finally, converting a fixed sum of money to an annuity leads to an exchange of risk between Arlene and the insurance company. If Arlene dies early, say in 5 years, she will not have collected her annuity and the insurance company earns a windfall gain. Conversely, if she defies the actuarial tables and lives for 25 years, the insurance company may take a loss, because the Rs. 3,00,000 will not earn enough interest to cover the additional payments.

When interest-bearing debts are amortised by means of a series of equal payments at equal intervals, it is important to know how much goes for interest from each payment and how much goes for the reduction in principal. For an illustration, this may be a necessary part of determining one's taxable income or tax deductions. We construct an amortisation schedule, which shows the progress of the amortisation of the debt.

### Illustration

A debt of Rs. 22,000 with interest  $i = 10\%$  is to be amortised by payments of Rs. 5,000 at the end of each quarter for as long as necessary. Make out an amortisation schedule showing the distribution of the payments as to interest and the repayment of principal.

### Solution

The interest due at the end of the first quarter is 2.5 per cent of Rs. 22,000 or Rs. 550.00. The first payment of Rs. 5,000 at this time will pay the interest and will reduce the outstanding principal balance by Rs. 4,450. Thus, the outstanding principal after the first payment is reduced to Rs. 17,550. The interest due at the end of the second quarter is 2.5 per cent of Rs. 17,550 or Rs. 438.75. The second payment of Rs. 5,000 pays the interest and reduces the indebtedness by Rs. 4,561.25. The outstanding principal now becomes Rs. 12,988.75. This procedure is repeated and the results are tabulated below in the amortisation schedule.

Table 1.4

Payment Number	Periodic Payment	Payment of Int @ 2.5%	Principal Repaid	Outstanding Balance
1	5,000	550.00	4,450	22,000 17,550
2	5,000	438.75	4,561.25	12,988.75
3	5,000	324.72	4,675.28	8,313.47
4	5,000	207.84	4,792.16	3,521.31
5	3,609.34	88.03	3,521.31	0
Total	23,609.34	1,609.34	22,000	

It should be noted that the fifth payment is only Rs. 3,609.34, which is the sum of the outstanding principal at the end of the fourth quarter plus the interest due at 2.5 per cent. The totals at the bottom of the schedule are for checking purposes. The total amount of principal repaid must equal the original debt. In addition, the total of the periodic payments must equal the total interest and the total principal returned. Note that the entries in the principal repaid column (except the final payment) are in the ratio

That is,

$$4,561.25/4,450.00 = 4,675.28/4,561.25 = 4,792.16/4,675.28 = 1.025$$

### 1.13 FUTURE VALUE OF ANNUITY

The future value of an annuity is the value of all payments at the end of the term.

0	1	2	3	n-2	n-1

If we look at the equation of value and focus at the end of the term of the annuity, then we will see that once again, a geometric series is produced

$$R + R(1+r) + R(1+r)^2 + \dots + R(1+r)^{n-1}$$

The sum of the series is

$$S = R[1 - (1+r)^n] / 1 - (1+r)$$

$$\text{or } S = R[(1+r)^n - 1] / r$$

This formula gives the future value (or amount) of an annuity of R per payment period for n periods at a rate r per period. This formula, can also be rewritten as

where R is the periodic payment that must be made to amount to S at the end of the term. Investing this way to meet some future obligation is commonly called **sinking fund**.

### 1.14 CHECK YOUR PROGRESS

In problems (1) - (3), you deposit Rs. 1,000 in the bank and earn 8 per cent interest, compounded annually.

1. How much will you have in the bank after 7 years?
2. How much will you have in the bank after 25 years?
3. How long will it take to have Rs. 10,000 in the bank?

In problems 4 and 5, you deposit Rs. 5,000 in the bank and earn 9 per cent interest, compounded monthly.

4. How much will you have in the bank after one year? After four years?
5. How long will it take to have Rs. 10,000 in the bank?

In problems 6 and 7, you deposit Rs. 3,000 in the bank and earn 5 per cent interest, compounded continuously.

6. How much will you have in the bank after one year? After four years?
7. How long will it take to have Rs. 10,000 in the bank?

If you deposit Rs. C in the bank, every year, for n years, at an interest rate of r compounded annually, after you make your deposit at the start of the nth year you will have

$$B = C[(1+r)^n - 1] / r \text{ in the bank.}$$

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8. Suppose that you deposit Rs. 1,000 a year for 10 years at an interest rate of 6 per cent ( $r = 0.06$ ). How much will you have after you make your deposit at the start of the tenth year?
9. Suppose that you want to have Rs. 1,00,000 after 10 years, and the interest rate is 6 per cent. How much will you have to deposit each year?
10. Suppose that you want to have Rs. 1 million after 30 years, and the interest rate is 7 per cent. How much will you have to deposit each year?

Remember that the formula for an annuity is  $C$

$$= rB/[1 - (1 + r)^{-n}]$$

Where  $C$  is the annuity payment,  $B$  is the initial balance,  $r$  is the interest rate, and  $n$  is the number of years that the annuity will run.

In the problems 11-14, suppose that you have Rs. 5,00,000 and the interest rate is 6 per cent, and the annuity runs for 20 years.

11. What is the annuity payment?
12. Suppose that the inflation rate is 2 per cent per year. What is the real interest rate that would be used to calculate a real annuity payment?
13. Calculate the real annuity payment assuming that inflation is 2 per cent per year.
14. The annuity payment in the first year is equal to the real annuity payment. In the second year, the annuity payment is the real annuity payment times  $(1 + 0.02)$ . In the third year, the annuity payment is the real annuity payment times  $(1 + 0.02)^2$ . Calculate the annuity payment for the second year and for the third year.
15. Suppose that you have Rs. 1,00,000, the interest rate is 8 per cent, and the annuity runs for 4 years. If the inflation rate is 5 per cent, calculate the real annuity. Calculate the actual annuity payments for each of the four years. Show that the annuity works. That is, for each year, fill out a table with the beginning balance, interest earned, annuity paid, and ending balance. Show that after four years the ending balance is exactly zero.
16. Suppose that you have Rs. 1,00,000, the interest rate is 7 per cent, the annuity runs for 4 years, and the inflation rate is 4 per cent. Do the same calculations as in the problem 15.

The formula for finding the monthly payment on a mortgage or an auto loan is the same as the formula for an annuity. However, the interest rate is the annual interest rate divided by 12, and the number of periods,  $n$ , is the number of years times 12.

17. Find the monthly payment on a thirty year mortgage with a Rs. 1,00,000 initial balance and an interest rate of 12 per cent.
18. Find the monthly payment on a five year auto loan with a Rs. 20,000 initial balance and an interest rate of 5 per cent.

### 1.15 SINKING FUNDS

When a specified amount of money is needed at a specified future date, it is a good practice to accumulate systematically a fund by means of equal periodic deposits. Such a fund is called a sinking fund. Sinking funds are used to pay-off debts, to redeem bond issues, to replace worn-out equipment, to buy new equipment, or in one of the depreciation methods. Since the amount needed in the sinking fund, the time the amount is needed and the interest rate that the fund earns are known, we have an annuity problem in which the size of the payment, the sinking-fund deposit, is to be determined. A schedule showing how a sinking fund accumulates to the desired amount is called a sinking-fund schedule.

Formula for future value of annuity

$$F = A[(1 + i)^n - 1/i]$$

where F is the future value of an annuity A with rate of interest i for n number of years.

### Illustration

1. If you wish an annuity to grow to Rs. 17,000 over 5 years so that you can replace your car, what monthly deposit would be required if you could invest at 12 per cent compounded monthly?

$$n F \quad 0.01 = 5 \times 12 = 60$$

$$17,000 = A [(1 + 0.01)^{60} - 1/0.01]$$

$$A = 208.16$$

The monthly payment should be Rs. 208.16

2. An annuity consists of monthly repayments of Rs. 600 made over 20 years.

1

- (a) What is the present value of the annuity?
- (b) How much money is repaid?
- (c) What is the future value of the payments?

(assume 14 per cent compounded monthly)

### Solution a

$$r = 0.14/12$$

$$n = 20 \times 12 = 240$$

$$F = 600 [(1 + 0.14/12)^{-240} - 1/0.14/12]$$

$$F = 48,250.10 \text{ (The present value of annuity)}$$

### Solution b

$$\text{The amount repaid} = 600 \times 12 \times 20 = 1,44,000$$

### Solution c

$$F = 600 [(1 + 0.14/12)^{240} - 1/0.14/12]$$

$$= 7,80,699.45$$

The future value of the annuity is Rs. 7,80,699.45

### Illustration

1. How much money will a student owe at graduation if she borrows Rs. 3,000 per year at 5 per cent interest during each of her four years of school?

$$F = A[(1 + i)^n - 1/i]$$

$$F = 3,000 [(1 + 0.05)^4 - 1 / 0.05] = \text{Rs. 12,930}$$

2. A construction company plans to purchase a new earthmover for Rs. 3,50,000 in 5 years. Determine the annual savings required to purchase the earthmover if the return on investment is 12 per cent.

$$A = P [i / (1 + i)^n - 1]$$

$$A = 3,50,000 [0.12 / (1 + 0.12)^5 - 1] = \text{Rs. 55,093}$$

**Solving uniform series problems using Excel**

The Excel function for  $F = A (F/A, i, n)$  is:

= FV (Rate, Nper, Pmt, Pv, Type)

The Excel function for  $A = F (A/F, i, n)$  is:

= PMT (Rate, Nper, Pv, Fv, Type)

To solve the previous two problems using Excels' built-in functions:

1.  $A = \text{Rs. } 3,000/\text{yr}; i = 5\%; n = 4 \text{ yr}; F = ?$

$F = \text{FV (Rate, Nper, Pmt, Pv, Type)}$

$F = \text{FV (5\%, 4, -3,000, 0)} \Rightarrow \text{Rs. } 12,930$

2.  $F = \text{Rs. } 3,50,000; i = 12\%; n = 5 \text{ yr}; A = ?$

$A = \text{PMT (Rate, Nper, Pv, Fv, Type)}$

$A = \text{PMT (9 per cent, 5, 3,50,000)} \rightarrow \text{Rs. } 55,093$

**1.16 SINKING-FUND METHOD OF RETIRING A DEBT**

A common method of paying off long-term loans is to pay the interest on the loan at the end of each interest period and create a sinking fund to accumulate the principal at the end of the term of the loan. Usually, the deposits into the sinking fund are made at the same times as the interest payments on the debt are made to the lender. The sum of the interest payment and the sinking-fund payment, is called the **periodic** expense or **cost of the debt**. It should be noted that the sinking fund remains under the control of the borrower. At the end of the term of the loan, the borrower returns the whole principal as a lumpsum payment by transferring the accumulated value of the sinking fund to the lender. When the sinking-fund method is used, we detain the book **value** of the borrower's debt at any time as the original principal, minus the amount in the sinking fund. The book value of the debt, may be considered as the outstanding balance of the loan.

**Illustration**

In 10 years, a Rs. 40,000 machine will have a salvage value of Rs. 4,000. A new machine at that time is expected to sell for Rs. 52,000. In order to provide funds for the difference between the replacement cost and the salvage value, a sinking fund is set up into which equal payments are placed at the end of each year. If the fund earns 7 per cent compounded annually, how much should each payment be?

$$r = 0.07, n = 10$$

$$F = 52,000 - 4,000 = 48,000$$

$$48,000 = A [(1 + 0.07)^{10} - 1/0.07]$$

$$48,000 = A \times 13.82$$

$$A = 48,000/13.82 = 3,474.12$$

**1.17 KEYWORDS**

**Simple Interest:** When money is lent, the borrower usually pays a fee to the lender. This fee is called 'interest'— '**simple**' interest or '**flat rate**' interest. The amount of simple interest paid each year is a fixed percentage of the amount borrowed or lent at the start.

**Compound Interest:** When interest is added to the account against returning it immediately to the customer, the interest itself earns interest during the next time period for computing interest. This is compounding of interest or more simply stated compound interest.

**Compounding Period:** The time interval, between the moment at which interest is added to the account is called compounding period.

**The Rule of 72:** The rule allows us to determine the number of years it takes your money to double whether in debt or investment. Here is how to do it.

Divide the number 72 by percentage rate you are paying on your debt (or earning on your investment)

**Annuities:** They are essentially a series of fixed payments required from you or paid to you at a specified frequency over the course of a fixed period of time. The most common payment frequencies are yearly (once a year), semi-annually (twice a year), quarterly (four times a year), and monthly (once a month). There are two basic types of annuities: ordinary annuities and annuities due.

**Sinking Fund:** When there is a need for a specified amount of money at a specified future date, it is a good practice to accumulate systematically a fund by means of equal periodic deposits. Such a fund is called a **sinking fund**. Sinking funds are used to pay-off debts, to redeem bond issues, to replace worn-out equipment, to buy new equipment, or in one of the depreciation methods.

## 1.18 TERMINAL QUESTIONS

### Part A

1. A person invests Rs. 5,600 at 14 per cent p.a. compound interest for 2 years. Calculate:
  - (i) the interest for the first year.
  - (ii) the amount at the end of the first year.
  - (iii) the interest for the second year, correct to the nearest rupee.
2. A man saves every year Rs. 4,000 and invests it at the end of the year at 10 per cent per annum compound interest. Calculate the total amount of his savings at the end of the third year.
3. The simple interest on a certain sum for 3 years is Rs. 225 and the compound interest on the same sum at the same rate for 2 years is Rs. 153. Find the rate of interest and the principal.
4. A sum of money is lent out at compound interest for two years at 20 per cent p.a., C.I. being reckoned yearly. If the same sum of money is lent out at a compound interest at the same rate per cent per annum, C.I. being reckoned half-yearly, it would have fetched Rs. 482 more by way of interest. Calculate the sum of money lent out.
5. A man borrowed a certain sum of money and paid it back in 2 years in two equal instalments. If the rate of compound interest was 4 per cent per annum and if he paid back Rs. 676 annually, what sum did he borrow?
6. A sum of Rs. 32,800 is borrowed to be paid back in 2 years by two equal annual instalments allowing 5 per cent compound interest. Find the annual payment.
7. A loan of Rs. 4,641 is to be paid back by 4 equal annual installments. The interest is compounded annually at 10 per cent. Find the value of each instalment.
8. A man borrows Rs. 5,800 at 12 per cent p.a. compound interest. He repays Rs. 1,800 at the end of every six months. Calculate the amount outstanding at the end of the third payment. Give your answer to the nearest Re.

9. A man borrows Rs. 5,000 at 10 per cent p.a. compounded annually. He repays Rs. 1000 at the end of each of first three years. Find the amount which he has to pay at the end of the fourth year.
10. Divide Rs. 21,866 in two parts such that the amount of one in 3 years is same as the amount of the second in 5 years. The rate of compound interest is 5 per cent per annum.
11. Two partners A and B together invest Rs. 10,000 at 12 per cent per annum compounded annually. After 3 years, A gets the same amount as B gets after 5 years. Find their shares in the sum of Rs. 10,000.
12. A debtor may discharge a debt by paying (a) Rs. 80,000 now, or (b) Rs. 1,00,000 five years from now. If money is worth 5 per cent compounded semi-annually to him, which alternative should he accept?
13. At the birth of a daughter, a father wishes to invest sufficient amount to accumulate at 12 per cent compounded semi-annually to Rs. 1 lakh when the daughter is 16 years old. How much should he invest?
14. In buying a house, X pays Rs. 1 lakh cash and agrees to pay Rs. 75,000 two years later. At 6 per cent compounded semi-annually, find the cash value of the home.
15. The cost of a refrigerator is Rs. 12,000. If it depreciates at 10 per cent per annum, find its value 3 years hence.
16. The present value of a machine is Rs. 1,60,000. If its value depreciates 6 per cent in the first year, 5 per cent in the second and 4 per cent in the third year, what will be its value after 3 years?
17. I buy a mobike at Rs. 20,000 cash payment and three annual instalments of Rs. 20,000 each. If rate of interest is 15 per cent compounded annually, what is the present worth of the mobike? If the rate of depreciation is 10 per cent, what will be the resale value after 7 years?
18. A person buys a land at Rs. 30 lakh and a year later constructs a building on it at the cost of Rs. 20 lakh. Assuming that land appreciates at 20 per cent annually and building depreciates at 20 per cent for first 2 years and at 10 per cent thereafter, find the total value of property after 5 years from date of purchase of land.
19. A loan of Rs. 1 lakh is to be paid back in 5 equal annual instalments. The rate of interest charged is 20 per cent annually. Find the amount of each instalment.
20. The population of a town increased from 2 lakh to 8 lakh in last 10 years. If the same trend continues, in how many years will it become 1.6 million?
21. Find the nominal rate compounded monthly equivalent to 6 per cent compounded semi-annually. Also find the effective rate of interest. [Hint.  $(1 + r/1200)^{12} = (1.03)^2$ ]
22. The machinery of a certain factory is valued at Rs. 18,400 at the end of 1990. If it is supposed to depreciate each year at 8 per cent of the value at the beginning of the year, calculate the value of the machine at the end of 1989 and 1991.
23. If Mr. X takes a housing loan of Rs. 25 lakh from a bank for an interest of 8.75 per cent p.a. repayable in 15 years under EMI scheme, find out the instalment amount to be paid by him.
24. Find out EMI if loan is Rs. 5,00,000 repayable in 10 years with interest @ 7 per cent p.a.

### Answers

1. (i) Rs. 784 (ii) Rs. 6,384 (iii) Rs. 894
2. Rs. 13,240
3. 4 per cent p.a.; Rs. 1,875
4. Rs. 20,000

5. Rs. 1,275
6. Rs. 17,640
7. Rs. 1,464.10
8. Rs. 1,177
9. Rs. 3,679.50
10. Rs. 11,466 and Rs. 10,400
11. Rs. 5,565, Rs. 4,435 [Hint,  $x(1.12)^3 = (10,000-x)(1.12)^5$ ]
12. He should accept (b)
13. Rs. 15,496
14. Rs. 1,66,636.50
15. Rs. 8,748
16. Rs. 1,37,200
17. Rs. 65,664.50, Rs. 47,869.40
18. Rs. 85 lakh approx.
19. Rs. 33,438
20. 5 years
21. 5.926 per cent, 6.09 per cent
22. Rs. 20,000; Rs. 16,928
23. Rs. 24,986
24. Rs. 5,805

### Part B

1. A couple is saving a down payment for a home. They want to have Rs. 5,000 at the end of 4 years in an account paying interest at  $i=6\%$ . How much must be deposited in the fund at the end of each year? Make out a schedule showing the growth of the fund.
2. A company wants to save Rs. 1,00,000 over the next 5 years so that they can expand their plant facility. How much must be deposited at the end of each year if their money earns interest at  $i=8\%$ ? Make out schedule for this problem.
3. What quarterly deposit is required in a bank account to accumulate Rs. 2,000 at the end of 2 years if interest is at  $i=4\%$ ? Prepare a schedule for this problem.
4. A sinking fund earning interest at  $i=6\%$  now contains Rs. 1,000. What quarterly deposits for the next 5 years will cause the fund to grow to Rs. 10,000? How much is in the fund at the end of 3 years?
5. A cottagers' association decides to set up a sinking fund to save money to have their cottage road widened and paved. They want to have Rs. 2,50,000 at the end of 5 years and they can earn interest at  $i=9\%$ . What annual deposit is required per cottager if there are 30 cottages on the road? Show the complete schedule.
6. Find the quarterly deposits necessary to accumulate Rs. 10,000 over 10 years in a sinking fund earning interest at  $i=6\%$ . Find the amount in the fund at the end of 9 years and complete the rest of the schedule.
7. A city needs to have Rs. 2,00,000 at the end of 15 years to retire a bond issue. What annual deposits will be necessary if their money earns interest at  $i=7\%$ ? Make out the rest three and last three lines of the schedule.



8. What monthly deposit is required to accumulate Rs. 3,000 at the end of 2 years in a bank account paying interest at  $i=10\%$ ?
9. A couple wants to save Rs. 2,00,000 to buy some land. They can save Rs. 3,500 each quarter-year in a bank account paying at  $i=9\%$ . How many years (to the nearest quarter) will it take them, and what is the size of the final deposit?
10. In its manufacturing process, a company uses a machine that costs Rs. 75,000 and is scrapped at the end of 15 years with a value of Rs. 5,000. The company sets up a sinking fund to finance the replacement of the machine, assuming no change in price, with level payments at the end of each year. Money can be invested at an annual effective interest rate of 4%. Find the value of the sinking fund at the end of the 15th year.

### Part C

1. A homeowners' association decided to set up a sinking fund to accumulate Rs. 50,000 by the end of 3 years to improve recreational facilities. What monthly deposits are required if the fund earns 5 per cent compounded daily? Show the first three and the last two lines of the sinking-fund schedule.
2. Consider an amount that is to be accumulated with equal deposits  $R$  at the end of each interest period for 5 periods at rate  $i$  per period. Hence, the amount to be accumulated is  $Rs. 5i$ . Do a complete schedule for this sinking fund. Verify that the sum-of-the-interest column plus the sum-of-the-deposit column equals the sum of the increase-in-the-fund column, and both sums equal the final amount in the fund.
3. A sinking fund is being accumulated at  $i=6\%$  by deposits of Rs. 200 per month. If the fund contains Rs. 5,394.69 just after the  $k$ th deposit, what did it contain just after the  $(k-1)$ st deposit?

### Part D

1. A borrower of Rs. 5,000 agrees to pay interest semi-annually at  $i=10\%$  on the loan and to build up a sinking fund, which will repay the loan at the end of 5 years. If the sinking fund accumulates at  $i=4\%$  and his total semi-annual expense. How much is in the sinking fund at the end of 4 years?
2. A city borrows Rs. 2,50,000, paying interest annually on this sum at  $i=12\%$ . What annual deposits must be made into a sinking fund earning interest at  $j=3Vi\%$ , in order to payoff the entire principal at the end of 15 years? What is the total annual expense of the debt?
3. A company issues Rs. 5,00,000 worth of bonds, paying interest at  $i=8\%$ . A sinking fund with semi-annual deposits accumulating at  $i=4\%$  is established to redeem the bonds at the end of 20 years. Find
  - (a) the semi-annual expense of the debt;
  - (b) the book value of the company's indebtedness at the end of the fifteenth year.
4. A city borrows Rs. 20,00,000 to build a sewage treatment plant. The debt requires interest at  $i=10\%$ . At the same time, a sinking fund is established, which earns interest at  $j=AVi\%$  to repay the debt in 25 years. Find
  - (a) the semi-annual expense of the debt;
  - (b) the book value of the city's indebtedness at the beginning of the sixteenth year.
5. On a debt of Rs. 4,000, interest is paid monthly at  $i=12\%$  and monthly deposits are made into a sinking fund to retire the debt at the end of 5 years. If the sinking fund earns interest at  $i=3.6\%$  what is the monthly expense of the debt?

6. On a debt of Rs. 10,000, interest is paid semi-annually at  $y^{(2)}=10$  per cent and semi-annual deposits are made into a sinking fund to retire the debt at the end of 5 years. If the sinking fund earns interest at  $y^{(12)}=6\%$ , what is the semi-annual expense of the debt?
7. Interest at  $i^{(12)}=12\%$  on a loan of Rs. 3,000 must be paid semi-annually as it falls due. A sinking fund accumulating at  $i^{(4)}=8\%$  is established to enable the debtor to repay the loan at the end of 4 years.
  - (a) Find the semi-annual sinking fund deposit and construct the last two lines of the sinking fund schedule, based on semi-annual deposits.
  - (b) Find the semi-annual expense of the loan.
  - (c) What is the outstanding principal (book value of the loan) at the end of 2 years?



# BASEL II ACCORD — AN OVERVIEW

## STRUCTURE

- 2.0 Objectives
- 2.1 Background
- 2.2 Basel II: Recommendations on Capital Charge
- 2.3 Different Types of Risks
  - Credit Risks
  - Operational Risks
  - Market Risks
- 2.4 Features of Indian Financial System
- 2.5 Regulatory Initiatives
- 2.6 Provisioning of NPA and Risk Weights for Basel II
- 2.7 Keywords
- 2.8 Terminal Questions

## **2.0 OBJECTIVES**

To provide a bird's-eye view on

- background of Basel II accord
- recommendations of Basel II accord
- its influence on Indian banking scenario.

## **2.1 BACKGROUND**

The interdependence of the world's major banking systems and the lack of formal machinery for co-ordinating the national regulatory arrangements were brought into sharp focus by the Herstatt crisis of 1974. On 26th June, 1974, a German Bank, Bankhaus Herstatt, with total assets of around US\$ 800 million, was ordered by the West German authorities to close its doors after suffering foreign exchange and other losses which were eventually put at over \$ 450 million, bringing to the fore 'Herstatt risk' or 'settlement risk' in the forex transactions. The distinctive feature of the Herstatt failure was the way it disrupted the clearing mechanism for spot foreign exchange transactions, which in turn, had damaging effects on the international interbank market. There were widespread losses affecting several West German banks as well as Italian and Japanese banks whose own national authorities at that **time were poorly placed to provide emergency dollar support.**

Consequently, in 1975, a standing committee of Bank Supervisors, 'Committee on Banking Regulation and Supervisory Practices' (now known as Basel Committee on Banking Supervision), was set up under the auspices of the Bank for International Settlements, Basel 'not to harmonise national laws and practices but rather to interlink disparate regulatory regimes with a view to ensuring that all banks are supervised according to certain broad principles', (Cooke 1981). The third world debt crisis of the early 1980s also exposed the fragility of the international banking system and the urgency of preventing capital erosion and strengthening banks' balance sheets. Against this background, the initiative for global regulation and supervision was taken by regulators of two Central Banks: Bank of England and the US Federal Reserve Board, who first entered into a bilateral agreement in January 1987. The G-10 supervisors joined in, resulting in the historic Basel Capital Accord agreement of July 1988, viz., 'International Convergence of Capital Measurement and Capital Standards', which unified capital adequacy among their banks.

Basel I was originally designed to apply only to internationally active banks in the G-10 countries. It was, however, increasingly adopted as a standard for banks across the development spectrum because of its focus on the level of capital in the major banking systems and a 'level playing field'.

The Basel committee on banking supervision had come out with a new consultative paper on 'New Capital Adequacy Framework' in June, 1999. After much discussion, revisions and comments, the new framework called the international Convergence of Capital Measures and Capital Standards: A Revised Framework' popularly known as the 'Basel IF, was adopted on 26th June, 2004. It came into effect by end 2006. By 2007 end, the most advanced approaches to risk measurement were to become effective. The new standards are mandatory for Internationally active banks.

## **2.2 BASEL II: RECOMMENDATIONS ON CAPITAL CHARGE**

The ability of a bank to absorb unexpected shocks and losses rests on its capital base. Basel II norms are centred on sustained economic development over the long haul and include

- (1) promotion of safety and soundness in the financial systems,

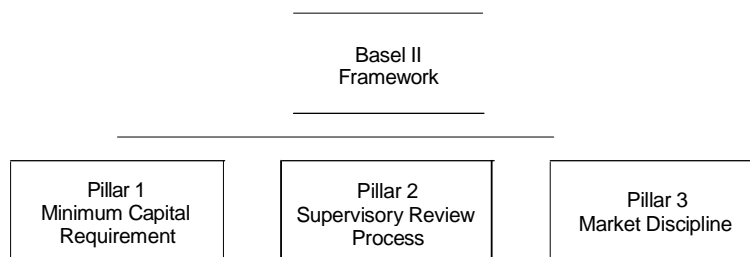
- (2) the enhancement of competitive equality, and  
 (3) the constitution of a more comprehensive approach to address risks.

The new proposal is based on three mutually reinforcing pillars that allow banks and supervisors to evaluate properly the various risks that banks face and realign the regulatory capital more closely with the underlying risks. Each of these three pillars has risk mitigation as its central plank. The new risk sensitive approach seeks to strengthen the safety and soundness of the industry by focusing on:

Risk-based capital (Pillar 1) - assessment of **minimum capital requirement** for banks

Risk-based supervision (Pillar 2) - supervision to review bank's capital adequacy and internal assessment process

Risk disclosure to enforce market discipline (Pillar 3) - use of **market discipline** for greater transparency and disclosure and encouraging best international practices



### The First Pillar- Minimum Capital Requirement

The first pillar sets out the minimum capital requirement. The new framework maintains the minimum capital requirement of 8 per cent of risk assets. In this, the calculation is based on credit, market and operational risk. It sets the minimum ratio of capital to risk weighted assets and in doing so, maintains the current definition of capital.

#### What is Capital Adequacy?

It is a cushion against unexpected losses

Under the new accord, capital adequacy ratio will be measured as under;

Total capital (unchanged) = (Tier I + Tier II + Tier III)

Risk Weighed Assets = Credit risk + Operational risk + Market risk

Tier I capital - shareholders' equity and retained earnings

- Tier II capital - supplementary capital (as defined in the 1988 Accord)
- Tier III capital - some short-term subordinated debt (not yet been introduced in India.)

Basel II focuses on improvement in measurement of risks. The revised credit risk measurement methods are more elaborate than the current accord. It proposes, for the first time, a measure for operational risk, while the market risk measure remains unchanged.

*Influence of level of NPAs* - High non-performing assets exacerbate the pressure on bank's capital by reducing the ratio of capital to risk-weighted assets (the absolute value of capital) and leaking revenue (availability of less free capital).

### The Second Pillar - Supervisory Review Process

Supervisory review process has been introduced to ensure, not only that banks have adequate capital to support all the risks, but also to encourage them to develop and use better risk management techniques

in monitoring and managing their risks. Thus, it deals with 'Operational control and compliance with Pillar 1 Requirements'. The process has four key principles:

- (a) Banks should have a process for assessing their overall capital adequacy in relation to their risk profile and a strategy for monitoring their capital levels.
- (b) Supervisors should review and evaluate bank's internal capital adequacy assessment and strategies, as well as their ability to monitor and ensure their compliance with regulatory capital ratios.
- (c) Supervisors should expect banks to operate above the minimum regulatory capital ratios and should have the ability to require banks to hold capital in excess of the minimum.
- (d) Supervisors should seek to intervene at an early stage to prevent capital from falling below the minimum level and should require rapid remedial action if capital is not maintained or restored.

### The Third Pillar - Market Discipline

Market discipline imposes strong incentives to banks to conduct their business in a safe, sound and effective manner. It is proposed to be effected through a series of disclosure requirements on the capital, risk exposure, etc. so that market participants can assess a bank's capital adequacy. These disclosures should be made at least semi-annually and more frequently if appropriate. Qualitative disclosures such as risk management objectives and policies, definitions, etc. may be published annually.

The requirements under this pillar are common to all regulated firms.

## 2.3 DIFFERENT TYPES OF RISKS

### Credit Risks

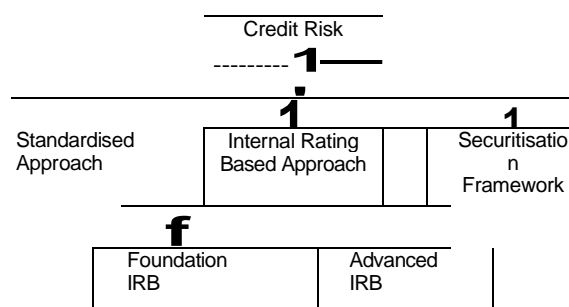
The first pillar of the accord sets forth the minimum capital requirements. To ensure that risks (e.g. Credit Loss) within the entire banking group are considered, improvements in the measurement of credit risks have been made in Basel II. Credit measurement methods of Basel II are more elaborate than those of Basel I. For the measurement of credit risk, Basel II proposes three principle options:

- Standardised approach, or
- Internal rating-based approach (IRB). The IRB method proposes two approaches:
  - (a) Foundation approach
  - (b) Advanced approach

The IRB approach maintains internal risk weighing functions for retail portfolios and acknowledges financial maturity as an additional risk factor.

- Securitisation frame work.

Alternative methods for computing capital requirement for credit risk are depicted below.



## Operational Risks

Operational risks are, e.g. the events like September 11.

Three approaches have been proposed for the measurement of operational risks:

- (1) Basic Indicator approach — It utilises one indicator of operational risk for a bank's total activity;
- (2) Standardised approach — It specifies different indicators for different business lines;
- (3) Advanced measurement — It requires the banks to utilise their internal loss data in the estimation of the required capital.

Approaches for measurement of operational risk



## Market Risks

RBI has issued detailed guidelines for computation of capital charge on market risk in June 2004. The guidelines address the issues involved in computing capital charge for interest rate related instruments in the trading book, equities in the trading book and foreign exchange risk (including gold and precious metals) in both trading and banking books. Trading book includes:

- Securities included under the 'Held for Trading' category
- Securities included under the 'Available for Sale' category
- 'Open Gold' position limits
- 'Open Foreign Exchange' position limits
- Trading position in derivatives and derivatives entered into for hedging trading book exposures.

As per the guidelines, the minimum capital requirement is expressed in terms of two separately calculated charges:

- a. Specific risk, and
- b. General market risk

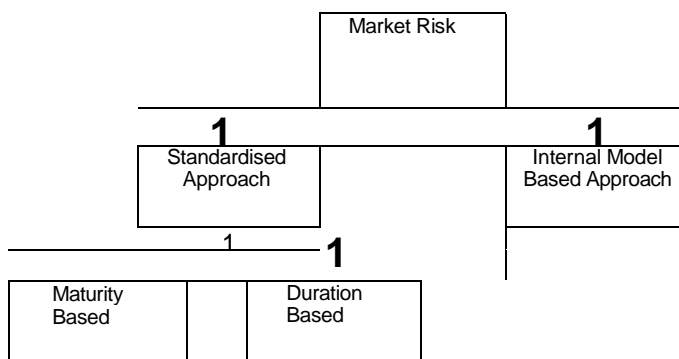
**Specific Risk:** Capital charge for specific risk is designed to protect against an adverse movement in price of an individual security due to factors related to the individual issuer. This is similar to credit risk. The specific risk charges are divided into various categories such as investments in Govt securities, claims on banks, investments in mortgage backed securities, securitised papers, etc., and capital charge for each category is specified.

**General Market Risk:** Capital charge for general market risk is designed to capture the risk of loss arising from changes in market interest rates. The Basel committee suggested two broad methodologies for computation of capital charge for market risk, i.e. 'Standardised Method' and 'Internal Risk Management Model Method'. As banks in India are still in a nascent stage of developing internal risk management models, in the guidelines, it is proposed that to start with, the banks may adopt the 'Standardised Method'.

Again, under Standardised Method, there are two principle methods for measuring market risk - maturity method and duration method. As the duration method is a more accurate method of measuring interest rate risk, RBI prefers that banks measure all of their general market risk by calculating the price sensitivity (modified duration) of each position separately.

For this purpose, detailed mechanics to be followed, time bands, assumed changes in yield, etc. have been provided by the RBI.

Methods of calculating General Market Risks



## **2.4 FEATURES OF INDIAN FINANCIAL SYSTEM**

A unique feature of the Indian financial system is the diversity of its composition. We have the dominance of Government ownership coupled with significant private shareholding in the public sector banks, which in turn, continue to have a dominant share in the total banking system. These public sector banks are listed on the stock exchanges and their performance is reflected in their P/E ratios. We also have cooperative banks in large numbers, which also pose a challenge because of the multiplicity of regulatory and supervisory authorities. There are also the Regional Rural Banks with links to their parent commercial banks. Foreign bank branches operate profitably in India and, by and large, the regulatory standards for all these banks are uniform. The process of providing financial services is changing rapidly from traditional banking to a one-stop shop of varied financial services, as the old institutional demarcations are getting increasingly blurred.

### **Approach to Prudential Norms**

The Reserve Bank's approach to the institution of prudential norms has been one of gradual convergence with international standards and best practices, with suitable country-specific adaptations. The aim has been to reach global best standards in a deliberately phased manner, through a consultative process evolved within the country. This has also been the guiding principle in the approach to the new Basel Accord, e.g. while the minimum capital adequacy requirement under the Basel standard is 8 per cent, in India, RBI has stipulated and achieved a minimum capital adequacy of 9 per cent. On the other hand, banks in India are still in the process of implementing capital charge for market risk, prescribed in the Basel document as Basel norms take into account only the trading portfolio.

## **2.5 REGULATORY INITIATIVES**

The regulatory initiatives taken by the RBI include:



- Ensuring that the banks have a suitable risk management framework, oriented towards their requirements; dictated by the size and complexity of business, risk philosophy, market perceptions and the expected level of capital. The framework adopted by banks would need to be adaptable to changes in the business, size, market dynamics and to introduction of innovative products by banks in future.

Introduction of Risk Based Supervision (RBS).

- Encouraging banks to formalise their 'Capital Adequacy Assessment Programme' (CAAP), in alignment with the business plan and performance budgeting system. This, together with adoption of risk-based supervision, would aid in factoring the Pillar II requirements under Basel II.
- Enhancing the area of disclosures (Pillar III), so as to have greater transparency of the financial position and risk profile of banks.
- Improving the level of corporate governance standards in banks.
- Building capacity to ensure the regulator's ability for identifying and permitting eligible banks to adopt IRB/advanced measurement approaches.

## **2.6 PROVISIONING OF NPA AND RISK WEIGHTS FOR BASEL II**

Following table provides an insight into the existing provisioning requirements and capital adequacy norms, and the changes proposed thereto by RBI in the light of Basel II Accord.

Present Position Income Recognition Asset Classification and Provisioning (IRAC) Norms:	Issues	Proposed Measures
<p>Banks are required to follow strict prudential norms with regard to identification of the NPAs and making provisions thereof. These are largely in alignment with the international best practices.</p> <p>(a) The current provisioning norms for the Non Performing Assets (NPAs) require the banks to make provisions for funded exposures. The non-fund based exposures to entities, whose fund based exposures are classified as NPAs do not attract a provisioning requirement as per the present RBI regulations. In terms of AS29: Provisions, contingent liabilities and contingent assets; banks will be required to subject their contingent liabilities to an impairment test and if there is a likelihood of the bank incurring a</p>	<p>With the prospect of greater inflows under a fuller CAC regime, it may be necessary for tightening the provisioning requirements, to enhance the shock absorbing capacity of the banks and thus, enhance their resilience</p>	<p>(a) RBI should require banks to make provisions for their non-fund based commitments in the NPA accounts with reference to the credit equivalent amounts. RBI should consider prescribing explicit conditions/situations when the banks should make a higher level of provisions for the contingent liabilities.</p>





<p>Doubtful Over 15 months to 27 months 20 per cent</p> <p>Doubtful Over 27 months to 51 months 30 per cent</p> <p>Doubtful Over 51 months 100 per cent</p>		<p>30 per cent</p> <p>20 per cent</p> <p>30 per cent</p> <p>Doubtful</p> <p>Over 15 months to 27 months 20 per cent</p> <p>100 percent</p> <p>Doubtful</p> <p>Over 27 months to 51 months 30 per cent**</p> <p>100 per cent</p> <p>Doubtful</p> <p>Over 51 months 100 percent</p> <p>100 per cent</p> <p><b>**Note:</b> The working capital exposures in the NPA accounts will attract a 100 per cent provisioning requirement on both the secured and unsecured portions, when the delinquency exceeds 36 months.</p> <p>(d) These measures should be implemented as follows: (i) foreign banks and Indian banks with foreign branches: before 31st March 2008, (ii) all other banks: before 31 st March 2009.</p>
<p><b>Capital Adequacy</b></p> <p>Banks in India are at present adopting the capital adequacy framework as required under the Basel I. Banks are maintaining capital for both credit risk and market risk exposures. The minimum CRAR required to be maintained by the banks in India is 9 per cent as against the 8 per cent norm prescribed by the Basel Committee on Banking Supervision. As of March 2005, 86 banks were maintaining capital in excess of the regulatory minimum and 2 banks were falling short of</p>	<p>Migration to a fuller CAC is likely to throw up numerous challenges to the banks' risk management systems.</p> <p>Migration to Basel II at the minimum approaches would be making the banks' capital adequacy framework more risk sensitive than under the Basel I. The capital adequacy framework, even under Basel II, will need strengthening even beyond the Basel II requirements with a view to ensure that it enhances the banks' capacity to sustain unexpected losses/shocks.</p>	<p>(a) It will not be adequate to have a uniform 9 per cent norm for all banks. The system should move forward to a differential capital regime. The 'complex' banks (as defined in Paragraph 7.11 of the Report) should be moved over to this regime in the next 3 years and all other banks may be moved over to this regime over the next 5 years.</p> <p>(b) Banks should be encouraged to migrate to an economic capital model for allocation of capital and measuring efficiency of capital.</p>

<p>the regulatory requirement. Reserve Bank has advised banks in India to implement the revised capital adequacy framework (popularly known as Basel II) with effect from 31st March, 2007. Banks will be maintaining capital for operational risks under the Basel II in addition to the credit risks and market risks. The Indian banking system will be adopting the standardised approach for credit risk, standardised duration method for market risk and the basic indicator approach for operational risk. On a quick broad assessment, it is expected that the impact of Basel II on banks' CRAR will be adverse to the extent of 150 to 250 basis points.</p>		<p>This may be dovetailed to the Pillar II requirement under the Basel II, which requires banks to have in place an internal capital adequacy assessment process (ICAAP).</p> <p>(c) Consider the introduction of a higher core capital ratio (than the default 50 per cent of total capital funds) at present. It may be raised to at least 66 per cent.</p> <p>(d) At present the banks are generally not adopting a risk-based pricing. Further, almost 90 per cent of banks' credit portfolio is unrated. The risk-weight structure under the Basel II provides a perverse incentive for high risk borrowers to remain unrated. In view of this and since the system may not be able to rank risk objectively, the risk weighting system should be economic risk undertaken by the banks. Hence, unrated or high-risk sectors should be subject to a 150 per cent or higher risk weights.</p> <p>(e) The 75 per cent risk weight considered for retail exposures under the Basel II is low. Considering the fact that retail exposures include a much wider weaker segment, the risks to which the banks are actually exposed to under retail exposures is not low. Hence, the risk weight for this sector should also be appropriately increased.</p> <p>(f) Systems for ongoing scientific valuation of assets and available collateral should be established, since in many banks these systems are conspicuous by their absence.</p> <p>(g) Framework linking the branch authorisations, undertaking new</p>
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		<p>financial services, etc. to quality of capital and the adequacy of capital should be established.</p> <p>(h) Banks should not be allowed to carry accumulated losses in their books. They should be required to set off losses against capital funds, including certain capital instruments other than equity shares, on an on-going basis. RBI should decide on the methodology for setting off the losses against capital funds.</p> <p>(i) These measures may be made operational over a period by 2009-10.</p>
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Source: Reserve Bank of India (RBI)

## **2.7 KEYWORDS**

Basel: A standing committee of Bank Supervisors Committee on Banking Regulation and Supervisory Practices (now known as Basel Committee on Banking Supervision) set up under the auspices of the Bank for International Settlements, in 1975.

### **Pillars of Basel II Framework**

Three mutually reinforcing pillars, that allow the banks and supervisors to evaluate properly the various risks that the banks face and realign the regulatory capital more closely with the underlying risks, are the three Pillars of the Basel II framework.

#### **Capital Adequacy**

It is the cushion against the unexpected losses and refers to the minimum capital requirement expressed in terms of percentage of the risk assets.

#### **Credit Risk**

Risk associated with the lending of loans.

#### **Operational Risk**

Risk associated with unexpected disasters and events.

#### **Market Risk**

Risk associated with interest and other returns.

**2.8 TERMINAL QUESTIONS**

1. What are the three pillars of Basel II framework?
2. How is the capital adequacy measured?
3. Explain the types of risks and name the methods prescribed for measuring them.
4. Brief the measures proposed by the RBI for provisioning of NPAs and the capital adequacy and risk weighting in line with the Basel II accord.

**UNIT**  
**3**

# **CALCULATION OF YTM**

## **STRUCTURE**

- 3.0 Objectives
- 3.1 Debt - Definition and Meaning
- 3.2 Salient Features of Debt
- 3.3 Loans
- 3.4 Introduction to Bonds
- 3.5 Terms Associated with Bonds
- 3.6 Cost of Debt Capital
- 3.7 Bond Value with Semi-annual Interest
- 3.8 Current Yield on Bond
- 3.9 Yield-to-Maturity of Bond
- 3.10 Theorems for Bond Value
- 3.11 Illustrations
- 3.12 Duration of Bond
- 3.13 Properties of Duration
- 3.14 Bond Price Volatility
- 3.15 Problems and Solutions
- 3.16 Keywords
- 3.17 Terminal Questions

### **3.0 OBJECTIVES**

The objectives of this unit are to understand:

- (i) Definition and meaning of the word debt.
- (ii) The debt capital and its impact on portfolio management, (iii)

The impact of change in interest rate on the value of bond.

- (iv) Minimising the impact of change in bond value vis-a-vis with change in interest rate by adopting a technique of duration matching.

### **3.1 DEFINITION AND MEANING OF DEBT**

DEBT means a sum of money due by certain and expresses agreement. In a less technical sense, it means a claim for money. In a still more enlarged sense, it denotes any kind of a just demand; such as the debts of a bankrupt.

### **3.2 SALIENT FEATURES OF DEBT**

Debts arise or are proved by matter of record, as judgment debts; by bonds or specialities; and by simple contracts, where the quantity is fixed and specific, and does not depend upon any future valuation to settle it.

Debts are also divided into active and passive. The former means, what is due to us, the latter, what we owe. By a liquid debt, we understand, one, the payment of which may be immediately enforced, and not one, which is due at a future date, or is subject to a condition; hypothecation debt means, one which has a lien over an estate, and a doubtful debt is one the payment of which is uncertain.

Debts are discharged in various ways, but principally by payment.

In the payment of debts, some are to be paid before others. In cases of insolvent estates; firstly, in consequence of the character of the creditor; e.g. debts due to the government are generally to be first paid; secondly, in consequence of the nature of the debt; e.g. funeral expenses and servants' wages, which are generally paid in preference to other debts.

### **3.3 LOANS**

Loans from banks or financial institutions are one of the popular forms of debt. Loans are granted by the banks or institutions based on the records and documentary evidences and, of course, with security. The mode and time of repayment are clearly expressed in the documents. When the debtor fails to meet the conditions of repayment as per the contract of loan, the lender gets the right to charge penal interest for defaulted payments, compound the loan and to realise the loan through the liquidation of securities. In India, the grant of loans, charge of interest, penal interest, compounding, etc. by the banks, are governed by the guidelines and directions of the Reserve Bank of India.

### **3.4 INTRODUCTION TO BONDS**

Debt capital consists of mainly bonds and debentures. The holder of debt capital does not receive a share of ownership of the company when they provide funds to the firm. Rather, when a company first issues debt capital, the providers of debt capital purchase a debenture, which involves lending money to the firm. In return for loaning this money, bondholders have a right to certain guaranteed payments



during the life of the bond. For an illustration; a company issued a bond of a face value of Rs. 100 carrying a coupon rate of 10 per cent for ten years. This entitles the bondholder to receive Rs. ten (10 per cent of Rs. 100) for ten years as interest. At the end of tenth year, the bondholder is also entitled to receive back the invested amount of Rs. 100. Irrespective of the level of profits or losses, which company makes during that period of ten years, the bondholder is entitled to receive the coupon interest during that period. If the company fails to pay the coupon interest or the redemption value, at the end of term, the bondholder can force the company into bankruptcy as per the procedure of law. Thus, from the viewpoint of the provider of the debt capital, debt capital is less risky and therefore, earns a lower rate of return in comparison to other forms of capital. In addition to the fact that debt is cheaper than equity capital because there is less risk, it has a further advantage over equity capital from the point of view of the firm. This advantage relates to the differential tax treatment of interest payments on debt and dividend payments on equity. The interest payments on debt are said to be tax-deductible, which means that the interest payments are deducted from total income to arrive at the taxable income of the company. In contrast, dividend payments are not tax-deductible. Thus, two companies with identical operating incomes, but which differ in terms of their level of debt, will have different taxable incomes and therefore, different After Tax Income computation. This tax deductibility of debt payments means that the debt capital provides a 'tax-shield' which is not provided by the equity capital and, thus, further lowers the (after-tax) cost of debt from the point of view of the firm. With the dividends now being taxed on the companies, equity has become even more expensive.

The fact that debt capital has a lower cost than equity capital, has raised the question of whether a firm can lower its overall cost of capital and hence, its discount rate for investment appraisal purposes, by changing the mix of debt and equity which it uses. The mix of debt and equity is known as the capital structure of the firm.

Bonds are negotiable promissory notes that can be used by individuals, business firms, governments or government agencies. Bonds issued by the government or the public sector companies are generally secured. Private sector companies can issue secured or unsecured bonds. In case of a bond, the rate of interest is fixed and is known to the investors. A bond is redeemable after a specific period. The expected cash flows consist of annual interest payments plus repayment of principal.

### **3.5 TERMS ASSOCIATED WITH BONDS**

Following are the general terms associated with a bond:

**Face Value:** Also known as the par value and stated on the face of the bond. It represents the amount borrowed by the firm, which it promises to repay after a specified period.

**Coupon rate:** A bond carries a specific rate of interest, which is also called as the coupon rate.

**Maturity:** A bond is issued for a specified period. It is to be repaid on maturity.

**Redemption Value:** The value, which the bondholder gets on maturity, is called the redemption value. A bond is generally issued at a discount (less than par value) and redeemed at par.

**Market Value:** A bond may be traded on a stock exchange. Market value is the price at which the bond is usually bought or sold in the market. Market value may be different from the par value or the redemption value.

### **3.6 COST OF DEBT CAPITAL**

A security/bond can be regarded simply as an asset that pays a series of dividends or interests over a period. Therefore, the value of any security can be defined as the present value of these future cash

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streams, i.e.. the intrinsic value of an asset is equal to the present value of the benefits associated with it. It is quite clear that the holder of a bond receives a fixed annual interest payment for a certain value (equal to par value) at the time of maturity. Therefore, the intrinsic value or the present value of a bond is

$$V_0 = \frac{I}{(1+kd)^n} + \frac{F}{(1+kd)^n}$$

Intrinsic value of the bond

I = Annual Interest payable on the bond

F = Redeemable value of the bond

n = Maturity period of the bond

kd = Cost of Capital

### Illustration

A bond, whose par value is Rs. 1,000, bears a coupon rate of 12 per cent and has a maturity period of 3 years. The required rate of return on the bond is 10 per cent. What is the value of this bond?

### Solution

Annual interest payable = 1,000 \* 12% = 120

Principal repayment at the end of 3 years = Rs. 1,000

The value of the bond

= 120 (PVIFA 10%, 3 yrs) + Rs. 1,000 (PVIF 10%, 3 yrs)

= 120 (2.487) + 1,000 (0.751)

= 298.44 + 751

= Rs. 1,049.44

## 3.7 BOND VALUE WITH SEMI-ANNUAL INTEREST

If the bond carries a semi-annual interest, as the amount of the half-yearly interest can be reinvested, the value of such bonds would be more than the value of bonds with an annual interest payment. Hence, by multiplying the numbers of years to maturity by two and dividing the (i) annual interest payment, (ii) discount rate by two we can modify bond valuation formula as follows:

$$V_0 = \frac{I/2}{(1+kd/2)^{2n}} + \frac{F}{(1+kd/2)^{2n}}$$

### Illustration

A bond, whose par value is Rs. 1000, bears a coupon rate of 12 per cent payable semi-annually and has a maturity period of 3 years. The required rate of return on bond is 10 per cent. What is the value of this bond?

### Solution

Semi-annual interest payable = 1,000 x 12 per cent/2 = 60

Principal repayment at the end of 3 years = Rs. 1,000

The value of the bond

$$= 60 (\text{PVIFA } 10\%/2, 6 \text{ pds}) + \text{Rs. } 1,000 (\text{PVIF } 10\%/2, 6 \text{ pds}) = 60 (5.0746) + 1,000 (0.746) = 304.48 + 746 = 1,050.48$$

### **3.8 CURRENT YIELD ON BOND**

It measures the rate of return earned on a bond, if it is purchased at its current market price and if the coupon interest is received.

Current yield = Coupon interest/current market price

If a bond of face value Rs. 1,000, carrying a coupon interest rate of 8 per cent, is quoted in the market at Rs. 800, then the

Current yield of the bond is = 8 per cent \* 1,000/800 = 10 per cent

### **3.9 YIELD-TO-MATURITY OF BOND**

It is the rate of return earned by an investor, who purchases a bond and holds it until the maturity. The YTM is the discount rate, which equals the present value of promised cash flows to the current market price/purchase price.

#### **Illustration**

Consider a Rs. 1,000 par value bond, whose current market price is Rs. 850/-. The bond carries a coupon rate of 8 per cent and has the maturity period of nine years. What would be the rate of return that an investor earns if he purchases the bond and holds until maturity?

#### **Solution**

If  $k_d$  is the yield to maturity then,

$$850 = 80 (\text{PVIFA } k_d \text{ per cent, } 9 \text{ yrs}) + 1,000 (\text{PVIF } k_d, 9 \text{ yrs})$$

To calculate the value of  $k_d$ , we have to try several values:

$$= 80 (\text{PVIFA } 12 \text{ per cent, } 9) + 1,000 (\text{PVIF } 12 \text{ per cent, } 9)$$

$$= 80 \times 5.328 + 1,000 \times (0.361)$$

$$= 426.24 + 361 = 787.24$$

Since, the above value is less than 850, we have to try with value less than 12 per cent. Let us try with  $k_d = 10$  per cent

$$= 80 (\text{PVIFA } 10 \text{ per cent, } 9) + 1,000 (\text{PVIF } 10 \text{ per cent, } 9) = 80$$

$$\times 5.759 + 1,000 \times 0.424 = 884.72$$

From the above it is clear that  $k_d$  lies between 10% and 12%. Now we have to use linear interpolation in the range of 10% and 12%. Using it, we find that  $k_d$  is equal to the following:

$$\frac{884.72 - 850}{884.72 - 787.24}$$

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$$34.72 - 24.75 = 10\% + .71 = 10.71\%$$

Therefore, the yield to maturity is 10.71%

### **3.10 THEOREMS FOR BOND VALUE**

1. When the required rate of return is equal to the coupon rate, the value of the bond is equal to its par value.
2. When the required rate of return ( $k_d$ ) is greater than the coupon rate, the value of the bond is less than its par value.
3. When the required rate of return is less than the coupon rate, the value of the bond is greater than its par value.
4. When the required rate of return ( $k_d$ ) is greater than the coupon rate, the discount on the bond declines as maturity approaches.
5. When the required rate of return ( $k_d$ ) is less than the coupon rate, the premium on the bond declines as maturity approaches.
6. A bond price is inversely proportional to its yield to maturity.
7. For a given difference between YTM and coupon rate of the bonds, the longer the term to maturity, the greater will be the change in price with a change in YTM. It is because, in the case of long maturity bonds, a change in YTM is cumulatively applied to the entire series of coupon payments and the principal payment is discounted at the new rate for the entire number of years to maturity.
8. Given the maturity, the change in bond price will be greater with a decrease in the bond's YTM than the change in bond price with an equal increase in the bond's YTM. That is, for equal sized increases and decreases in the YTM, price movements are not symmetrical.
9. For any given change in YTM, the percentage price changes, in case of bonds of a high coupon rate, will be smaller than in the case of bonds of a low coupon rate, other things remaining the same.
10. A change in the YTM affects the bonds with a higher YTM more than it does bonds with a lower YTM.

### **3.11 ILLUSTRATIONS**

#### **(a) For Theorem 4**

The face value of the bond is Rs. 1,000, coupon rate is 11 per cent, years to maturity is seven years. The required rate of return is 13 per cent, and then the present value of the bond is

$$110 \times \text{PVIFA} (13 \text{ per cent}, 7) + 1,000 (\text{PVIF } 13 \text{ per cent}, 7)$$

$$110(4.423) + 1,000 (0.425) = 911.53$$

One year from now, when the maturity period will be six years, the present value of the bond will be

$$110 \times \text{PVIFA} (13 \text{ per cent}, 6) + 1,000 (\text{PVIF } 13 \text{ per cent}, 6)$$

$$110 (3.998) + 1,000 (0.480) = 919.78$$

Similarly, when maturity period is 5, 4, 3, 2, 1 the Bond value will become 929.87, 940.14, 952.71, 966.48, 982.35, respectively. In tabulated form it can be represented as follows:

Years to Maturity	Bond Value
7	911.53
	919.78
6	929.87
	940.14
5	952.71
	966.48
4	982.35
	1,000.00
3	
2	
1	
0	

From the above table it is clear, that for a required rate of return of 13 per cent, the value of the bond will increase with the passage of time until its maturity.

#### (b) For Theorem 7

For two bonds X and Y having face value of Rs. 1,000, coupon rate of 10 per cent each, years to maturity is three and six years respectively.

Market value of bond X at YTM of 10 per cent is

$$100 \text{ PVIFA} (10 \text{ per cent}, 3) + 1,000 \text{ PVIF} (10 \text{ per cent}, 3) = 1,000$$

Market Value of Bond Y at YTM of 10 per cent is

$$100 \text{ PVIFA} (10 \text{ per cent}, 6) + 1,000 \text{ PVIF} (10 \text{ per cent}, 6) = 1,000$$

Now market value of bond X at YTM of 11 per cent is

$$100 \text{ PVIFA} (11 \text{ per cent}, 3) + 1,000 \text{ PVIF} (11 \text{ per cent}, 3) = 975$$

And Market Value of Bond Y at YTM of 11 per cent is

$$100 \text{ PVIFA} (11 \text{ per cent}, 6) + 1,000 \text{ PVIF} (11 \text{ per cent}, 6) = 958$$

Change in price for X on increasing YTM by 1 per cent is  $(1,000 - 975)/1,000 = 2.5$  per cent

Change in price for Y on increasing YTM by 1 per cent is  $(1,000 - 958)/1,000 = 4.2$  per cent

Thus, longer-term bond is more sensitive to interest rate change than short-term bond.

#### (c) For Theorem 8

Consider a bond having a face value of Rs. 1,000 with a coupon rate of 10 per cent and maturity period of five years. Let the YTM be 10 per cent. Market price of the bond will be equal to Rs. 1,000.

A 1 per cent increase in YTM to 11 per cent changes price to Rs. 963.04 (100 PVIFA 11 per cent, 5 + 1000 PVIF 11 per cent, 5), a decrease of 3.7 per cent.

A decrease of 1 per cent YTM to 9 per cent changes the price to Rs. 1,039 (100 PVIFA 9 per cent, 5 +

1,000 PVIF 9 per cent, 5) an increase of 3.9 per cent.

Thus, an increase in bond's yield caused a price decrease that is smaller than the price increase caused by an equal size decrease in yield.

**(d) For Theorem 10**

A bond of face value of Rs. 1,000 par value X bond with a coupon rate of 12 per cent maturity period of six years and YTM of 10 per cent. The market value of the bond will be Rs. 1,087.

Consider another identical bond Y but with differing YTM of 20 per cent. The market value of this bond will be Rs. 734.

If the YTM increase by 20 per cent, i.e. YTM of bond X rises to 12 per cent ( $10 \times 1.2$ ) and bond Y rises to 24 per cent (i.e.,  $20 \times 1.2$ ) then the market value of both bonds will change to:

**Bond ABC:**  $120 \text{ PVIFA} (12 \text{ per cent}, 6) + 1,000 \text{ PVIF} (12 \text{ per cent}, 6) = \text{Rs. } 1,000$

**Bond XYZ:**  $120 \text{ PVIFA} (24 \text{ per cent}, 6) + 1,000 \text{ PVIF} (24 \text{ per cent}, 6) = 638$

Market value of ABC bond with a lower YTM decreased by 8 per cent whereas in case of XYZ bond with an higher YTM the decrease is 13 per cent.

**3.12 DURATION OF BOND**

Investors are subject to interest rate risk on two counts - the reinvestment of annual interest and the capital gain/loss on sale of the bond at the end of the holding period. When the interest rates rise, there is a gain in reinvestment and a loss on liquidation. The converse is true when the interest rates fall. For any bond, these two effects exactly balance each other for a holding period. What is lost on reinvestment, is exactly compensated by a capital gain on liquidation and vice versa. For this holding period, there are no interest rate risks. The holding period for which the interest rate risk disappears, is known as the duration of the bond. There is a simple way of computing the desired holding period (duration), which is as follows:

1. Determine the cash flows from holding the bond.
2. Determine the present value of these cash flows by discounting the flows with discount rate (YTM).
3. Multiply each of the present values by respective numbers of years left before the present value is received.
4. Sum these products up and divide by the present value to get the duration of the bond.

Consider a 12.5 per cent bond having a face value of Rs. 100 redeemable after five years at premium of 5 per cent and the coupon payable at the end of each year. The expected market rate is 15 per cent. The duration of this bond can be computed as follows:

$$\begin{aligned} \text{Duration} &= \frac{\sum X_{pvxT}}{Z_{pv}} \\ &= \frac{375.11}{94.11} \\ &= 3.99 \text{ yrs} \end{aligned}$$

The 12.5 per cent bond having maturity of five years is having duration of 3.99 years. It indicates that interest rate risk will disappear if the holding of bond will be for 3.99 years.

The concept was first introduced by F Macaulay and thus, is called by his name as the Macaulay Duration.

It is also possible to compute the duration of an entire portfolio of bonds. It is the weighted average of the duration of the individual bonds. For an Investor a bond will be risky if the holding period of the bond is different from its duration.

### 3.13 PROPERTIES OF DURATION

- Duration is less than the term to maturity
- Bond's duration will be equal to its term to maturity if and only if it is zero coupon bonds
- The duration of perpetual bond is equal to  $1 + r/r$ , where  $r$  = current yield of the bond
- Longer a coupon paying bond's term to maturity, the greater the difference between its term to maturity and duration

Duration and YTM are inversely related

Larger the coupon rate, smaller the duration of a bond

- An increase in the frequency of coupon payments decreases the duration, while a decrease in frequency of coupons increases it. Duration of a bond declines as the bond approaches maturity

### 3.14 BOND PRICE VOLATILITY

The sensitivity of the bond price to changes in the interest rates is called 'Bond Volatility'. Bond prices and YTM are inversely related. Therefore, instantaneous changes in market yields cause prices to change in the opposite direction. The extent of change in the bond prices for a change in YTM measures the interest rate risk of a bond. The interest rate risk is a function of the interest rate elasticity. Interest rate elasticity (IE) can be defined as:

$$IE = \frac{\text{Percentage change in price for bond in period } t}{\text{Percentage change in yield to maturity for bond}}$$

Interest rate elasticity is always a negative number, due to the inverse relationship between YTM and bond prices.

Bond price elasticity can also be computed with the help of following mathematical formula: IE

$$= D \times YTM / (1 + YTM)$$

The above equation suggests that the duration and interest rate elasticity of a bond are directly related. Anything that causes the duration of a bond to increase will also increase the bond's interest rate elasticity.

#### **Illustration**

Consider a bond having a face value of Rs. 1,000, coupon rate is 10 per cent and period of maturity is ten years. If the current market rate 10 per cent is changed to 11 per cent, the price of the bond changes to

$$100 * PVIFA(11, 10) + 1,000 * PVIF(11, 10) = 940.90$$

Interest rate elasticity of the bond is always a negative number, due to the inverse relationship between YTM and bond prices.

$$IE = \frac{\text{Percentage change in price for bond in period } t}{\text{Percentage change in yield to maturity for bond}}$$

$$\frac{[-59.10/1,000] \times 100}{10\%} = 5.91 \text{ percent}$$

It implies, a 10 per cent change in YTM would cause a 5.91 per cent change in price of the bond in the opposite direction.



**3.15 PROBLEMS AND SOLUTIONS**

1. Calculate the Macaulay Duration, Modified Duration of a bond for company A, if the coupon rate is given to be 8 per cent, the YTM is 6 per cent and the time to maturity is five years. The face value of the bond is Rs. 1,00,000. The interest payments are made annually. Also, calculate the percentage change in price of the bond if the YTM falls by 100 basis points or 1 per cent from 6 per cent to 5 per cent.

**Solution**

Duration =  $\frac{1}{I}$

**I?**

Computation of Duration of a Bond

Year (t)	CF	PVF	CF x PVF	CF x PVF x t
1	8,000	0.9433962	7,547.17	7,547.17
2	8,000	0.8899964	7,119.97	14,239.94
3	8,000	0.8396193	6,716.95	20,150.86
4	8,000	0.7920937	6,336.75	25,347.00
5	1,08,000	0.7472582	80,703.88	4,03,519.41
		Total	1,08,424.72	4,70,804.38

Duration = 4.3422234

Modified Duration =  $\frac{Duration}{1 + yield} = \frac{4.34}{1.06} = 4.10$

Percentage change in price = -MD x change in rate  
 = -4.10 x 0.01 =  
 0.041 or 4.1%

If YTM falls by 100 basis point, i.e. 1 per cent the price of bond increase by 4.1 per cent.

Consider two bonds A and B. They have the following characteristics

	Bond A	BondB
Face value	Rs.100	Rs. 100
Coupon rate	14 percent	14 per cent
Current market price	Rs. 100	Rs. 100
Term to maturity	4yrs	7yrs
Coupon payment	Annually	Annually

- (a) Compute the YTM of Bond A and B,  
 (b) If the interest rates fall by 1 per cent, what would be the new market price of the bonds?  
 (c) What is the percentage change in the price of two bonds? What did you notice regarding the percentage price change in case of Bonds A and B identical in all respects, except term to maturity?  
 (d) If interest rates increased by 1 per cent, what will be the current price of Bond A? What did you observe when the interest rate rose by 1 per cent and fell by the same amount in case of the Bond A?

### Solution

(a) Since the bonds are available at their respective face values, the YTM of the Bond A and B will be equal to their coupon rates, i.e. 14 per cent

(b) After the interest rate fell by 1 per cent the market price of Bond A is  
 $= 14 \times \text{PVIFA}(13 \text{ per cent}, 4) + 100 (13 \text{ per cent}, 4)$

$$= 14 \times 2.974 + 100 \times 0.613 = \text{Rs.}$$

102.94 The market price of Bond

B is

$$= 14 \times \text{PVIFA} (13 \text{ per cent}, 7) + 100 (13 \text{ per cent}, 7)$$

$$= 14 \times 4.423 + 100 \times 0.425 = 104.42$$

(c) Percentage price change in case of Bond A is

$$\frac{102.94 - 100}{100} = -2.94\%$$

Percentage price change in case of Bond B is

$$\frac{104.42 - 100}{100} = 4.42\%$$

We observe that for a decrease in YTM by 1 per cent, the bond having longer term to maturity experience a price change that is more than the price change for a bond, that is having a shorter term to maturity.

(d) If the interest rate increase by 1 per cent the market value of Bond A is

$$\begin{aligned} \text{Market Value} &= 14 * \text{PVIFA} (15 \text{ per cent}, 4) + 100 * \text{PVIFA} (15 \text{ per cent}, 4) \\ &= 14 \times 2.855 + 100 \times 0.572 = 97.17 \end{aligned}$$

$$\text{Percentage change in Bond A} = \frac{97.17 - 100}{100} = -2.83\%$$

The percentage price change in case of Bond A when the interest rate fell by 1 per cent and increased by 1 per cent was 2.94 per cent and 2.83 per cent respectively. We observe that percentage price change in case of increase or decrease in interest rate is asymmetrical.

3. A bond with a face value of Rs. 500 and a coupon rate of 12 per cent is annually quoting in the market at Rs. 420. It has a term to maturity of four years. The holder of this bond has an applicable income tax rate of 33 per cent and a capital gain tax rate of 15 per cent. Assuming that interest is paid annually, you are required to calculate:

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- (a) The interest rate risk when the market interest rate falls by 200 basis point.  
 (b) Calculate the interest rate risk when the market interest rate rises by 100 basis points.

### Solution

Face Value of the bond = Rs. 500

Market price = Rs. 420

Coupon rate = 12 per cent

Term to maturity = 4 yrs

Income tax rate = 30 per cent

Capital gain tax = 15 per cent

The post tax income from coupon payment is  $60 (1 - 0.30)$  Rs. 42

Redemption value after adjusting for capital gains tax will be

$$500 - (500 - 420) \times 0.15 = \text{Rs. } 488$$

The post tax YTM is obtained by the formula

$$\frac{I(1-t) + (F-P)/n}{0.4F + 0.6P}$$

Substituting the respective values, we have

$$\frac{60 \times 0.7 + (488 - 420)/4}{0.4(488) + 0.6(420)} = \frac{42 + 17}{195.2 + 252} = \frac{59}{447.2} = 0.1319 \text{ or } 13.19\%$$

The current yield is  $42/420 = 0.10$  or

10 per cent

That is the post tax YTM is 13.19 per cent

To calculate the duration we employ the formula

$$D = \frac{1}{YTM} \left[ \frac{1 - (1 + YTM)^{-n}}{YTM} + n(1 + YTM)^{-n} \right]$$

$$= \frac{1}{0.1319} \left[ \frac{1 - (1 + 0.1319)^{-4}}{0.1319} + 4(1 + 0.1319)^{-4} \right]$$

= 3.51 yrs Therefore, the duration of given bond is 3.51 yrs

Before, computing the interest rate risk or in other words the percentage change in price as a result of fall in the interest rates we compute the interest rate elasticity.

$$\text{Interest rate elasticity} = -D \times YTM / (1 + YTM)$$

$$= -3.51 \times 0.1319 / 1.1319 = -0.409$$

Percentage price change when the interest rate fall by 20 bp:

$$\frac{\Delta P}{P} = \text{Interest rate elasticity} \times \Delta YTM$$

$$= -0.409 \times -0.02 / 0.1319 = -0.062\%$$

The percentage change in price will be positive, as the bond price will rise due to the fall in the interest rates.

The percentage price change when the interest rate rose by 100 basis point is computed below:

$$\frac{\Delta P}{P} = \text{Interest rate elasticity} \times \frac{\Delta \text{YTM}}{\text{YTM}}$$

$$= -0.409 \times \frac{-0.01}{0.1319} = -0.031\%$$
 The negative sign indicates that price of the bond will fall.

### 3.16 KEYWORDS

**Face Value:** It is also known as par value and stated on the face of the bond. It represents the amount borrowed by the firm, which it promise to repay after a specified period of time.

**Coupon Rate:** A bond carries a specific rate of interest which is also called as the coupon rate.

**Maturity:** A bond is issued for a specified period of time. It is repaid on maturity.

**Redemption Value:** The value which bondholder gets on maturity is called redemption value. A bond may be redeemed at par, at premium (more than par value) or at discount (less than par value).

**Market Value:** A bond may be traded in a stock exchange. Market value is the price at which the bond is usually bought or sold in the market. Market value may be different from par value or redemption value.

**Intrinsic Value:** It is quite clear that the holder of a bond receives a fixed annual interest payment for a certain value (equal to par value) at the time of maturity. Therefore, the intrinsic value is the present value of the cash flow over the redemption period. It can be computed as follows:

$$V_0 = \frac{I}{1+kd} + \frac{J}{(1+kd)^n} + \frac{F}{(1+kd)^n}$$

where,

$V_0$  = Intrinsic value of the bond

$I$  = Annual interest payable on the bond

$F$  = Redeemable value of the bond

$n$  = Maturity period of the bond  
 $kd$  = Cost of capital

**Yield-to-Maturity:** It is the rate of return earned by an investor who purchases a bond and holds it till maturity. The YTM is the discount rate, which equals the present value of promised cash flows to the current market price/purchase price.

**Duration of Bond:** The holding period for which interest rate risk disappears known as the duration of the bond.

### 3.17 TERMINAL QUESTIONS

1. Define debt.
2. What are the salient features of debt?
3. Investors are assured about the fixed return on investment in bonds. However, there are various risks involved in bond investment. Elaborate.
4. Recommend the techniques to reduce the risk involved in bond investment.
5. Bonds are less risky than equity but are not entirely risk free. Elaborate.
6. Explain the factors affecting the price of bond.
7. Explain the concept duration. How duration of bond helps to reduce interest rate risk?





# CAPITAL BUDGETING

## STRUCTURE

- 4.0 Objectives
- 4.1 Introduction
- 4.2 Present Value and Discounting
- 4.3 Present Value Tables
- 4.4 Discounted Technique for Investment Appraisal
- 4.5 Internal Rate of Return (IRR) Method of Investment Appraisal
- 4.6 Problem with IRR Method
- 4.7 NPV and IRR Compared
- 4.8 Investment Opportunities with Capital Rationing
- 4.9 Investment Decision Making under Condition of Uncertainty
- 4.10 Expected NPV Rule
- 4.11 Risk Adjusted Discount Rate Approach for NPV Determination
- 4.12 Sensitivity Analysis for NPV Determination
- 4.13 Decision Tree Analysis for NPV Estimation
- 4.14 Payback Method
- 4.15 Keywords
- 4.16 Problems and Solutions
- 4.17 Terminal Questions

#### **4.0 OBJECTIVES**

The objectives of this unit are:

- (i) To understand the concept of time value in decision making.
- (ii) To understand the discounted techniques for investment appraisal, (iii) To understand the concept of internal rate of return for investment appraisal.

#### **4.1 INTRODUCTION**

Money has the time value, i.e. a given sum of money has greater value if it received earlier as it can be profitably invested. To illustrate, consider an investor, who is evaluating an investment opportunity that requires an immediate outlay of Rs. 1,00,000, that will generate income in subsequent years. In deciding whether to go ahead with the investment, the investor will be concerned with how much income generation will be in the future. A rational investor will be unwilling to undertake the investment if he knows that he will receive less than what he can earn as interest.

Thus, if the project has the life of one year, P is the immediate outlay and r is the rate of interest, his return should be more than the sum F, where

$$F = P(1 + r) = (1,00,000)(1 + .10) = 1,10,000 \text{ (current rate of interest } r = 10\%)$$

And if the project has the life of 2 year, his return should be more than the sum F, where

$$F = P(1 + r)^2 = 1,00,000(1 + r)^2 = 1,00,000(1 + .10)^2 = 1,21,000$$

Clearly, if the investor has to choose the project, he has to compare the yield on the investment to the yield from project's cash flow, i.e. if the project has the life of two years then his return should be more than 1,21,000. This illustration clarifies the importance of the timing of the receipt or expenditure of cash flows and that it is not sufficient to treat the money to be received in the future as having the same value as the money to be received immediately. If the decision maker is to be able to make a choice about whether to go ahead with an investment or is to be able to rank the investment opportunities where there is more than one alternative, then a way must be found to allow money to be received at different points of time to be compared. One way of making the comparison is to use the approach adopted above; namely to work out what the value of money to be received now will be at any point in the future.

$$\text{Future value of Rs. 1,00,000 in year 20} = 1,00,000(1 + 0.10)^{20} = 6,72,750$$

#### **4.2 PRESENT VALUE AND DISCOUNTING**

Future value is a useful concept and helps to capture the principle that underlines the time value of money. However, when considering an investment opportunity, the decision maker is typically faced with a stream of cash inflows and outflows, rather than just comparing money to be expended now with a single money to be received at some point in the future. So, we need to convert all cash flows, received at different points of time, to a common reference point, to allow a direct comparison. While it would be possible to convert all the sums of money to the future values, for the time period associated with the most distant cash flow resulting from the investment opportunity, it is easier to think in terms of what the future cash flows are worth now, thus using the present time as a common reference point. This simply requires a reversal of the way in which the future values were calculated. The present value of a sum of money to be received in the future is calculated by dividing the future sum by  $(1 + r)^n$  as follows:

$$\text{Present value} = P = M/(1 + r)^n$$

The use of present time as a common reference point rather than some future point of time is particularly useful when comparing projects of different lengths of life. For example, if two projects are to be compared, one that has an expected life of five years and the other having an expected life of nine years, it is easier to convert the cash flows to their present values than to a future value.

Taking a future sum of money and calculating its present value in this way is known as discounting. Following example illustrates the method:

Year	Cash Inflow '000	Discounting in Factor@ 10%	Present Value '000
0	-2000	1	-2000
1	350	1.1	318.18
2	500	1.21	413.22
3	600	1.331	450.79
4	800	1.4641	546.41
5	800	1.6105	496.74
6	600	1.7716	338.68

The illustration demonstrates that it is essential to take into account the time value of money and to discount the future sums to their present value, before making a decision on whether a particular investment opportunity is worth pursuing. The concept of time value is of vital importance when considering investment opportunities. It is through the concept of the present values that the decision makers can make a trade-off between the money receivable at different points of time. Failure to take account of the time value of money may well lead the decision makers to make incorrect judgements about the desirability or otherwise of an investment opportunity.

### **4.3 PRESENT VALUE TABLES**

It is very tedious to calculate the present values of the multiple streams of cash flows without the aid of a computer or a programmable calculator. However, in the absence of such devices, discount tables are of great use. The discount tables are of two types:

- (i) Present value of Re. 1 (Table A in appendix)
- (ii) Present value of annuity of Re. 1 (Table B in appendix)

Along the top of the table are the different discount rates. Down the left hand side of the table, is the number of years. The main body of the table gives the present values of Re. 1 for different discount rates and different periods. The figures are called as discount factors. For an illustration, if the time in which Re. 1 is to be received is the year ten and the discount rate is 6 per cent, then by consulting the cell, which corresponds to the period ten, we discover the present value is 0.5584. Thus, if the money to be received in the year ten is 1,000, then its present value is  $1000 \times .5584 = 558$ .

Table B is similar in layout to the Table A and is used in exactly the same way. However, the figures in the body of the table relate to the present value of an annuity of Re.1. For an illustration, an annuity of Re. 1, to be received each year for ten years, when the discount rate is 6 per cent, has a present value of



Rs. 7.36. Thus, an annuity of Rs. 1,000, to be received each year, for ten years, when the discount rate is 6 per cent, has a present value of Rs.  $7.36 * 1000 = \text{Rs. } 7,360$ .

#### 4.4 DISCOUNTED TECHNIQUE FOR INVESTMENT APPRAISAL

This chapter sets out the two main discounting techniques of investment appraisal namely the net present value (NPV) method and the internal rate of return (IRR) methods. Two main assumptions that are made in discussing the two techniques, are as follows:

- (i) That the sums of moneys, resulting from an investment, that accrue in future, are known with certainty.
- (ii) That there is no inflation. With the above two caveats, both the methods are scientific methods of investment appraisal.

Explicitly, the NPV method involves comparing the present value of the future cash flows of an investment opportunity with the cash outlay that is required to finance the opportunity. In this way, we can determine whether the investment opportunity provides a surplus, when the cash flows are measured in present value terms. The stages involved in using the NPV method are as follows:

1. Estimate all future net cash flows (revenue minus cost) associated with an investment opportunity;
2. Convert these net cash flow figures to their present value equivalents by discounting at the appropriate discount rate;
3. Add all the present value figures of future cash flows;
4. Subtract from this value, the initial cost of investment.

The resulting figure from these calculations is the net present value.

Mathematically, the NPV is calculated by using the following formula:

$$NPV = \frac{C}{(1+r)^1} + \frac{C}{(1+r)^2} + \frac{C}{(1+r)^3} + \dots + \frac{C}{(1+r)^n} - \frac{I}{(1+r)^0}$$

where C is the net cash flow per year, n is the number of years for which the project will generate cash flows, I is the initial investment required, r is the appropriate discount rate.

Above formula calculates the surplus that is made as a result of undertaking the project, in excess of that which could be made by investing at the marginal rate of return.

If the NPV is negative, the surplus is actually a deficit and undertaking the investment would reduce the wealth of the shareholders. Thus, under condition of certainty, the NPV method provides a definite decision advice for independent investment projects: undertake those investments for which there is a positive NPV.

Similarly, when projects are mutually exclusive, NPV provides a definite ranking advice: undertake the investment opportunity that has the highest NPV, provided the NPV of this investment is positive.

The use of NPV can be explained using an illustration.

Consider, a firm wants to set up toy making plant. Production of the toys requires new factory space and equipment. Either the firm can construct a factory on a site it has identified or it can refit a factory that it owns and that is currently lying idle.

The initial investment in constructing a factory is more; however, the running cost may be less due to design that is more appropriate.

The initial investment in renovating an old factory is comparatively low; however, the running cost may be high due to refit of the factory.

The firm is faced with a choice of mutually exclusive investment opportunities. The net cost associated with the new built factory (Project A) and that of the renovated factory (Project B) are shown in Tables 1 and 2 respectively, as are the present values of the cash flows for a discount rate of 10 per cent.

Table 4.1 : For Project A

Year	Cash Inflow (‘000)	Discounting Factor	Present Value (‘000)
0	-2000	1	-2000
1	350	1.1	318.18
2	500	1.21	413.22
3	600	1.331	450.79
4	800	1.4641	546.41
5	800	1.6105	496.74
6	600	1.7716	338.68
		NPV	+564.02

Table 4.2 : For Project B

Year	Cash Inflow (‘000)	Discounting Factor	Present Value (‘000)
A	-1500	1	-1500
1	200	1.1	181.82
2	260	1.21	214.88
3	450	1.331	338.09
4	700	1.4641	478.11
5	700	1.6105	434.64
6	400	1.7716	225.79
		NPV	+ 373.33

On comparing the NPV of the project A and B, the NPV for both the projects are positive. The NPV of project A is more than the NPV of project B, hence, the firm should go ahead with the project A. If projects A and B were independent projects, rather than mutually exclusive investment opportunities, then the firm would maximise the increase in shareholder wealth by undertaking both projects, funds permitting.

#### **4.5 INTERNAL RATE OF RETURN (IRR) METHOD OF INVESTMENT APPRAISAL**

The IRR method is one more method for an investment appraisal. This method has similarities to the NPV method as the variation on the NPV equation given, provides the basis for calculating the IRR.

The IRR is the discount rate that reduces the NPV to zero.

The method is mathematically represented as follows:

$$(1+r)^1 \frac{C_1}{(1+r)^2} (1+r)^3 (1+r)^4 \dots (1+r)^n - i$$

The value of the IRR, calculated from this formula, provides a measure of the rate of return earned on that capital that was used in the project.

Having determined the above formula, we can reach a decision on whether to go ahead with the project by comparing the IRR with the cost of capital.

For independent investment opportunities, if the IRR is greater than the cost of capital, then the project should be undertaken, since a rate of return is being earned by the project that is greater than the amount that has to be paid out to the providers of capital. Thus, the project is earning a surplus over and above the cost of funds and thus shareholders' wealth will be increased.

If the IRR is less than the cost of capital, then the project, should not be undertaken, as going ahead with the project will have the result of reducing the shareholders' wealth.

For mutually exclusive investment opportunities, the IRR decision rule involves undertaking that investment that has the highest IRR, provided that the IRR is greater than the cost of capital.

According to number of studies, IRR is <sup>C</sup> more widely used than NPV. The main reason for this appears to be that people in business are more used to thinking in terms of rates of return than in terms of NPVs or surpluses.

The use of IRR is illustrated by using the illustration that was used for the NPV method above, as shown in Tables 4.1 and 4.2. We saw the NPV was positive in Tables 4.1 and 4.2, when the discount rate of 10 per cent was used. It, therefore, follows that the IRR must be greater than 10 per cent. On applying the discount rate of 15 per cent, the NPV will be as follows:

Table 4.3 : For Project A

Year	Cash Inflow (‘000)	Discounting Factor	Present Value (‘000)
0	-2000	1	-2000
1	350	1.15	304.35
2	500	1.3225	378.07
3	600	1.5209	394.50
4	800	1.7490	457.40
5	800	-2.0114	397.73
6	600	2.3131	259.39
NPV			+191.44

Table 4.4 : For Project B

Year	Cash Inflow ( '000)	Discounting Factor	Present Value ( '000)
0	-1500	1	-1500
1	200	1.15	173.91
2	260	1.3225	196.60
3	450	1.5209	295.88
4	700	1.7490	400.23
5	700	2.0114	348.02
6	400	2.3131	172.93
NPV			+87.57

From Tables 4.3 and 4.4, it is clear that at the discount rate of 15 per cent, NPV of both projects is positive. Thus, IRR for both projects must be above 15 per cent. Repeating this exercise with a discount rate of 20 per cent the NPV figure is (-1,05,646) for project A and (-1,39,511) for project B.

Therefore, the IRR for both projects will lie in the range of 15 per cent and 20 per cent. By continuing with this trial and error method, it can be established that the IRR for the project A is 18.1 per cent, while that for project B is 16.8 per cent. Since the project A has the higher IRR and is greater than firm's cost of capital of 10 per cent, the IRR decision rule suggests that the firm should go ahead with project A. This is in line with decision advice of NPV method.

#### 4.6 PROBLEM WITH IRR METHOD

While the trial-and-error method, shown above, provided a very accurate means of establishing the IRR of the projects, it is clearly very time consuming, in the absence of a programmable calculator or a computer package that calculates the IRR. Alternative methods involved using the techniques of interpolation. While this does not provide a value for the IRR that is correct, it does give a close approximation.

To use the method of interpolation, first we have to calculate the discount rate that gives positive NPV (preferably small) and a discount rate that gives negative NPV (preferably small). Having established these discount values for the negative and positive NPV values, it must be the case that the IRR falls somewhere between the two. Interpolation can then be used to determine the discount rate that yields a zero NPV figure by assuming that the relationship between the NPV and the discount rate is linear, i.e. that a one-point decrease in the discount rate always generates the same increase in the NPV.

The fact that the relationship between the NPV and the discount rate is not linear is the reason why this technique only provides an approximate value for the IRR and why it is first necessary to find the NPV figures (one above and one below zero) that are close to zero. The actual relationship between the NPV and the discount rate is shown in Figure 4.1. The dashed line represents a linear relationship and demonstrates that such a relationship is only an approximation to the true curve.

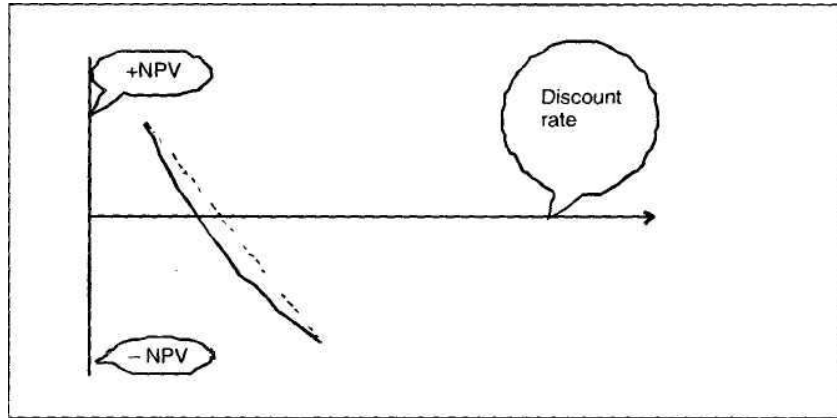


Figure 4.1

In the illustration discussed above, we saw that with a discount rate of 15 per cent, the NPV of the project A is +191440 and with the discount rate of 20 per cent the NPV of the project is -1,05,646. Similarly, with a discount rate of 15 per cent the NPV of the Project B is +87,570 and with discount rate of 20 per cent the NPV become -1,39,511. Thus, for the project A, an increase in the discount rate by 5 per cent leads to a fall in the NPV of 2,97,086 (1,91,440 + 1,05,646). By assuming a linear-relationship this figure can then be used as a basis for determining how big the increase in the discount rate from 15 per cent should be to lead to a reduction of 1.91,440 (i.e. to obtain a figure for the NPV to reduce to zero).

$$\frac{1,91,440}{2,97,086} = 3.2\%$$

Thus, the IRR for project A can be seen to be approximately 18.2 per cent. This compares with the figure shown above (the accurate figure) of 18.1 per cent.

Following the same procedure for the project B, we can determine an approximate value for its IRR

$$\frac{2,27,081}{2,27,081}$$

Thus, the IRR for project B is approximately 16.9 per cent when calculated by interpolation, compared to the actual figure of 16.8 per cent.

We again stress that the accuracy of interpolation depends upon the closeness to zero of the two NPV figures used. This is borne out by the fact that if the NPV figures, calculated by using discount rates of 10 per cent and 20 per cent, were used as the basis for interpolation, the results would be less accurate at 18.4 per cent for project A and 17.2 per cent for project B. Thus, it is important to get the NPV figures closer to zero before using the process of interpolation.

In the above illustrations of the projects A and B, the NPV method and the IRR method resulted in the same ranking of projects. However, there are some situations where the two methods will generate different rankings of projects. It is, therefore, important to understand fully the relative merits of NPV and IRR and why two methods can generate different results.

#### **4.7 NPV AND IRR COMPARED**

As we have seen above, both the NPV and IRR methods have the advantage that they take into account the time value of money and thus, they are viewed as being superior to the non-discounting techniques.

In addition, these two techniques have the advantage that they focus on cash flows rather than on accounting profits.

Given that both the NPV and IRR are characterised by these advantages, it may be thought that either is equally acceptable, in terms of providing decision advice, which will help to meet the goals of the organisation. However, while the two techniques are clearly similar, they do not always guarantee to provide the same investment decision advice. We, therefore, need to make a comparison of the two techniques to understand which one is superior. This is particularly important because, as we will see, while the IRR tends to be more popular with the business decision makers, it is the NPV approach that is more reliable. The preference of decision makers for the IRR results from the fact that the business people are more used to thinking in terms of rates of return. However, in some situations, the use of the IRR approach may lead to inappropriate investment decision guidance.

The cash flow from a project are not always -, +, +, +, +, +, +, there will be some situations where the cash flow can become -, +, +, -, +, +, + or -, -, +, +, +, +, + or -, +, +, -, -, -, +, which implies that after the initial cash outflow, there will not always be a series of cash inflows. Some projects may require further interim investments to generate continuously a positive cash flow for a greater number of years. Some projects may even require a cash outflow at the end to dismantle the project.

In the situations described above, it is imperative that the IRR method will not give the true results to the decision makers. Application of the IRR method for comparative analysis of two projects is quite helpful in the situations where the cash flows are same, both in terms of volume and sign, otherwise it will give misleading results.

Another disadvantage of the IRR method can be understood by considering a project that requires an initial investment immediately and that generates cash flows in two subsequent periods (making three periods in total). In such a situation the IRR is found by solving the following equations:

$$0 = -C_0 + \frac{C_1}{1+r} + \frac{C_2}{(1+r)^2}$$

on multiplying both sides of this equation by  $(1+r)^2$ , we get  $0 =$

$$-C_0(1+r)^2 + C_1(1+r) + C_2.$$

The above equation is a quadratic equation and standard mathematics state that, as such, it will have two roots (two values of IRR) that make the two sides equal. Thus, if there were three cash flows after the initial investment, then we would have a four period illustration and the equation would have three roots that solve the equation.

Thus, more generally, if there were  $n$  cash flows, the number of IRR would be  $(n - 1)$ . The existence of more than one solution value for the IRR clearly poses a potential problem for decision maker. With more than one value of the IRR, it is not easy to determine the value that should be used. In contrast, the NPV approach will generate only one figure.

#### **4.8 INVESTMENT OPPORTUNITIES WITH CAPITAL RATIONING**

In situations, where the funds for investment are rationed, it will not be possible to undertake all investment opportunities that have a positive NPV or for which the IRR is greater than the cost of capital. Even where the projects are not mutually exclusive, capital rationing raises problems for both the NPV method and the IRR method.

#### **4.9 INVESTMENT DECISION-MAKING UNDER CONDITION OF UNCERTAINTY**

We have seen that the investment decision criterion is straightforward under condition of certainty and no capital rationing. For independent projects, investors should undertake all investments that offer a positive net present value (NPV), while for mutually exclusive projects, those that have the highest NPV should be undertaken, if the NPV is positive. However, the NPV method should not be used as a hard and fast decision rule; rather, the use of the method should be augmented, with the use of judgement and experience, because, in practice, for the vast majority of investments, the cash flows associated with the investment project are not known with any certainty at the time the investment decision is taken. While discounting the future cash flows is an appropriate means for taking into account the time value of money, it does not deal with the problem of uncertainty over the future cash flows. Above, we have referred to the conditions where the cash flows are known with certainty and when the cash flows are uncertain. In the problem of uncertainty, there are more possible outcomes than will actually occur. In other words, for any particular course of action (e.g. the undertaking of any particular investment opportunity), a range of possible outcomes may occur (perhaps depending upon the level of sales achieved, the cost of raw materials, etc.) but after undertaking the project, only one outcome occurs. It is assumed that all the possible outcomes will be identified. A situation of risk refers to a state where the decision maker has sufficient information to determine the probability of each possible outcome occurring. With uncertainty, the decision maker can identify each possible outcome, but does not have the information necessary to determine the probabilities of each of the possibilities. In deriving cash flow figures, to be used in any NPV calculation, a great number of estimates will be utilised. For illustration, for a producer of a men's new fashion product, it will be necessary to have estimates of many factors including: the selling price of product, the number of sales per period, the cost of raw materials used in production, the labour costs, transport cost, factory overheads, etc. However, all such estimates are subject to uncertainty or risk. There are many techniques that can be suggested to the decision maker, having been faced with appraising investments where the future cash flows are not certain. Few of the methods are as follows:

- (1) Expected NPV rule
- (2) Risk adjusted discount rate approach
- (3) Sensitivity analysis

#### **4.10 EXPECTED NPV RULE**

The approach is based on the view that in a situation where the cash flows are not known with certainty, it is unwise to base an investment appraisal decision on a single set of cash flow estimates, relating to one set of assumptions regarding the outcome of the investment. Rather, the decision maker will make a number of sales estimates based on several scenarios.

*Consider an illustration:* A manufacturer of electronics goods decided to launch a micro-oven that needed an initial investment in his existing plant. The life of the production line is five years. The manufacturer believes that the cost and revenue associated with this new product will crucially depend on mainly two factors (a) the level of economy, (b) competitive products launched by the competitor. The manufacturer also estimates the level of economy as follows: (i) normal with probability of 40 per cent, (ii) rising with probability of 60 per cent. He also estimates that (i) the probability of introducing the competitive product by a competitor is 40 per cent, (ii) probability of introducing nothing is 60 per cent.

Thus, the above situation can be summarised as follows:

Situation	Competitive product launched (40%)	No competitive product (60%)
Rising economy (60%)	Situation I Competitive product with rising economy (60%)(40%) = 24%	Situation II Non-competitive product with rising economy (60%)(60%) = 36%
Normal economy (40%)	Situation II Competitive product with normal economy (40%)(40%) = 16%	Situation IV Non-competitive product with normal economy (40%)(60%) = 24%

The above matrix shows us four situations with the respective probability of occurrence. The cash flow estimates in the four situations are as follows:

Year	Situation I (24%)	Situation II (36%)	Situation III (16%)	Situation IV (24%)
0	-25,500	-25,500	-25,500	-25,500
1	6,000	6,000	9,000	9,000
2	8,000	6,000	12,000	8,500
3	7,500	5,000	12,000	8,000
4	7,000	5,000	12,000	7,500
5	4,000	3,000	7,000	5,000
NPV	1,709	6,921	12,242	2,610

Thus, the firm has four NPV figures rather than only one. Having calculated this range of possible NPV figures, the ENPV approach now requires the firm to calculate an expected value, based on its estimates of the probability of each possible state occurring, as follows:

$$\text{ENPV} = (-1,709 \times 0.27) + (6,921 \times 0.33) + (12,242 \times 0.18) + (2,610 \times 0.22) = 3,240$$

Now it is possible for the decision maker to come to a decision regarding whether it is worthwhile to undertake this investment, based on the ENPV figure that has been calculated. If the ENPV approach were to be used in a mechanistic manner, the decision rule would be:

*For independent investments* undertake those investments for which the ENPV is positive and reject those investments, that offer a negative ENPV.

*For mutually exclusive investments*, undertake those projects with the highest ENPV if the ENPV is positive.

The above method suffers from the fact that the forecasting problems, associated with any cash flow figures used in an investment appraisal, increases when more than one scenario is considered. Nonetheless, in spite of these shortcomings, the ENPV approach does provide the decision makers with important information, provided that the ENPV figure is not used in a mechanistic manner.



#### **4.11 RISK ADJUSTED DISCOUNT RATE APPROACH FOR NPV DETERMINATION**

This approach to investment decision-making process is an attempt to deal with the problems caused by an absence of certainty in relation to the cash flows in a manner that takes an account of the risk attitudes of those people on whose behalf the decision is being made. When faced with a situation of risk, investors who are averse of risk will require a higher rate of return to compensate them for taking on that risk. The higher the level of risk, the greater must be the rate of return. The risk - adjusted rate of return approach puts this simple concept into practice. This method involves the following steps:

- (i) The decision makers should determine the rate of return that would be required for taking on investments with zero risk.
- (ii) Then add on to this rate of return, a risk premium, to take account of the risk factor of the investment under consideration.
- (iii) Rate of return, when calculated this way, is used as the discount rate in the NPV calculation.

The problem with such an approach is that determination of the discount rate is left to the subjective whims of the decision maker. Establishing a set of risk categories, before considering any investment opportunities, can eliminate the extent of subjectivity. An illustration of set of risk categories can be as follows:

Type of Project	Class of Risk	Risk Premium (1) (in per cent)	Risk free rate (2) (in per cent)	Discount rate (1+2) (in per cent)
Refunding the bank loan	Very low	1	6	7
Modernisation of existing manufacturing unit	Low	3	6	9
Increased sale volume	Medium	5	6	11
Launch of new product	High	8	6	14
R and O on current areas	Very High	10	6	16
R and O on new areas	Extremely High	14	6	20

If the investment is to be made on any one of the above mentioned projects, the applicable discount rate will be the percentage mentioned in the last column.

#### **4.12 SENSITIVITY ANALYSIS FOR NPV DETERMINATION**

This method provides important insights into the nature of investment under consideration and identifies those areas of the investment opportunity that should be of most concern to the decision maker. As the name suggests, the purpose of this approach is to identify those factors, to which the profitability of the investment opportunity is most sensitive. This method also provides important pointers to the decision maker by identifying those areas where efforts need to be directed to achieve data that are more reliable. To undertake a sensitivity analysis, the decision maker begins by making the best estimates of the various cash flow figures that need to be the inputs for the NPV calculation. In sensitivity analysis, each of the figures used in the NPV calculation, are examined in turn to determine, how variations from

the estimated figures, impact the NPV. This can be done by examining each item in turn and then determine by how much each item can vary before the positive NPV project becomes a zero NPV project. In carrying out this examination, all other estimates are held constant at their original level. For an illustration, a project consists of the following items and the cost and revenue, involved in the NPV determination of the project, are as follows:

Item	Original Cash Flow Estimate	Cash Flow Value at which NPV = 0	Percentage Change from (2) to (3)
Plant and Machinery Cost	800	934	16.75
Labour Cost	50	75	50
Advertising Cost	20	45	125
Raw Materials Cost	30	55	83.33
Sales Revenue	275	250	9.1

The decision maker can use the results of the sensitivity analysis to determine those areas where it is most important to gather further information.

#### **4.13 DECISION TREE ANALYSIS FOR NPV ESTIMATION**

So far, we considered situations assuming that the prevailing conditions would continue for the life of the project. As we assumed that if the economy is in neutral state in the year one, it will remain in a normal state for the whole life of the project. In practice, however, not only is the environment, in which the firms operate, uncertain, but it is also dynamic. For an illustration, while the economy may be in a normal state in year one, it is quite possible that it will then be in a boom state in year two and return to a normal state in year three and four, before returning to a boom state. It is, therefore, desirable to refine the ENPV approach to take account of the dynamic nature of the environment in which the firms operate. The decision tree approach provides just such a refinement.

Let us assume that the firm estimates the probabilities of the two possible states of the economy. However, we will assume that the probability of there being a boom next year is affected by the state of the economy this year. If the state of the economy this year is in neutral, then the firm estimates that there is a 0.9 chance that the state of the economy will be neutral in the following year, while the probability of the economy booming in the following year is estimated to be only 0.1. However, the state of economy, if booming this year, the probability of there being another boom next year, increases to 0.4, while probability of the economy being in a neutral state next year is 0.6. Let us also assume that in the year when the investment of Rs. 25,500 is undertaken, the firm knows that the economy will be in a neutral state.

Thus, in the first year of the project, there is a 90 per cent chance that the cash flow will be 6,000 and 10 per cent chance it will be 9,000. In the second year, the cash flow will be either 8,000 or 12,000 but now the probability of each possible outcome will depend on whether the economy was booming or in neutral in the year one. This process carries through for the remaining years. Since the state of the economy can change from year to year, there are now a whole range of possible cash flow patterns and associated probabilities. These are shown as decision tree as follows:

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(f we now sum up the expected values, we find that the total expected values are 111.90 and the project appears to be profitable. However, if the firm had undertaken a simple ENPV calculation on the assumption that whatever state occurred in the first year, would continue throughout the five year period, then the ENPV would have been -313.90 and an assumption would incorrectly have been made that there was a 90 per cent chance of the economy not booming at any time during the life of the project. The decision tree analysis gives a more accurate picture.

### 4.14 PAYBACK METHOD

All investment appraisal techniques are seeking to identify whether the cash flows, resulting from an investment, are sufficient to make the investment worthwhile. The payback method adopts the most straightforward approach to this problem. It simply seeks to measure the length of time that will be taken before the receipts from the investment are sufficient to payback the cost of the investment. The receipts from the investment are measured as the net cash flows resulting from the project being undertaken (i.e., the difference between the total amount of cash receipts and total amount of cash outlays in each period).

To illustrate the use of the payback method, consider two potential investment projects that each cost 50,000 and those that have net cash flows as follows:

Year	Project A Cash Flows	Project B Cash Flows
1	7,500	10,000
2	20,000	10,000
3	15,000	10,000
4	7,500	10,000
5	3,000	10,000
6	0	10,000
7	0	10,000
8	0	10,000
9	0	10,000
10	0	10,000

Examination of the net cash flows of the two projects tells us that the initial outlays of 50,000 is recouped in four years for the project A and in five years for the project B, Thus, the project A has a payback period of four years and the project B has a payback period of five years.

To use payback method, it is necessary first to establish a payback period within which all acceptable projects must recoup the outlay of the investment. The choice of the acceptable payback period is arbitrary but can be chosen to meet the characteristics of the business. For example, a business, with a considerable potential cash flow problems and severe capital rationing, may opt for a short payback period, say three years. In this case, neither the project A nor B, would be acceptable. In contrast, if a four year payback period were chosen, then the project A would be acceptable, but project B would not be, while a five year payback period would make both the projects acceptable to the company. Using

YwO	Year 1	Year 2	Year 3	Year 4	Year 5	PV	Proba- bility	Exp Value
		12,000'						
				0.6	0.7	12,241.6	0.0256	31.338
			0.4	0.6	0.7	10,539.3	0.0384	40.471
				0.6	0.7	9,064.0	0.0009	8.701
			0.4	0.6	0.7	7,361.7	0.0086	63.605
				0.6	0.7	9,038.6	0.0009	8.677
	0.4			0.6	0.7	7,346.3	0.0009	10.579
	9,000'			0.6	0.7	5,861.0	0.0021	12.660
			0.9	0.6	0.7	4,158.7	0.0194	80.845
				0.6	0.7	9,052.8	0.0009	8.691
	0.6			0.6	0.7	7,350.6	0.0014	10.585
				0.6	0.7	5,875.0	0.0003	2.115
				0.6	0.7	4,173.0	0.0032	13.521
				0.6	0.7	5,849.8	0.0021	12.636
			0.4	0.6	0.7	4,147.5	0.0032	13.438
				0.6	0.7	2,672.2	0.0048	12.987
				0.6	0.7	970.0	0.0437	42.428
	25,500			0.6	0.7	9,533.0	0.0057	55.083
				0.6	0.7	7,860.7	0.0086	67.916
				0.6	0.7	6,360.0	0.0021	13.792
	1.9			0.6	0.7	4,683.1	0.0194	91.039
		8,000		0.6	0.7	6,360.0	0.0021	13.738
		12,000'		0.6	0.7	4,667.7	0.0032	15.123
			0.6	0.6	0.7	3,182.4	0.0048	15.466
	6,000	8,000'		0.6	0.7	1,480.2	0.0437	64.744
				0.6	0.7	6,374.2	0.0129	82.610
				0.6	0.7	4,672.0	0.0194	90.824
	0.9			0.6	0.7	3,196.0	0.0048	15.635
			0.1	0.6	0.7	1,494.4	0.0437	65.365
				0.6	0.7	3,171.2	0.0291	92.472
				0.6	0.7	1,468.9	0.0437	64.250
				0.6	0.7	-6.4	0.06561	-0.420
				0.6	0.7	0.0	0.5904	-
				0.6	0.7	4,000	708.15	1,008.91

FIGURE 4.3

the payback method, to rank mutually exclusive projects, simply requires choosing the projects that have the shortest payback period. In the above illustration, this would lead to a choice of the project A.

Payback method simply seeks to measure the length of time that will be taken before the receipts from an investment are sufficient to payback the cost of the investment. The payback method can be used to rank projects where the investments are mutually exclusive. Using the payback method to rank mutually exclusive projects simply requires choosing the projects that have the shortest payback period. The payback method has several shortcomings that make its use highly undesirable

- it takes no account of the time value of money
- the choice of the payback period is arbitrary
- with the payback, the only cash flows to be considered are those that fall in the payback period
- using payback may well lead to an increase in risk, since by demanding rapid payback, companies are building in a bias towards the acceptance of risky projects.

**4.15 KEYWORDS**

Discounted Cash Flow: Time has value, as the cash received today is worth more than the same cash received after the end of a period, as the cash received today can earn interest during the said period.

Present Value: A discounting factor suitably discounts the cash flows, in order to know the present value.

NPV: It is the net difference between the discounted cash inflows and outflows.

IRR: IRR is the value of the discount rate in the NPV equation, that leads to a zero value for the NPV.

Payback: It is the period where the net cash inflow equals the initial cash outflow or investment.

**4.16 PROBLEMS AND SOLUTIONS**

1. Company A is considering a new piece of equipment. It will cost Rs. 6,000 and will produce a cash flow of Rs. 1,000 every year for the next 12 years (the first cash flow will be exactly one year from today).

Cash Flows look like the following:

Year												
0	1									10	11	12
(6,000)	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000

1. (a) What is the NPV if the appropriate discount rate is 10%?

You can either discount each individual cash flow or recognise that the

Rs. 1,000 cash flows are just a twelve year annuity. So,

$$PV = a/i [1 - 1/(1+i)^n]$$

$$PV = 1,000/0.1 [1 - 1/(1.1)^{12}]$$

$$PV = \text{Rs. } 6,814$$

Adding this to the original investment gives an NPV of

$$NPV = \text{Rs. } 6,814 - \text{Rs. } 6,000$$

$$NPV = \text{Rs. } 814$$

(b) What is the NPV if the appropriate discount rate is 12%?

$$PV = 1,000/0.12 [1 - 1/(1.12)^{12}]$$

$$PV = \text{Rs. } 6,194$$

Adding this to the original investment gives an NPV of

$$NPV = \text{Rs. } 6,194 - \text{Rs. } 6,000$$

$$NPV = \text{Rs. } 194$$

(c) What is the NPV if the appropriate discount rate is 15%?

$$PV = 1,000/0.15 [1 - 1/(1.15)^{12}]$$

$$PV = \text{Rs. } 5,421$$

Adding this to the original investment gives an NPV of

$$NPV = \text{Rs. } 5,421 - \text{Rs. } 6,000$$



2. Using the new piece of equipment from question 1, if the company is able to invest in an upgrade that would cost Rs. 1,000 in the year five, but would increase the cash flows in the years six-twelve to Rs. 2,000, what is the new NPV? (year five cash flow is Rs. 0 and discount rate is 15%)

Cash Flows in this scenario will look like this

Year												
0	1	2	3	4	5	6	7	8	9	10	11	12
(6,000)	1,000	1,000	1,000	1,000	-2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000

In this case, we have two annuities that can each be discounted back. First we have a four year Rs. 1,000 annuity,

$$PV = a/i [1 - 1/(1+i)^n]$$

$$PV = 1,000/0.15 [1 - 1/(1.15)^4]$$

$$PV = \text{Rs. } 2,855$$

Next, we have a 7 year Rs. 2,000 annuity,

$$PV_5 = 2,000/0.15 [1 - 1/(1.15)^7]$$

$$PV_5 = \text{Rs. } 8,321$$

This value has to be discounted back to time 0,

$$PV_0 = \text{Rs. } 8,321/(1.15)^5$$

$$PV_0 = \text{Rs. } 4,137$$

Now we can add the present value of the two annuities to the cost of the machine,

$$NPV = \text{Rs. } 2,855 + \text{Rs. } 4,137 - \text{Rs. } 6,000$$

$$NPV = \text{Rs. } 992$$

3. Company X is considering a piece of equipment that costs Rs. 3,000 and will produce cash flows of Rs. 1,200 in each of the next three years. What is the IRR of the project?

Cash Flows for the equipment

0	1	2	3
Rs. (3,000)	Rs. 1,200	Rs. 1,200	Rs. 1,200

The IRR is just the discount rate at which the NPV of the project is zero.

Using Excel we find the IRR to be equal to:  $IRR = 9.70\%$

4. Company Z is considering a new machine. The machine will cost Rs. 1 MN and will be depreciated on a straight line basis for five years to a zero salvage value. Revenues from the machine are expected to be Rs. 8,00,000 per year and all associated expenses are expected to be 50 per cent of revenue. If the company is taxed at a rate of 34 per cent and the appropriate discount rate is 15 per cent, will the company invest in this new machine?

Cash Flows:

Machine cost

(10,00,000)

	8,00,000	8,00,000			
Revenues	4,00,000	4,00,000			
Expenses	2,00,000	2,00,000	8,00,000	8,00,000	8,00,000
Depreciation	2,00,000	2,00,000	4,00,000	4,00,000	4,00,000
EBIT	68,000	68,000	2,00,000	2,00,000	2,00,000
Taxes	1,32,000	1,32,000	2,00,000	2,00,000	2,00,000
Net Income	2,00,000	2,00,000	68,000	68,000	68,000
Add Back Depreciation	3,32,000	3,32,000	1,32,000	1,32,000	1,32,000
Cash Flow from Machine			2,00,000	2,00,000	2,00,000
			3,32,000	3,32,000	3,32,000

We could use the annuity formula for the cash flows in the years one-five. If the cash flows are not constant, however, you will have to discount them individually in this fashion:

$$5,52,000/(1.15)^0 + 3,32,000/(1.15) + 3,32,000/(1.15)^2 + 3,32,000/(1.15)^3 + 3,32,000/(1.15)^4 +$$

NPV = Rs. 112,915- Yes

4. (a) If the company's discount rate increases to 20 per cent, will they invest in the machine?  
 $5,52,000/(1.20)^0 + 3,32,000/(1.20) + 3,32,000/(1.20)^2 + 3,32,000/(1.20)^3 + 3,32,000/(1.20)^4 +$

NPV = (Rs. 7,117) - No (b) What is the

IRR of the investment? Using Excel, IRR

=19.676%

1 Compute the yield rate for a project with the following cash flow:

Time:	0	1	2	Time:	3	4	0	1
Flow:	1,000	50	50		3	4		
					50	1,050		

Hint: The percentage rate is a small integer number.

**Solution:** The following equation must be satisfied by i:

$$- 1,000 + 50a + 1,000(1+ir^4 = 0 \quad (1)$$

or

$$1,000 \pm \hat{\quad} (2) \hat{\quad}$$

1 1

i = 5% 2. In the previous problem,

calculate the

interest 6 per cent. ... me net present value of the project. at the annual effective rate of

The net present value at 6 per cent is

$$-1,000 + 50a_{4006} + 1,000(1+i)^{n4} = -34.65 \quad (3)$$

Answer: -34.65

3. A mutual fund account has balance of Rs. 100 on 1 January. On 1 July (exactly in the middle of the year), the investor deposits Rs. 200 into the account. The balance of the mutual fund at the end of the year is Rs. 400.

Calculate the dollar-weighted annual rate of interest for the year.

Using the definition of the dollar-weighted rate of interest, we have

$$100 + 200v^{0.5} - 400v = 0, \quad 4(v^{0.5})^2 - 2v^{0.5} - 1 = 0,$$

$$v = \frac{2 + p4+16}{-1}$$

$$i = \frac{1}{v} - 1 \quad (4)$$

Answer: 52.79%

4. In problem 3, suppose that the balance of the fund immediately before the deposit on 1st July is Rs. 120.

Calculate the time-weighted annual rate of interest for the year.

**Solution:** We are given the following information on the account.

Time	Flow	Bal. before	Bal. after
0	0	100	100
0.5	200	120	320
1	0	400	400

There is one transaction; therefore, there are two time intervals in the timeline. The effective rates of interest for the two intervals are given by

$$\frac{120}{100}$$

$$400$$

Therefore, the time-weighted rate of interest is

$$(1+j_1)(1+j_2)-1 = 50\%$$

Answer: 50%

5. What is the net present value of the project that requires an investment of Rs. 1,000 at time 0 and pays back Rs. 100 at times 1, . . . , 10? The annual effective rate of interest is 6 per cent.

**Solution:** The net present value is the difference between the present value of the annuity and the initial investment:

$$100 \cdot a_{10|0.06} - 1,000 = -263.99$$

Answer: -263.99

6. The following two projects require an investment of Rs. 500 at the beginning of the first year.



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Which one has a higher net present value? The annual effective rate of interest is 7 per cent.

- Buy an annuity that will pay Rs. 100 for 7 years, at the end of each year.
- Invest in a perpetuity that will pay Rs. 40 at the end of each year (forever).

**Solution:** The net present value of the first project is

$$-500 + 100 \cdot a_{\overline{7}|0.07} = 38.93 \quad (8)$$

The present value of the second project is

$$-500 + 40 \cdot a_{\overline{\infty}|0.07} = 71.43 \quad (9)$$

Answer: The second project has a higher NPV.

### **4.17 TERMINAL QUESTIONS**

1. The rate of return required by investors in the market for owning a bond is called the:
  - a. Coupon
  - b. Face value
  - c. Maturity
  - d. Yield to maturity
  - e. Coupon rate
2. Which bond would most likely possess the least degree of interest rate risk?
  - a. 8% coupon rate, 10 years to maturity
  - b. 10% coupon rate, 10 years to maturity
  - c. 12% coupon rate, 10 years to maturity
  - d. 8% coupon rate, 20 years to maturity
  - e. 12% coupon rate, 20 years to maturity
3. Which of the following statements regarding bond pricing is true?
  - a. The lower the discount rate, the more valuable the coupon payments are today.
  - b. Bonds with high coupon payments are generally (all else being the same) more sensitive to changes in interest rates than bonds with lower coupon payments.
  - c. When market interest rates rise, bond prices will also rise, all else being the same.
  - d. Bonds with short maturities are generally (all else being the same) more sensitive to changes in interest rates than bonds with longer maturities.
  - e. All else being the same, bonds with larger coupon payments will have a lower price today.
4. What is the market value of a bond that will pay a total of fifty semi-annual coupons of Rs. 80 each over the remainder of its life? Assume the bond has a Rs. 1,000 face value and a 12% yield to maturity.
  - a. Rs. 734.86
  - b. Rs. 942.26
  - c. Rs. 1,135.90
  - d. Rs. 1,315.24
  - e. Rs. 1,545.62
5. J & J Manufacturing just issued a bond with a Rs. 1,000 face value and a coupon rate of 8%. If the

- bond has a life of 20 years, pays annual coupons, and the yield to maturity is 7.5 per cent, what will the bond sell for?
- Rs. 975
  - Rs. 1,020
  - Rs. 1,051
  - Rs. 1,087
  - Rs. 1,162
6. The stock valuation model that determines the current stock price as the next dividend divided by the (discount rate less the dividend growth rate) is called the:
- Zero growth model
  - Dividend growth model
  - Capital asset pricing model
  - Earnings capitalisation model
7. A stock's next expected dividend divided by the current stock price is the:
- Current yield
  - Total yield
  - Dividend yield
  - Capital gains yield
  - Earnings yield
8. What would you pay for a share of ABC Corporation stock today if the next dividend will be Rs. 3 per share, your required return on equity investments is 15 per cent; and the stock is expected to be worth Rs. 90 one year from now?
- Rs. 78.26
  - Rs. 80.87
  - Rs. 82.56
  - Rs. 90.00
  - Rs. 98.12
9. McIver's Meals, Inc. currently pays a Rs. 2 annual dividend. Investors believe that dividends will grow at 20 per cent next year, 12 per cent annually for the two years after that, and 6 per cent annually thereafter. Assume the required return is 10 per cent. What is the current market price of the stock?
- a. Rs. 54.90, b. Rs. 60.80, c. Rs. 66.60, d. Rs. 69.30, e. Rs. 75.20
10. The net present value (NPV) rule can be, best stated as:
- An investment should be accepted if, and only if, the NPV is exactly equal to zero.
  - An investment should be rejected if the NPV is positive and accepted if it is negative.
  - An investment should be accepted if the NPV is positive and rejected if it is negative.
  - An investment with greater cash inflows than cash outflows, regardless of when the cash flows occur, will always have a positive NPV and therefore should always be accepted.
11. A situation in which taking one investment prevents the taking of another, is called:

- a. Net present value profiling.
  - b. Operational ambiguity.
  - c. Mutually exclusive investment decisions.
  - d. Issues of scale.
  - e. Multiple rates of return.
12. Calculate the NPV of the following project using a discount rate of 10 per cent:  
Yr 0 = - Rs. 800; Yr 1 = - Rs. 80; Yr 2 = Rs. 100; Yr 3 = Rs. 300; Yr 4 = Rs. 500; Yr 5 = Rs. 500
- a. Rs. 8.04
  - b. Rs. 87.28
  - c. Rs. 208.04
  - d. Rs. 459.17
  - e. Rs. 887.28
13. You have a choice between 2 mutually exclusive investments. If your require a 15 per cent return, which investment should you choose?

	A	B
Year	Cash Flow	Cash Flow
0	-Rs. 1,00,000	-Rs. 1,25,000
1	20,000	75,000
2	40,000	45,000
3	80,000	40,000

- a. Project A, because it has a smaller initial investment.
- b. Project B, because it has a higher NPV.
- c. Either one, because they have the same profitability indexes.
- d. Project A, because it has the higher internal rate of return.
- e. Project B, because it pays back faster.

## APPENDIX

Table A : Present Value

Discount Present value of Re 1 to be received after t years =  $1/(1 + r)^t$ 

Number of Years	Interest Rate per Year														
	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%
1	.990	.980	.971	.962	.952	.943	.935	.926	.917	.909	.901	.893	.885	.877	.870
2	.980	.961	.943	.925	.907	.890	.873	.857	.842	.826	.812	.797	.783	.769	.756
3	.971	.942	.915	.889	.864	.840	.816	.794	.772	.751	.731	.712	.693	.675	.658
4	.961	.924	.888	.855	.823	.792	.763	.735	.708	.683	.659	.636	.613	.592	.572
5	.951	.906	.863	.822	.784	.747	.713	.681	.650	.621	.593	.567	.543	.519	.497
6	.942	.888	.837	.790	.746	.705	.666	.630	.596	.564	.535	.507	.480	.456	.432
7	.933	.871	.813	.760	.711	.665	.623	.583	.547	.513	.482	.452	.425	.400	.376
8	.923	.853	.789	.731	.677	.627	.582	.540	.502	.467	.434	.404	.376	.351	.327
9	.914	.837	.766	.703	.645	.592	.544	.500	.460	.424	.391	.361	.333	.308	.284
10	.905	.820	.744	.676	.614	.558	.508	.463	.422	.386	.352	.322	.295	.270	.247
11	.896	.804	.722	.650	.585	.527	.475	.429	.388	.350	.317	.287	.261	.237	.215
12	.887	.788	.701	.625	.557	.497	.444	.397	.356	.319	.286	.257	.231	.208	.187
13	.879	.773	.681	.601	.530	.469	.415	.368	.326	.290	.258	.229	.204	.182	.163
14	.870	.758	.661	.577	.505	.442	.388	.340	.299	.263	.232	.205	.181	.160	.141
15	.861	.743	.642	.555	.481	.417	.362	.315	.275	.239	.209	.183	.160	.140	.123
16	.853	.728	.623	.534	.458	.394	.339	.292	.252	.218	.188	.163	.141	.123	.107
17	.844	.714	.605	.513	.436	.371	.317	.270	.231	.198	.170	.146	.125	.108	.093
18	.836	.700	.587	.494	.416	.350	.296	.250	.212	.180	.153	.130	.111	.095	.081
19	.828	.686	.570	.475	.396	.331	.277	.232	.194	.164	.138	.116	.098	.083	.070
20	.820	.673	.554	.456	.377	.312	.258	.215	.178	.149	.124	.104	.087	.073	.061
25	.780	.610	.478	.375	.295	.233	.184	.146	.116	.092	.074	.059	.047	.038	.030
30	.742	.552	.412	.308	.231	.174	.131	.099	.075	.057	.044	.033	.026	.020	.015

Note: For example, if the interest rate is 10 per cent per year, the present value of Re 1 received at year 5 is Re 0.621.

Table B: Present Value of Annuity

Present value of Re 1 per year for each of  $n$  years =  $1/r \cdot [1 - 1/(1+r)^n]$

Number of Years	Interest Rate per Year														
	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909	0.901	0.893	0.885	0.877	0.870
2	1.970	1.942	1.913	1.886	1.859	1.833	1.808	1.783	1.759	1.736	1.713	1.690	1.668	1.647	1.626
3	2.941	2.884	2.829	2.775	2.723	2.673	2.624	2.577	2.531	2.487	2.444	2.402	2.361	2.322	2.283
4	3.902	3.808	3.717	3.630	3.546	3.465	3.387	3.312	3.240	3.170	3.102	3.037	2.974	2.914	2.855
5	4.853	4.713	4.580	4.452	4.329	4.212	4.100	3.993	3.890	3.791	3.696	3.605	3.517	3.433	3.352
6	5.795	5.601	5.417	5.242	5.076	4.917	4.767	4.623	4.486	4.355	4.231	4.111	3.998	3.889	3.784
7	6.728	6.472	6.230	6.002	5.786	5.582	5.389	5.206	5.033	4.868	4.712	4.564	4.423	4.288	4.160
8	7.652	7.325	7.020	6.733	6.463	6.210	5.971	5.747	5.535	5.335	5.146	4.968	4.799	4.639	4.487
9	8.566	8.162	7.786	7.435	7.108	6.802	6.515	6.247	5.995	5.759	5.537	5.328	5.132	4.946	4.772
10	9.471	8.983	8.530	8.111	7.722	7.360	7.024	6.710	6.418	6.145	5.889	5.650	5.426	5.216	5.019
11	10.37	9.787	9.253	8.760	8.306	7.887	7.499	7.139	6.805	6.495	6.207	5.938	5.687	5.453	5.234
12	11.26	10.58	9.954	9.385	8.863	8.384	7.943	7.536	7.161	6.814	6.492	6.194	5.918	5.660	5.421
13	12.13	11.35	10.63	9.986	9.394	8.853	8.358	7.904	7.487	7.103	6.750	6.424	6.122	5.842	5.583
14	13.00	12.11	11.30	10.56	9.899	9.295	8.745	8.244	7.786	7.367	6.982	6.628	6.302	6.002	5.724
15	13.87	12.85	11.94	11.12	10.38	9.712	9.108	8.559	8.061	7.606	7.191	6.811	6.462	6.142	5.847
16	14.72	13.58	12.56	11.65	10.84	10.11	9.447	8.851	8.313	7.824	7.379	6.974	6.604	6.265	5.954
17	15.56	14.29	13.17	12.17	11.27	10.48	9.763	9.122	8.544	8.022	7.549	7.120	6.729	6.373	6.047
18	16.40	14.99	13.75	12.66	11.69	10.83	10.06	9.372	8.756	8.201	7.702	7.250	6.840	6.467	6.128
19	17.23	15.68	14.32	13.13	12.09	11.16	10.34	9.604	8.950	8.365	7.839	7.366	6.938	6.550	6.198
20	18.05	16.35	14.88	13.59	12.46	11.47	10.59	9.818	9.129	8.514	7.963	7.469	7.025	6.623	6.259
25	22.02	19.52	17.41	15.62	14.09	12.78	11.65	10.67	9.823	9.077	8.422	7.843	7.330	6.783	6.464
30	25.81	22.40	19.60	17.29	15.37	13.76	12.41	11.26	10.27	9.427	8.694	8.055	7.496	7.003	6.566

Note: For example, if the interest rate is 10 per cent per year, the value of Re 1 received in each of the next 5 years is Rs 3.791.

# UNIT 5

## DEPRECIATION

### **STRUCTURE**

- 5.0 Objectives
- 5.1 Introduction
- 5.2 Depreciation
- 5.3 Straight Line Method for Calculating Depreciation
- 5.4 Declining Balance Method for Calculating Depredation
- 5.5 Double Declining Balance Method for Calculating Depreciation
- 5.6 Accelerated Depreciation
- 5.7 Sum of the Years' Digits Method for Calculating Depreciation
- 5.8 Comparing Depreciation Methods
- 5.9 Summary
- 5.10 Use of Excel Worksheet for Calculating Depreciation
- 5.11 Keywords
- 5.12 Terminal Questions
- 5.13 Statement on Accounting Standards

## **5.0 OBJECTIVES**

The objective of this unit is to understand:

- Concept of depreciation.
- Various methods for computation of depreciation.
- Advantages of one method vis-a-vis other method of calculation.

## **5.1 INTRODUCTION**

Business organisations are required to record the purchase of long-lasting, substantial property and equipment (such as computers, vans, buildings, etc.) as assets in the financial records, and to charge a portion of the cost of these items to each year in which they have a useful life. This process is known as capitalising and depreciating fixed assets.

For example, suppose on 1st January an organisation acquires a computer with an estimated useful life of four years. The computer costs Rs. 2,500. On recording the purchase, the following entry in the journal is made:

Fixed Assets (increase by) Dr.	Rs. 2,500	
To Cash (decreases by)		Rs. 2,500

(Being purchase of a computer for Rs. 2,500)

At the *end of each of the next four fiscal years*, including the current year, the following journal entry will be made:

Depreciation Expense (increases by) (Rs. 2,500/4 years = Rs. 625 per year)	Rs. 625	
To Accumulated Depreciation (increases by)		Rs. 625

(depreciation expense for the year.)

It is very important to remember that the cash for the computer was spent in the first year. However, one-fourth of the expense for the computer will appear in the statement of activity (Income Statement) for each of the four years, that it is deemed to have a useful life. Therefore, in the three years after the purchase, a depreciation expense of Rs. 625 will appear in the financial statements even though no cash was spent during those years.

Accumulated depreciation, as the name implies, reports on the amount of depreciation, which has accumulated overtime. By the end of the first year, one-fourth of the computer will be depreciated. At the end of the second year, two-fourths (i.e. one-half) will be depreciated. By the end of the fourth year, the computer will be fully depreciated. In other words, the full cost of the computer will have been recorded as an expense.

The fixed asset portion of the statement of position (Balance Sheet) will represent this accumulated depreciation for the computer as follows:

### **Year 1**

Computer (cost)	Rs. 2,500
Less: Accumulated Depreciation	<625>
Net Fixed Assets	Rs. 1,875

Year 2

Computer (cost)	Rs. 2,500
Less: Accumulated Depreciation	<1,250>
Net Fixed Assets	Rs. 1,250

Over the remaining two years, accumulated depreciation will increase by Rs. 625 per year and net fixed assets will decrease by Rs. 625 per year, until the accumulated depreciation is Rs. 2,500 and net fixed assets is zero.

In this example, the organisation determined that the useful life of the computer was four years, and that at the end of that time the computer would have no remaining value. Most non-profit making organisations charge an equal amount of depreciation expense to each year of an asset's useful life. This is called straight-line depreciation.

To calculate the depreciation charge for each fixed asset, you must know how much the asset costs (including all costs necessary to make the asset operational), how long the asset can reasonably be expected to last before it needs to be replaced, and whether it will have any salvage value at the end of its useful life. Since there are certain conventions for items such as computers, vehicles, furniture, buildings, and other fixed assets, you should consult with your accountant when estimating the useful life of a new capital purchase.

Since depreciation expense is a non-cash expense (i.e. cash is usually paid out in the year the asset is acquired, but the expense is distributed over several years), it is important to plan for the replacement of fixed assets as they wear out or become obsolete. For example, some organisations set aside an amount of cash equal to the amount of their yearly depreciation expense so that money will be available to purchase a new asset once the current one is fully depreciated.

## **5.2 DEPRECIATION**

Depreciation is the allocation of the cost of an asset over a period for accounting and tax purposes.

It can also be defined as a decline in the value of a property due to general wear and tear or obsolescence; opposite of appreciation.

## **5.3 STRAIGHT LINE method for calculating DEPRECIATION**

This is a method of calculating the depreciation of an asset, which assumes that the asset will lose an equal amount of value each year. The annual depreciation is calculated by subtracting the salvage value of the asset from the purchase price, and then dividing this number by the estimated useful life of the asset. This method assumes a constant depreciation value per year. This method spreads the total depreciation cost evenly over the asset's useful life.

Assuming the price of a depreciating asset as P and its salvage value after N years as S,

$$\text{Annual Depreciation} = \frac{\text{Cost} - \text{Residual value}}{\text{Estimated useful life}} = (P - S) / N$$

For our Illustration, if P = Rs. 20,000, S = Rs. 5,000 and N = 5 years, the annual depreciation would be [(Rs. 20,000 - Rs. 5,000)/5] = Rs. 3,000



#### 5.4 DECLINING BALANCE METHOD for calculating depreciation

This is a rapid depreciation method in which the percentage rate is applied to the residual balance, rather than to the original cost. Recall that the straight-line method assumes a constant depreciation value. Conversely, the declining balance method assumes a constant depreciation rate per year. Also, like the sum-of-years method, more depreciation tends to occur earlier in the asset's life.

Assume the price of a depreciating asset is P and its salvage value after N years is S. You could assume the asset depreciates by a factor of (or a rate of %). This method is known as single declining balance method. In an equation, this looks like:

Annual Depreciation = Previous year's value x Percentage rate

So, for our Illustration, the depreciation during the first year is  $[\text{Rs. } 20,000/5] = \text{Rs. } 4,000$

Following table describes how the declining balance would depreciate the asset.

Declining Balance Illustration

Year	Depreciation	Year-end Value
1	$[\text{Rs. } 20,000.00/5] = \text{Rs. } 4,000.00$	Rs. 16,000.00
2	$[\text{Rs. } 16,000.00/5] = \text{Rs. } 3,200.00$	Rs. 12,800.00
3	$[\text{Rs. } 12,800.00/5] = \text{Rs. } 2,560.00$	Rs. 10,240.00
4	$[\text{Rs. } 10,240.00/5] = \text{Rs. } 2,048.00$	Rs. 8,192.00
5	$[\text{Rs. } 8,192.00/5] = \text{Rs. } 1,638.40$	Rs. 6,553.60

#### 5.5 DOUBLE DECLINING BALANCE METHODS FOR CALCULATING DEPRECIATION

The double declining balance depreciation method is like the straight-line method on steroids. To use it, accountants first calculate depreciation as if they were using the straight-line method. Then the total percentage of the asset to be depreciated in the first year is figured out and doubled. For each subsequent year, the same percentage is multiplied by the remaining balance to be depreciated. At some point, the value will be lower than the straight-line charge, at which point, the double declining method will be scrapped and straight line used for the remainder of the asset's life [got all that?]. An illustration may help.

In our straight-line Illustration, we calculated that a Rs. 5,000 computer with a Rs. 200 salvage value and an estimated useful life of three years, would depreciate by Rs. 1,600 annually. The first year, we have to compare this to the total amount to be depreciated, in this case, Rs. 4,800 [Rs. 5,000 base - Rs. 200 salvage value = Rs. 4,800]. Dividing Rs. 1,600 by Rs. 4,800, we discover the straight-line depreciation charge [Rs. 1,600] is 33.33% of the total depreciation amount [Rs. 4,800]. Using this information, we double the 33.33% figure to 66.67%.

In the first year, we would take Rs. 4,800 multiplied by 0.6667 to get a total depreciation charge of approximately Rs. 3,200. In the second year, we would take the same percentage [66.67%] and multiply it by the remaining amount to be depreciated. Continuing with the Illustration, we find that Rs. 1,600 is the remaining amount to be depreciated at the start of the second year [Rs. 4,800 - Rs. 3,200 = Rs. 1,600]. Multiplying 1,600 by 0.6667 to get Rs. 1,066, is the depreciation charge for the second year - or not! Remember that once the depreciation charge dips below the amount that would have been

charged using the straight-line method, the double declining balance is scrapped and the straight line immediately utilised. The straight-line method called for a charge of Rs. 1,600 per year. Obviously, the Rs. 1,066 charge is smaller than the Rs. 1,600 that would have occurred under straight line. Thus, the depreciation charge for the second year would be Rs. 1,600.

## **5.6 ACCELERATED DEPRECIATION**

This depreciation method, which allows for a faster write-off than the straight-line method, also provides a greater tax shielding effect than the straight-line depreciation, and so companies with large tax burdens might like to use the accelerated depreciation methods, even if it reduces the income shown on financial statement. Accelerated depreciation methods are popular for writing-off equipment that may be replaced before the end of its useful life since the equipment might be obsolete (e.g. computers). One illustration of an accelerated depreciation method is the 'Modified Accelerated Cost Recovery System' (MACRS).

## **5.7 SUM OF THE YEARS' DIGITS**

To calculate depreciation charges using the sum of the years' digits method, take the expected life of an asset (in years) count back to one and add the figures together. This is a method of calculating depreciation of an asset that assumes a higher depreciation charge and a greater tax benefit in the early years of an asset's life.

### **Illustration**

10 years useful life =  $10 + 9 + 8 + 7 + 6 + 5 + 4 + 3 + 2 + 1$

Sum of the years = 55

In the first year, the asset would be depreciated 10/55 in value [the fraction 10/55 is equal to 18.18%] the first year, 9/55 [ 16.36%] the second year, 8/55 [ 14.54%] the third year, and so on. Going back to our Illustration from the straight-line discussion: a Rs. 5,000 computer with a Rs. 200 salvage value and 3 years useful life would be calculated as follows:

3 years useful life =  $3 + 2 + 1$  Sum of the years = 6

Taking Rs. 5,000 - Rs. 200, we have a depreciable base of Rs. 4,800. In the first year, the computer would be depreciated by 3/6, i.e [50%], the second year, by 2/6 [33.33%] and the third and final year by the remaining 1/6 [16.67%]. This would have translated into depreciation charges of Rs. 2,400 the first year, Rs. 1,599.84 the second year, and Rs. 800.16 the third year. The straight-line Illustration would have simply charged Rs. 1,600 each year, distributed evenly over the three years useful life.

## **5.8 COMPARING DEPRECIATION METHODS**

Just to reinforce what we have learnt thus far, here is a look at what the depreciation charges for the same Rs. 5,000 computer would look like depending upon the method used.

Comparing Depreciation Methods

Method	Year 1	Year 2	Year 3
Straight-line	Rs. 1,600	Rs. 1,600	Rs. 1,600
Sum of the Years Double Declining	Rs. 2,400	1599.84	Rs. 800.16
Balance	Rs. 3,200	1,600	Rs. 0

Obviously, depending upon which method is used by the management, the bottom-line of a company can be seriously affected. The level of attention an investor must give to depreciation, depends upon the asset intensity of the business he or she is studying. The more asset-intensive an enterprise, the more attention depreciation should be given.

If you have two asset-intensive businesses, and they are using different depreciation methods, and/or useful lives, you must adjust them so they are on a comparable basis in order to get an accurate picture of how they stack up against each other in terms of profit.

Some managements will report the depreciation expense being broken out as a separate line on the income statement, while others will be more clandestine about it, including it indirectly through SG and A expenses [for the depreciation costs of desks, for instance]. Either way, you should be able to garner the information either through the income statement itself or by going through the annual report or 10k.

### **5.9 SUMMARY**

- All tangible assets, except land, have a limited useful life
- Depreciation means allocation of cost of a plant asset to the periods that benefit from the service rendered by that asset
- Depreciation is a process of valuation
- Depreciation accounting is described by AICPA as a system of *accounting* which aims to distribute the cost or other basic value of *tangible* capital asset less salvage value (if any) over the estimated useful life of the unit. . . in a systematic and rational manner. It is process of allocation not of valuation.

Four factors that affect the computation of depreciation:

1. Cost: Net purchase price, including all reasonable and necessary expenses to get the asset in place and ready for use.
2. Residual value (salvage or disposal value): Asset's estimated net scrap, salvage or trade in value on the estimated date of disposal.
3. Depreciation cost: Cost less residual value.
4. Depreciation cost is allocated over the useful life of an asset.
5. Estimated useful life: Total number of service units expected from a long-term asset may be measured in years, units, miles.

### **5.10 USE OF EXCEL WORKSHEET FOR CALCULATING DEPRECIATION**

In this exercise, you will calculate depreciation manually using three methods and then verify your figures by using Excel formulas. Let us assume that on 1st January you purchase a piece of heavy mobile equipment for Rs. 90,000. You estimate the life of the equipment at six years or 60,000 miles and salvage value of Rs. 15,000. In terms of annual mileage, you make the following estimates:

Years one-three, 15,000 miles each year; years four-six, 5,000 miles each year.

- I. Compute the depreciation expense manually for each year, using the following methods: A.  
Straight-line

B. Units of production

C. Double declining balance

II. Now, calculate depreciation expense using Excel functions and formulas. First, key your name in cell A1 and Year 1 in cell A3. Then go back into cell A3 and with your cursor in the lower right hand corner drag down so that Year 2 through Year 6 appears in cells A4-A8.

A. Key in Straight Line in Cell C2

Select cell C3. Select the function Icon then select financial/SLN. Key in cost, salvage and life data and click OK. Copy the amount in cell C3 to cells C4-C8 (straight-line depreciation remains the same each year.) In cell C9, select 'AutoSum' command and total the amounts in cells C3-C8. Be sure your total amounts to (Rs. 90,000-15,000).

B. Key in 'Double Declining Balance' in cell E2

Select cell E3. Select the function Icon then select financial/DDS. Key in the cost, salvage, life data and in the period cell, key in one (first year), leave the factor cell blank. In cells E4-E8 repeat what you have done above but increase the period as you go. In other words, in cell E4, the period should be two (for the second year), and so on. In cell E9 select the 'AutoSum' command and total the amounts in cells (E3-E8). Be sure your total again amounts to (Rs. 90,000-15,000).

C. Key in units of production (UOP), in cell G2

In cell G3, insert a formula to calculate the correct depreciation using UOP. Your formula should take the following form: Year 1 actual mileage \* ((Cost-Salvage )/Life in Miles)

Copy this formula to cells G4-5. Insert the proper formula in cell G6 and then copy this formula to cells G7-8. In cell G9 total the amounts in cells G3-G8 and ensure that the amount again equals (Rs. 90,000-15,000).

Select the 'Tools/Options/View'. Check the 'Formulas' under the 'Window Options'.

## 5.11 KEYWORDS

**Depreciation:** This is the amount by which an asset loses its value.

**Accumulated Depreciation:** As the name implies, reports on the amount of depreciation, which has accumulated overtime.

**Residual Value/Scrap Value:** The residual value is the scrap value of the asset after end of the life of that asset. Depreciation always is calculated on the net cost of the assets, i.e. after subtracting the scrap value from the original cost.

**Straight Line Method:** A method of calculating the depreciation of an asset, which assumes that the asset will lose an equal amount of value each year. The annual depreciation is calculated by subtracting the salvage value of the asset from the purchase price, and then dividing this number by the estimated useful life of the asset.

**Declining Balance method:** A method, in which a percentage rate is applied to the residual balance rather than to original cost. The declining balance method assumes a constant depreciation rate per year.

## 5.12 TERMINAL QUESTIONS

I. Depreciation is an exact science that requires no estimation

- (A) True  
(B) False
2. If a car is driven strictly for pleasure, it can still be depreciated  
(A) True  
(B) False
  3. Depreciation expenses results in an indirect tax saving  
(A) True  
(B) False
  4. In the straight-line method, book value never goes below the residual value  
(A) True  
(B) False
  5. In the declining balance method we can depreciate below the residual value  
(A) True  
(B) False
  6. MACRS does not use residual value thus assets are depreciated to zero  
(A) True  
(B) False
  7. Straight line depreciation does not:
    - I. Use residual value to calculate yearly depreciation
    - II. Have a book value
    - III. Accelerate depreciation
    - IV. Let the cost remain the same
    - V. None of the above
  8. Which one is not based on passage of time?
    - I. Straight line
    - II. Sum-of-the years
    - III. Declining balance
    - IV. Units of production
    - V. None of the above
  9. Depreciation expense in the declining balance method is calculated by the depreciation rate:
    - I. Time book value at the beginning of the year
    - II. Also book value at the end of the year
    - III. Divided by book value at the beginning of year
    - IV. Times accumulated depreciation at year-end
    - V. None of the above
  10. If a car is depreciated in four years, the rate of depreciation using twice the straight-line rate is
    - I. -25%
    - II. 50%
    - III. 100%
    - IV. 75%
    - V. None of the above
  11. Cost recovery using MACRS is calculated by
    - I. Rate divided by cost
    - II. Rate x cost
    - III. Rate + cost
    - IV. None of the above

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12. A truck costs Rs. 1,05,000 with a residual value of Rs. 1,00,000. It has an estimated useful life of five years. If the truck was bought on 9th July, what would be the book value at the end of year one?
- Rs. 1,00,000
  - Rs. 95,000
  - Rs. 85,000
  - Rs. 25,000
  - None of the above
13. A truck cost Rs. 6,000 with a residual value of Rs. 2,000. The truck is expected to have a useful life of 50,000 miles. By assuming the truck is driven 20,000 miles the first year, the depreciation expenses would be:
- 2,400
  - 240
  - 16000
  - 1,600
  - None
14. A truck costs 8,900 with a residual value of 500. It is estimated that the useful life of the truck is four years. The amount of depreciation expense in the year two by using the declining balance at twice the straight-line rate is
- 4,450
  - 2,225
  - 2,252
  - 612
  - None of the above
15. The cost of van is 3,250 with a residual value of, Rs. 750. The van has an estimated useful life of five years. The amount of depreciation expense using sum-of-the-year digit to nearest Rupee in year 5, is
- 16
  - 50
  - 83
  - 33
  - None

### **5.13 STATEMENTS OF ACCOUNTING STANDARDS**

#### **Depreciation Accounting**

The following is the text of the revised Accounting Standard, 'Depreciation Accounting', issued by the 'Council of the Institute of Chartered Accountants of India'.

#### **Introduction**

- This statement deals with depreciation accounting and applies to all depreciable assets, except the following items to which special considerations apply:
  - Forests, plantations and similar regenerative natural resources
  - Wasting assets including expenditure on the exploration for and extraction of minerals, oils, natural gas and similar non-renewable resources

(iv) Goodwill (v) Livestock. This statement also does not apply to land unless it has a limited useful life for the enterprise.

2. Different accounting policies for depreciation are adopted by different enterprises. Disclosure of accounting policies for depreciation followed by an enterprise is necessary to appreciate the view presented in the financial statements of the enterprise.

### Definitions

3. The following terms are used in this statement with the meanings specified:
  - 3.1 Depreciation is a measure of the wearing out, consumption or other loss of value of a depreciable asset arising from use, effluxion or obsolescence through technology and market changes. Depreciation is allocated to charge a fair proportion of the depreciable amount in each accounting period during the expected useful life of the asset. Depreciation includes the amortisation of assets whose useful life is predetermined.
  - 3.2 Depreciable assets are assets which
    - (i) are expected to be used during more than one accounting period; (ii) have a limited useful life; and
    - (iii) are held by an enterprise for use in the production or supply of goods and services, for rental to others, or for administrative purposes and not for the purpose of sale in the ordinary course of business.
  - 3.3 Useful life is either
    - (i) The period over which a depreciable asset is expected to be used by the enterprise; or
    - (ii) The number of production or similar units expected to be obtained from the use of the asset by the enterprise.
  - 3.4 Depreciable amount of a depreciable asset is its historical cost, or other amount substituted for historical cost in the financial statements, less the estimated residual value.

### Explanation

4. Depreciation has a significant effect in determining and presentation of the financial position and results of operations of an enterprise. Depreciation is charged in each accounting period by reference to the extent of the depreciable amount, irrespective of an increase in the market value of the assets.
5. Assessment of depreciation and the amount to be charged in respect thereof in an accounting period are usually based on the following three factors:
  - (i) Historical cost or other amount substituted for the historical cost of the depreciable asset when the asset has been re valued;
  - (ii) Expected useful life of the depreciable asset; and
  - (iii) estimated residual value of the depreciable asset.
6. Historical cost of a depreciable asset represents its money outlay or its equivalent in connection with its acquisition, installation and commissioning as well as for additions to or improvement thereof. The historical cost of a depreciable asset may undergo subsequent changes arising because of increase or decrease in long-term liability because of exchange fluctuations, price adjustments, changes in duties or similar factors.

7. The useful life of a depreciable asset is shorter than its physical life and is:
  - (i) Predetermined by legal or contractual limits, such as the expiry dates of related leases
  - (ii) Directly governed by extraction or consumption
  - (iii) Dependent on the extent of use and physical deterioration on account of wear and tear which again depends on operational factors, such as, the number of shifts for which the asset is to be used, repair and maintenance policy of the enterprise, etc.; and
  - (iv) Reduced by obsolescence arising from such factors as:
    - (a) technological changes;
    - (b) improvement in production methods;
    - (c) change in market demand for the product or service output of the asset; or
    - (d) legal or other restrictions.
8. Determination of the useful life of a depreciable asset is a matter of estimation and is normally based on various factors including experience with similar types of assets. Such estimation is more difficult for an asset using new technology or used in the production of a new product or in the provision of a new service but is required on some reasonable basis.
9. Any addition or extension to an existing asset which is of a capital nature and which becomes an integral part of the existing asset is depreciated over the remaining useful life of that asset. As a practical measure, however, depreciation is sometimes provided on such addition or extension at the rate, which is applied, to an existing asset. Any addition or extension, which retains a separate identity and is capable of being used after the existing asset is disposed of, is depreciated independently, based on an estimate of its own useful life.
10. Determination of residual value of an asset is normally a difficult matter. If such value is considered as insignificant, it is normally regarded as nil. On the contrary, if the residual value is likely to be significant, it is estimated at the time of acquisition/installation, or at the time of subsequent revaluation of the asset. One basis for determining the residual value would be the realisable value of similar assets, which have reached the end of their useful lives and have operated under conditions similar to those in which the asset will be used.
11. The quantum of depreciation to be provided in an accounting period, involves the exercise of judgement by the management in the light of technical, commercial, accounting and legal requirements and accordingly, may need periodical review. If it is considered that the original estimate of the useful life of an asset requires any revision, the unamortised depreciable amount of the asset is charged to revenue over the revised remaining useful life.
12. There are several methods of allocating depreciation over the useful life of the assets. Those most commonly employed in industrial and commercial enterprises are the straight-line method and the reducing balance methods. The management of a business selects the most appropriate method(s) based on various important factors, e.g.
  - (i) type of asset,
  - (ii) the nature of the use of such asset, and
  - (iii) circumstances prevailing in the business.

A combination of more than one method is sometimes used. In respect of depreciable assets, which do not have a material value, depreciation is often allocated fully in the accounting period in which they are acquired.



For illustration, the Companies Act, 1956, lays down the rates of depreciation in respect of various assets. Where the management's estimate of the useful life of an asset of the enterprise is shorter than that envisaged under the provisions of the relevant statute, the depreciation provision is appropriately computed by applying a higher rate. If the management's estimate of the useful life of the asset is longer than that envisaged under the statute, depreciation rate lower than that envisaged by the statute can be applied only in accordance with requirements of the statute.

14. Where depreciable assets are disposed of, discarded, demolished or destroyed, the net surplus or deficiency, if material, is disclosed separately.
15. The method of depreciation is applied consistently to provide comparability of the results of the operations of the enterprise from period to period. A change from one method of providing depreciation to another is made only if the adoption of the new method is required by statute or for compliance with an accounting standard or if it is considered that the change would result in a more appropriate preparation or presentation of the financial statements of the enterprise. When such a change in the method of depreciation is made, depreciation is recalculated in accordance with the new method from the date of the asset coming into use. The deficiency or surplus arising from retrospective recompilation of depreciation in accordance with the new method is adjusted in the accounts in the year in which the method of depreciation is changed. In case the change in the method results in deficiency in depreciation in respect of past years, the deficiency is charged in the statement of profit and loss. In case the change in the method results in surplus, the surplus is credited to the statement of profit and loss. Such a change is treated as a change in accounting policy and its effect is quantified and disclosed.
16. Where the historical cost of an asset has undergone a change due to circumstances specified in the paragraph 6 above, the depreciation on the revised unamortized depreciable amount is provided prospectively over the residual useful life of the asset.

#### Disclosure

17. The depreciation methods used the total depreciation for the period for each class of assets, the gross amount of each class of depreciable assets and the related accumulated depreciation are disclosed in the financial statements along with the disclosure of other accounting policies. The depreciation rates or the useful lives of the assets are disclosed only if they are different from the principal rates specified in the statute governing the enterprise.
18. In case the depreciable assets are revalued, the provision for depreciation is based on the revalued amount on the estimate of the remaining useful life of such assets. In case the revaluation has a material effect on the amount of depreciation, the same is disclosed separately in the year in which the revaluation is carried out.
19. A change in the method of depreciation is treated as a change in an accounting policy and is disclosed accordingly.
20. The depreciable amount of a depreciable asset should be allocated on a systematic basis to each accounting period during the useful life of the asset.
21. The depreciation method selected should be applied consistently from period to period. A change from one method of providing depreciation to another should be made only if the adoption of the new method is required by statute or for compliance with an accounting standard or if it is considered that the change would result in a more appropriate preparation or presentation of the financial statements of the enterprise. When such a change in the method of depreciation is made, depreciation should be recalculated in accordance with the new method from the date of the asset coming into use. The deficiency or surplus arising from the retrospective recomputation of

depreciation in accordance with the new method should be adjusted in the accounts in the year in which the method of depreciation is changed. In case the change in the method results in a deficiency in depreciation in respect of the past years, the deficiency should be charged in the statement of profit and loss. In case the change in the method results in a surplus, the surplus should be credited to the statement of profit and loss. Such a change should be treated as a change in accounting policy and its effect should be quantified and disclosed.

22. The useful life of a depreciable asset should be estimated after considering the following factors:
  - (i) expected physical wear and tear
  - (ii) obsolescence
  - (iii) legal or other limits on the use of the asset.
23. The useful lives of major depreciable assets or classes of depreciable assets may be reviewed periodically. Where there is a revision of the estimated useful life of an asset, the unamortised depreciable amount should be charged over the revised remaining useful life.
24. Any addition or extension, which becomes an integral part of the existing asset, should be depreciated over the remaining useful life of that asset. The depreciation on such addition or extension may also be provided at the rate applied to the existing asset. Where an addition or extension retains a separate identity and is capable of being used after the existing asset is disposed of, depreciation should be provided independently based on an estimate of its own useful life.
25. Where the historical cost of a depreciable asset has undergone a change due to increase or decrease in the long-term liability because of exchange fluctuations, price adjustments, changes in duties or similar factors, the depreciation on the revised unamortised depreciable amount should be provided prospectively over the residual useful life of the asset.
26. Where the depreciable assets are revalued, the provision for depreciation should be based on the revalued amount and on the estimate of the remaining useful lives of such assets. In case the revaluation has a material effect on the amount of depreciation, the same should be disclosed separately in the year in which revaluation is carried out.
27. If any depreciable asset is disposed of, discarded, demolished or destroyed, the net surplus or deficiency, if material, should be disclosed separately.
28. The following information should be disclosed in the financial statements:
  - (i) The historical cost or other amount substituted for historical cost of each class of depreciable assets;
  - (ii) Total depreciation for the period for each class of assets; and
  - (iii) The related accumulated depreciation.
29. The following information should also be disclosed in the financial statements along with the disclosure of other accounting policies:
  - (i) Depreciation methods used; and
  - (ii) Depreciation rates or the useful lives of the assets, if they are different from the principal rates specified in the statute governing the enterprise.



UNIT  
**6**

**FOREIGN EXCHANGE ARITHMETIC**

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**STRUCTURE**

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**6.0 Objectives**

- 1** **6.1 Introduction**
- L** **6.2 Fundamentals of Foreign Exchange**
- I** **6.3 Indian Forex Market**
- I** **6.4 Direct and Indirect Quote**
- K** **6.5 Some Basic Exchange Rate Arithmetic**
- I**
- F**
- Cross Rate
  - Chain Rule
  - Value Date
- 6.6 Forward Exchange Rates**
- Forward Points
  - Arbitrage
  - Calculating Forward Points
  - Premium and Discount
- 6.7 Keywords**
- 6.8 Terminal Questions**

## **6.0 OBJECTIVES**

The objective of this unit is to understand

The concept of foreign exchange

- Fundamentals of foreign exchange
- Basic arithmetic concepts of foreign exchange rates
- Concept of forward exchange rates

## **6.1 INTRODUCTION**

In banks, when we talk of 'Foreign Exchange', we refer to the general mechanism by which a bank converts the currency of one country into that of another. Foreign trade gives rise to foreign exchange. Foreign trade is transacted (i.e. expressed and paid for) either in the currency of the exporter's country or that of the importer's country or that of a third country (like Pound Sterling, US Dollars, etc., acceptable to both the exporter and the importer. In foreign trade, the exporter supplies the goods and the importer has to make the payment of the price of those goods. The importer, however, will make the payment in his nation's currency and the exporter will require the payment in his country's currency. This, therefore, involves the conversion of currencies and transfer of funds from one country to another.

Foreign exchange is thus, the concomitant of foreign trade. It is the general mechanism by which the settlement of debt arising out of the operations of international trade, services and finance is effected. This requires the conversion of the currency of one country into its equivalent in the currency of another country.

## **6.2 FUNDAMENTALS OF FOREIGN EXCHANGE**

There are three fundamental aspects of this general mechanism of foreign exchange

- (a) Almost every country has its own currency (legal tender, distinctive unit of account) and the useful possession of the currency, can normally be had only in that country, in which it passes.
- (b) The exchange from one currency for another is, mostly, put through by the banks by means of bookkeeping entries carried out in the two centres concerned.
- (c) Almost all exchanges of one currency for another are effected with the help of credit instruments.

## **6.3 INDIAN FOREX MARKET**

The exchange rate movements in the Indian forex market do not necessarily follow the international trend, particularly in the short run. The main reason for this is the restriction on the free flow of capital into or out of the country. Prior to the modified 'Liberalised Exchange Rate Management System' (LERMS) the Reserve Bank fixed the buying and selling rates and the market would remain within the ceiling and the floor, thus fixed by the Reserve Bank. However, at present, the forces of demand and supply in the local interbank market drive the exchange rate.

## **6.4 DIRECT AND INDIRECT QUOTE**

As indicated earlier, a currency quotation is the price of a currency in terms of another currency. For example, \$ 1 = Rs. 44.00, means that one dollar can be exchanged for Rs. 44.00. Alternatively, we may pay Rs. 44.00 to buy one dollar. A foreign exchange quotation can be either a direct quotation and or an indirect quotation, depending upon the home currency of the person concerned.

A direct quote is the home currency price of one unit of the foreign currency. Thus, in the aforesaid example, the quote \$ 1 = Rs. 44.00 is a direct quote for an Indian national.

An indirect quote is the foreign currency price of one unit of the home currency. The quote Re. 1 = \$ 0.0227 is an indirect quote (\$1/Rs. 44.00, Rs. 1 = \$ 0.227 approximately)

Direct and indirect quotes are reciprocals of each other, which can be mathematically expressed as follows.

Direct quote = 1/indirect quote and vice versa.

Till 1st August 1993, banks in India were required to quote all rates on an indirect basis. However, from 2nd August 1993, banks began quoting on a direct basis only.

## **6.5 SOME BASIC EXCHANGE RATE ARITHMETIC**

### **(a) Cross rate**

If a person wants to remit Euros from India, and as a banker, and for argument sake, rupees/Euros are not normally quoted and therefore, what we have to do is first buy dollars against the rupees and the same dollars will be disposed off overseas to acquire the Euros.

If the rates in Mumbai market are US\$ 1 = Rs. 42.8450/545 and rates in London market are US\$ 1 = Euros 0.7587 we will get US\$ 1 for Rs. 42.8545 and for one US\$ we will get Euro 0.7587. Thus, we can form a sort of chain rule as under:

How many Rs If	= 1 Euro
0.7587 Euro	= US\$ 1
Therefore, 1 Euro	= Rs. $\frac{42.8545}{0.7587}$
or 1 Euro	= Rs. 56.48

If an export customer has a bill for £100,000, the bank has to purchase the £(Pound Sterling) from him and give an equivalent amount in rupees to the customer. Presuming the inter-bank market quotations for spot delivery are as follows:

US\$ 1 = Rs. 42.8450/545

The London market is quoting cable (STG/DLR) as £

1 = US\$ 1.9720/40

The bank has to sell £'s in the London market at US\$ 1.9720, i.e. the market's buying rate for £ 1. The US dollars so obtained have to be disposed off in the local inter-bank market at US\$ 1 = Rs. 42.8450 (market's buying rate) for US\$.

By chain rule, we get:

£ 1 = 1.9720 x 42.8450 =  
Rs. 84.4903

The precaution which should be taken is that one should know who is the quoting party and who is facing the quote. The thumb rule of the market is that if you ask for a quote, the quoting party will give you a quote and it is for you to do the deal or not to do a deal on the prices quoted. You cannot dictate prices. However, you can ask for a fresh quote.

**(b) Chain rule**

Calculation of the cross rate is based on a commonsense approach. However, it can be reduced to a rule known as the chain rule with similar steps.

**(c) Value date**

The value date is a date on which the exchange of currencies actually takes place. Based on this concept, we have the following types of exchange rates.

- (i) Cash/ready: It is the rate when an exchange of currencies takes place on the date of the deal.
- (ii) TOM: When the exchange of currencies takes place on the next working day, i.e. tomorrow it is called the TOM rate.
- (iii) SPOT: When the exchange of currencies takes place on the second working day after the date of the deal, it is called the spot rate.
- (iv) Forward rate: If the exchange of currencies takes place after a period of spot date, it is called the forward rate. Forward rates generally are expressed by indicating a premium/discount for the forward period.
- (v) Premium: When a currency is costlier in forward or say, for a future value date, it is said to be at a premium. In the case of the direct method of quotations, the premium is added to both the selling and buying rate.
- (vi) Discount: If currency is cheaper in the forward or for a future value date, it is said to be at a discount. In the case of a direct quotation, the discount is (deducted) subtracted from both the rates, i.e. buying and selling rates.

The forward rates are quoted in terms of forward margins or forward differentials. For example:

Spot	Euro 1 =US\$ 1.3180/90
1 month forward	35-32
2 month forward	72-70
3 month forward	110-107

It is understandable that if a currency is at a premium vis-a-vis another currency, the natural consequence is that the latter will be at a discount vis-a-vis the former currency.

In the above exchange rate quotations Euro is at a discount and hence USS is at a premium. We can buy USS, one month forward at

Spot Euro	USS 1.3190
	<u>(-) 0.0032</u>
	1.3158

Similarly, we can sell Euro 1 =	US\$1.3180
	<u>(-) 0.0035</u>
	1.3145

**6.6 FORWARD EXCHANGE RATES**

As discussed earlier, an exchange rate is the price at which currency can be bought or sold for another currency. The date on which the values are exchanged can be any date starting from the date of transaction onwards. Generally, the exchange rates are quoted on a spot basis, i.e. the settlement takes place on the

second working day after the date of transaction. The exchange rate for settlement on a date beyond the spot is naturally different and the same is called the forward rate.

Forward rate has two components:

- (a) Spot rate
- (b) Forward points reflecting the interest rate differentials adjustment for different settlement dates.

#### (a) Forward points

Let us suppose that the spot rate of US\$/Euro is

Spot Euro 1 = US\$ 1.3180

the exchange rate three months forward is

3 months Euro 1 = US\$ 1.3330

The difference of 150 points referred to is the forward point.

The following factors determine the forward point:

- (i) Supply and demand for the currency for the settlement date. If there are more buyers for a particular date than sellers, the forward points will be different from the situation if there were more sellers than buyers for that particular settlement date.
- (ii) Market view, i.e. expectations, about the future and developments likely to take place in interest rates and foreign exchange.
- (iii) The interest rate differential between the countries. For the period in question, whose currencies are being exchanged.

However, if there are no controls on capital flows, the interest rate differential between the two currencies is the most dominant factor in determining the forward points. This is based on the simple logic of a trade off between the interest earned on one currency and the opportunity foregone to earn interest on another currency.

Let us take an example for illustrating as to how forward differential points arises:

Spot Euro 1 = US\$ 1.5000

Interest, Euro @ 3% per annum, US\$ @ 6% per annum.

Suppose someone borrows Euro\$100 for one year @ 3% per annum converting it into US\$ and places the same as a deposit for one year @ 6%, his cash flows will be as under:

	Euro		us\$	
	Inflow	Outflow	Inflow	Outflow
Spot borrowing Sells Euros One year hence interest	+ 100	-100 ^	+ 150 + 9	
Total		-103	+ 159	
Sells US\$ One year @ 1.50 Net gain Euro 3	+ 106			-159

Thus, a person can make Euro 3 in one year by borrowing Euro and converting the same into US\$ and after one year converting US\$ again into Euro. However, it is being presumed that US\$/Euro rate continues to be same for spot and one year forward.



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The person having US\$ would not like to give this opportunity. Theoretically speaking, the returns on both the currencies will be the same and the forward exchange rate of US\$/Euro will be adjusted by the market forces to eliminate any arbitrage opportunity. The US\$/Euro rate will be:

$$\text{Euro } 103 = \text{US\$ } 159.159$$

i.e. Euro J

103

$$= \text{US\$ } 1.5436 \text{ Thus, } 0.0436 \text{ represents the forward differential}$$

between spot and one year forward.

### (b) Arbitrage

Arbitrage is an operation by which one can make risk free profits by undertaking offsetting transactions. Arbitrage can be in interest rates, i.e. borrow in one centre and lend in another at a higher rate. Arbitrage can occur in exchange rates also. However, with the present day efficient communication system, arbitrage opportunities are very rare.

In the above example forward rate, i.e. Euro 1 = US\$ 1.5436, would perfectly offset the interest rate differential and can be calculated as follows:

$$\text{Principal + interest of US\$ investment} = \text{US\$ } 159$$

$$\text{Principal + interest of Euro loan} = \text{Euro } 103$$

$$\text{Therefore, Euro } 103 = \text{US\$ } 159$$

$$\text{Or Euro } 1 = \text{US\$ } \frac{159}{103} = \text{US\$ } 1.5436$$

### (c) Calculating forward points

We can calculate the approximate forward points for a given forward period with the help of the following information:

Spot exchange rate	=	1.5000
Interest rate differential	=	3% per annum
Forward period	=	90 days 360
No. of days in an year (360 or 365)	=	days

The formula is as follows:

$$\frac{\text{Spot rate} \times \text{Interest rate differential} \times \text{Forward period}}{100 \times \text{No. of days in the year}}$$

$$= \frac{1.5000 \times 3 \times 90}{100 \times 360} = 0.01125$$

$$= 0.01125$$

$$= 0.01125$$

Forward differential, is also known as the 'Swap Rate'. Three months forward rate for a US\$/Euro can be calculated by adjusting spot rate with the forward differential.

### *Interest differential from forward points:*

The formula for calculating the interest rate differential from the forward points is as under:

$$\text{Interest rate differential} = \frac{\text{Forward points} \times \text{No. of days in the year} \times 100}{\text{Spot rate} \times \text{Forward period}}$$

Continuing the above example, we have

$$0.01125 \times 360 \times 100$$

$$1.50 \times 90 = 3\% \text{ per annum}$$

We also know that the forward differential can be calculated by the following formula: i.e., Forward Differential = Spot rate - Forward rate.

#### (d) Premium and Discount

As discussed earlier the forward exchange rates are quoted when the value date in the foreign exchange transaction is beyond the spot date. Spot exchange rate and forward rates are different. The difference between spot rate and forward rate is known as the forward differential and the same can be at a premium or a discount.

Let us illustrate this with the help of spot and forward exchange rates:

Spot inter-bank rate    US\$ 1    =    Rs. 42.8450

3 months forward        US\$ 1    =    Rs. 42.8725

Thus, if one has to buy three months forward US\$ against rupees he has to pay more for the same US\$ by 0.0275. To understand this, it can be said that the three months forward US\$ is costlier by Rs. 0.0275 as compared to spot. Therefore, US\$ is at a premium in forwards vis-a-vis rupee. In case of direct quotations, a premium is always added, i.e. added to both buying and selling side. Take another situation when the inter-bank quotes are as under:

spot                            US\$ 1    =    Rs. 42.8450

3 months forward            US\$ 1    =    Rs. 42.7950

It is clear from the above quotes that one US\$ is available for lesser rupees as compared to the spot. In other words it can be said that US\$ is cheaper in forward as compared to spot, i.e. US\$ is at a discount vis-a-vis rupees. If one buys US\$ 1 now, then three months forward he has to pay a lesser amount in rupee terms by 0.0500.

In case of direct quotations, a discount is always deducted, i.e. deducted both from the buying and selling side.

*Method of quoting forward rates:* As per foreign exchange market convention, forward rates are not quoted for say one month, two months, three months, etc. Instead spot rates and forward differentials are quoted separately. To arrive at forward rates for say three months, the spot rate is adjusted for the forward points for three months.

Let us consider US\$/Euro rate

Spot Euro 1 = US\$ 1.3180/90

The currency which is being bought and sold is the Euro in terms of US\$. The bid rate for Euro is US\$ 1.3180 whereas the offer rate is 1.3190. The forward quotation is given in the following manner:

Spot Euro 1                            =    US\$ 1.3180/90

Forward differentials

1 month                                =    15-18

2 month                                =    30-37

3 month                                =    41-49

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Two months market bid rate is Euro 1 = US\$ 1.3210 and the offer rate is Euro 1 = US\$ 1.3227. In other words, Euro is costing more in terms of US\$ in forwards. Therefore, the US\$ is at a premium. It is only logical that the market will add lesser of the two premium points, i.e. 30-37 in bidding for US\$ two months forward and since premium is always added, will add to a higher premium in the offer rate, i.e. the offer rate two months forward will be Euro 1 = US\$ 1.3227.

*We can say that if in forward points the first figure is lower than the second figure, the base currency is at a premium in forwards.*

Let us consider another scenario of the foreign exchange market rates, which are quoted as under:

Spot Rate Euro 1	=	US\$ 1.3180/90
1 month forwards		24-19
2 month forwards		26-20
3 month forwards		33-25

In these exchange rates, the first figure in the forward differentials is higher than the second figure, therefore, the base currency Euro is at a discount vis-a-vis US\$. We know that the discount is always deducted, i.e. it is deducted from the buying and selling rate. Therefore, higher forwards points will be deducted from the bid rate whereas lower forward points will be deducted from the offer rate.

2 months outright bid (buying)

Euro 1 =	US\$ 1.3180
	(-) 0.0026

Spot

2 months forward points

(discount) 1.3154

2 months outright offer (selling) rate is

Spot Euro 1 = US\$ 1.3190

2 months forward points (-)0.0020

(discount) 13170126"

Therefore, 2 months bid and offer rates are

$$\text{Euro 1} = \text{US\$1.3154-1.3170}$$

It is clear from the above that if the spot rate and forward rates are compared then, there are three possibilities.

- (i) At Par if the spot rate and forward rate is the same, they are called at par.
- (ii) In case of direct rates, if the forward rate is more than the spot rate, the base currency is called as being at a premium.
- (iii) In case of direct rates, if the forward rate is less than the spot rate, the base currency is called as being at a discount.

### 6.7 Keywords

**Direct and Indirect Quote:** A direct quote is the home currency price of one unit of the foreign currency, e.g. US\$ 1 = Rs. 42.8450. An indirect quote is the foreign currency price of one unit of the home currency, e.g. Re.1 = US\$ 0.0227.

**Cross Rate:** If rate of currency A is known in terms of currency B and rate of currency B is known in terms of currency C, we can derive the rate of currency A in terms of currency C by cross-multiplication.

**Chain Rule:** The above concept of cross rate is called Chain Rule and can be used in finding the rate of a currency A in terms of other currencies, through cross-multiplications, even though the quote of currency A in terms of that currency is not available in the market.

**Value date:** The value date is a date on which the exchange of currencies actually takes place.

**Types of Rates:** Depending on the value date, the exchange rates can be; Cash/Ready, TOM, SPOT, or Forward.

**Premium:** In case of direct rates, if the forward rate is more than the spot rate, the base currency is called as being at a premium.

**Discount:** In case of direct rates, if the forward rate is less than the spot rate, the base currency is called as being at a discount.

**Forward Points:** The forward premium or discount, expressed in percentage points, is called Forward Points, e.g. a forward premium of 0.0150 is referred to as premium of 150 points.

**Arbitrage:** Arbitrage is an operation by which one can make risk free profits by undertaking offsetting transactions.

### 6.8 Terminal Questions

1. Describe direct quote and indirect quote.
2. What is cross rate?
3. Explain chain rule of foreign exchange conversion.
4. What do you mean by value date?
5. Explain the following terms:
  - a. Forward points
  - b. Arbitrage
  - c. Premium and discount

Describe the method of calculation of forward points.



# MODULE-B

## PRINCIPLES OF BOOKKEEPING

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**Unit 7.** Definition, Scope and Accounting Standards

**Unit 8.** Basic Accountancy Procedures

**Unit 9.** Maintenance of Cash/Subsidiary Books and Ledger

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# UNIT 7

## DEFINITION, SCOPE AND ACCOUNTING STANDARDS

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### STRUCTURE

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7.0 Objectives

7.1 Introduction

7.2 Nature and Purpose of Accounting

7.3 Historical Perspectives

7.4 Origins of Accounting Principles

7.5 Accounting Standards in India and its Definition and Scope

7.6 Summary

7.7 Generally Accepted Accounting Principles of USA (US GAAP)

7.8 Transfer Pricing

7.9 Keywords

7.10 Terminal Questions

7.11 Answers to Terminal Questions

## **7.0 OBJECTIVES**

After studying this unit, you should be able to appreciate the:

- Historical perspectives on accountancy
- Definition, meaning and features of accountancy
- Accounting concepts, accounting conventions and accounting systems
- Purpose of accounting
- Meaning of financial statements, accounting standards and their relations
- Users of financial statements and their needs
- Background and status of Indian accounting standards
- Nature and contents of accounting standards
- Importance of accounting standards

## **7.1 INTRODUCTION**

Accounting often is called the language of business. The basic function of any language is to serve as a means of communication. In this context, the purpose of accounting is to communicate or report the results of business operations and the financial health of the organisation. Accounting refers to the art of recording the business transactions in an analytical form. Accounting has been defined in various ways - according to one commonly accepted definition 'Accounting is an art of recording, classifying and summarising, in a significant manner and in terms of money, the transactions and events which are, in part at least, of a financial character, and interpreting the results thereof. Another definition states that accounting is 'the process of identifying, measuring and communicating economic information, to permit informed judgements and decisions by the users of information'.

The most apt definition is given by the 'American Institute of Certified Public Accountants', which is as under:

'Accounting is an art of recording, classifying and summarising, in a significant manner and in terms of money, transactions and events which are, in part at least, of a financial character, and interpreting the results thereof.

Many people take bookkeeping and accountancy to mean one and the same, but the two are different. Accountancy is a wider concept and includes bookkeeping. Bookkeeping means recording the business transactions in the books of original entry and in the ledgers. On the other hand, accountancy means the compilation of accounts in such a way that one is in a position to know the state of affairs of the business.

Financial statements, normally, mean the balance sheet, profit and loss account, statement of changes in the financial position (which may be either a fund flow statement or a cash flow statement), explanatory statements, notes and schedules forming part of the financial statement. The objective of a financial statement is to provide information about the financial position, performance and changes in the financial position of an enterprise. The users of a financial statement include government authorities, e.g. income tax department, sales tax department, etc., shareholders, investors, business associates, directors, banks and financial institutions, etc.

Accounting is the language of business, communicating through the financial statements the financial results and performance of an enterprise, to various users of such financial statements. It is in the

interest of all that the financial statements exhibit a 'true and fair' view of the state of affairs of an entity.

Any language has a set of rules called grammar. Recording of events in accounts also has its own set of rules and criteria. Such rules, are called the 'Accounting Standards' (AS).

## **7.2 NATURE AND PURPOSE OF ACCOUNTING**

A business entity, operating for profit, must keep a systematic record of the day-to-day events so that it can know about its profits, assets and liabilities. Even institutions, which do not have profit earning as an objective, must keep a record of their incomes, expenditures and financial status. This purpose is achieved by keeping systematic books of account based on sound accounting principles.

Accountancy, thus, involves the following:

1. Systematic classification of business transactions, for recording them in the books of account.
2. Recording of events and transactions in the books of account, called bookkeeping.
3. Summarising of the recorded events, i.e. preparation of a trial balance from a ledger and subsequently, the preparation of balance sheet and the profit and loss account, from the trial balance.
4. Interpreting the financial transactions from the recorded data and the financial statements.

The features of accounting are:

1. Accounting is an art of recording, classifying and summarising business transactions: Art is that part of knowledge that enables us to attain our objective by showing us the correct path to it. Accounting is an art as it helps us to prepare financial statements by showing the best way of recording, classifying and summarising the business transactions. It not only records the business transactions but also records them in an orderly manner. It also classifies business transactions according to their nature, before recording them in the books of account, e.g. all purchase transactions are first entered in the purchase register. This also helps to find the total purchases during a given period. Accounting also summarises the data, recorded in books of account, and presents them in a systematic way, in the form of:
  - (a) Trial Balance
  - (b) Profit and Loss account and
  - (c) Balance Sheet
2. Accounting records the transactions in terms of money: Accounting records business transactions by expressing them in terms of money. This makes the recorded data more meaningful. Events that cannot be expressed in money terms, are not recorded in the books of account. Events such as, a quarrel between the management and workers of a company, are not recorded in its books of account, though loss or monetary outflow from it, is recorded in its books of account.
3. Accounting records only the transactions of a financial character: Accounting records only those events and transactions that are financial in nature. Let us say that a very high-speed computer is bought by a business entity for Rs. 1 lakh, but the entries in the books of account will not record the computer's efficiency or the brand name as such but record only the cost price.
4. Accounting also interprets the financial data: The business transactions/events, recorded in the books of account, are also interpreted by accounting. The interpretation helps in making meaningful decisions in the future. For example, a bank may study the balance sheet of an entity, before taking a credit decision.

The purposes and the objectives of accountancy can be briefly listed out as under:

1. *To keep a systematic record*

It is very difficult to remember all the business transactions that take place. Accounting serves this purpose of record keeping, by promptly recording all the business transactions in the books of account. Accounting also records the assets (properties and possessions) and liabilities (loans and debts) of the business.

2. *To ascertain the results of the operations*

Accounting helps in ascertaining the result, i.e. profit earned or loss suffered in a business during a particular period. For this purpose, a business entity prepares either a trading and profit and loss account or an income and expenditure account that shows the profit or loss of the business, by matching the items of revenue and expenditure of the same period.

3. *To ascertain the financial position of the business*

In addition to profits, a businessperson must know his financial position, i.e. the availability of cash, the position of assets and liabilities, etc. This helps the businessperson to know his financial strength. Financial statements are the barometers of health of a business entity. Just as a doctor knows the health of a person by feeling his pulse, in the same way a look at the balance sheet of an organisation reveals its financial health. It also helps to ascertain the assets and liabilities, i.e. the amounts receivable from debtors and payable to creditors.

4. *To facilitate rational decision-making*

Accounting records and the financial statements provide the financial information that helps in making rational decisions about the steps to be taken with respect to the various aspects of business. Such decisions may be in respect of:

- (a) Should a part or product be made in the factory or, purchased from outside?
- (b) What should be reasonable selling price of a product or a service?
- (c) What should be the maximum discount offered to a special customer?

5. *To satisfy the requirements of law*

Entities such as companies, societies, public trusts, etc., are compulsorily required to maintain accounts as per the law governing their operations, such as the Companies Act, Societies Act, Public Trust Act, etc., the maintenance of accounts is also compulsory under the Sales Tax Act and Income Tax Act.

*Advantages of financial accounting*

- (i) to provide information, useful for the making economic decisions
- (ii) to serve primarily those users who have limited authority, ability or resources to obtain information and who rely on financial statements as their principal source of information about the economic activities of an enterprise
- (iii) to provide information useful to investors and creditors, for predicting, comparing and evaluating cash flows in terms of amount, timing and related uncertainty
- (iv) to provide users with information for predicting, comparing and evaluating the earning power of an enterprise
- (v) to supply information useful in judging the management's ability to utilise enterprise resources effectively for achieving the primary enterprise goals
- (vi) to provide factual and interpretive information about the transactions and other events, that are useful for predicting, comparing and evaluating the earning power of an enterprise. Basic underlying assumptions with respect to matters subject to the interpretation, evaluation, prediction or the estimation, should be disclosed.

### **7.3 HISTORICAL PERSPECTIVES**

The history of accounting indicates the evolutionary pattern which reflects the changing socio-economic conditions and the enlarged purposes to which accounting is applied. In the present context, there are four phases in the evolution of accounting that are distinguishable.

#### **Stewardship Accounting**

In the earlier times in history, wealthy people employed 'stewards' to manage their property. These stewards rendered an account of their stewardship to their owners, periodically. This notion lies at the root of financial reporting even today, which essentially involves the orderly recording of business transactions, commonly known as 'bookkeeping'. Indeed, the accounting concepts and procedures in use today, for a systematic recording of business transactions, have their origins in the practices employed by the merchants in Italy during the fifteenth century. The Italian method, which specifically began to be known as 'double entry bookkeeping', was adopted by other European countries, during the nineteenth century. Stewardship accounting, in a sense, is associated with the need of business owners to keep records of their transactions, the property and tools they own, debts they owe, and the debts others owe them.

#### **Financial Accounting**

Financial accounting dates from the development of large-scale business and the advent of the 'Joint Stock Companies' (a form of business which enables the public to participate by providing capital in return for 'shares' in the assets and the profits of the company). This form of a business organisation permits a limit to the liability of their members to the nominal value of their shares. This means that the liability of a shareholder, for the financial debts of the company, is limited to the amount he had agreed to pay on the shares he bought. He is not liable to make any further contribution in the event of the company's failure or liquidation. As a matter of fact, the law governing the operations (or functioning) of a company in any country (for instance the Companies Act in India) gives a legal form to the doctrine of stewardship which requires that information be disclosed to the shareholders in the form of annual income statement and balance sheet.

Briefly speaking, the income statement is a statement of profit and loss made during the year of the report; and the balance sheet indicates the assets held by the firm and the monetary claims against the firm. The general unwillingness of the company directors to disclose more than the minimum information required by law, and the growing public awareness, have forced the governments in various countries of the world to extend the disclosure (of information) requirements.

The importance attached to financial accounting statements can be traced to the need of the society to mobilise the savings and channel them into profitable investments. Investors, whether they are large or small, must be provided with reliable and sufficient information in order to be able to make efficient investment decisions. This is the most significant social purpose of financial accounting.

#### **Cost Accounting**

The industrial revolution in England presented a challenge to the development of accounting as a tool of industrial management. Costing techniques saw development as guides to management actions. The increasing awareness on the part of entrepreneurs and industrial managers for using scientific principles of management, in the wake of the scientific management movement, led to the development of cost accounting. Cost Accounting is concerned with the application of costing principles, methods and techniques for ascertaining the costs, with a view to controlling them, and assessing the profitability and efficiency of the enterprise.

**Management Accounting**

The advent of management accounting was the next logical step in the developmental process. The practice of using accounting information as a direct aid to management, is a phenomenon of the twentieth century, particularly of the last thirty-four years. The genesis of modern management, with its emphasis on detailed information for decision-making, provides a tremendous impetus to the development of management accounting.

Management accounting is concerned with the preparation and presentation of accounting, and controlling information, in a form that assists management in the formulation of policies and in decision-making on the various matters connected with routine or the non-routine operations of a business enterprise. It is through the techniques of management accounting that the managers are supplied with information, that they need for achieving objectives for which they are accountable. Management accounting has, thus, shifted the focus of accounting from recording and analysing financial transactions to using the information for decisions affecting the future. In this sense, management accounting has a vital role to play in extending the horizons of modern business. While the reports emanating from financial accounting are subject to the conceptual framework of accounting, internal reports, routine or non-routine, are free from such constraints.

**Social Responsibility Accounting**

Social responsibility accounting is a new phase in the development of accounting, and owes its birth to increasing social awareness that has been particularly noticeable over the last two decades or so. Social responsibility accounting widens the scope of accounting by considering the social effects of business decisions, in addition to the economic effects. Several social scientists and social workers, all over the world, have been drawing the attention of their governments and the people in their countries, to the dangers posed to the environment and ecology by the unbridled industrial growth. The role of business in society is increasingly coming under greater scrutiny. The managements are being held responsible for not only efficient conduct of business, as expressed in profitability, but also for what it contributes to the social well-being and progress. There is a growing feeling that the concepts of growth and profit, as measured in traditional balance sheets and income statements, are too narrow to reflect the social responsibility aspects of a business.

**Human Resource Accounting**

Back in 1964, the first attempt to include figures on human capital, in the balance sheet, was made by Hermansson, that later came to be known as 'Human Resource Accounting' (HRA). However, there had been a great socio-economic shift in the 1990s with the emergence of 'Knowledge Economy', a distinctive shift towards the recognition of human and intellectual capital in contrast to the physical capital. 'Human Resource Accounting' is a branch of accounting that seeks to report and emphasise the importance of the human resources (knowledgeable, trained, loyal and committed employees) in a company's earning process and total assets. It is 'the process of identifying and measuring data about human resources and communicating this information to interested parties. In simple words, it involves accounting for the investment in people and the replacement costs as well as accounting for the economic values of people to an organisation. Generally, the methods used for valuing and accounting of human resources are based either on costs or on economic value of the human resources. However, providing adequate and valid information on human assets (capital), which are outside the concept of ownership, in figures, is very difficult. Nevertheless, HRA is a managerial tool that provides valuable information to the top management to take decisions regarding the adequacy of human resources and thus encouraging managers to consider the investment in the workforce in a more positive way.

### **Inflation Accounting**

Inflation accounting is concerned with the adjustment in the value of assets (current and fixed) and of profits, in the light of changes in the price level. In a way, it is concerned with the overcoming of limitations that arise in financial statements because of the cost assumption (that is, recording of the assets at their historical or original cost) and the assumption of a stable monetary unit. It, thus, aims at correcting the distortions in the reported results caused by price level changes. Generally, rising prices during inflation have the distorting influence of overstating the profit. Various approaches have been suggested to deal with this problem.

### **7.4 ORIGINS OF ACCOUNTING PRINCIPLES**

Accountancy and bookkeeping are as old as money itself. The Greeks, Romans, Egyptians and Babylonians had well-developed records and maintained a good system of record keeping and control. In the thirteenth and fourteenth centuries, there was a tremendous development of commerce in Italy where the modern system of bookkeeping took birth. In 1494, at Venice, Luca De Bargo Pacioli, an Italian monk, published his book called Summa that contained a section on the 'Double Entry' bookkeeping. In the latter part of the fifteenth century, there was an increase in use of Pacioli's work on accounting because of increased trade, and the necessity of merchants to record transactions.

Later, in the sixteenth and seventeenth centuries, there were attempts in England and Holland to design the rules for double entry and the preparation of financial statements/reports and independent ledger accounts. In the nineteenth century the industrial revolution, and in the twentieth century the two world wars, revised the form of accounting and reporting to the forms still in use till date.

In India also, accountancy and bookkeeping were practised in a scientific form twenty centuries ago. During the regime of King Chandragupta, Kautilya, one of his ministers, wrote a book on accountancy, named the 'Arthashashtra'. In India, the old method of accounting, called the 'Nama' method, is still in use. It is also called the 'Mahajani', 'Marwari' or the 'Deshi' method.

### **7.5 ACCOUNTING STANDARDS IN INDIA AND ITS DEFINITION AND SCOPE**

The Institute of Chartered Accountants of India (ICAI), recognising the need to harmonise the diverse accounting policies and practices, constituted an 'Accounting Standards Board' (ASB) on 21st April, 1977. The main function of the ASB is to formulate accounting standards so that the council of ICAI may mandate such standards. *Procedure adopted for formulating accounting standards*

1. ASB shall determine the broad areas in which accounting standards need to be formulated and the priority about the selection thereof.
2. In the preparation of the accounting standards, the ASB will be assisted by study groups constituted to consider specific subjects. It will also hold a dialogue with the representatives of the government, public and private sector industries and other organisations, for ascertaining their views.
3. Based on the above, an exposure draft of the proposed standard will be prepared and issued to its members for comments, and the public at large.
4. After taking into consideration the comments received, the exposure draft will be finalised by the ASB for submission to the council of ICAI.
5. The council of ICAI will consider the final draft and if found necessary, modify the same in consultation with ASB. The accounting standard on the relevant subject will then be issued under the authority of the council.

A mandatory accounting standard, if not followed, requires the auditors, who are members of ICAI, to qualify their audit reports, failing which they will be guilty of professional misconduct. Both the SEBI and Companies Act require auditors to qualify the audit reports that do not conform to mandatory accounting standards. Section 217 (2M) of the Companies Act also casts a responsibility on the Board of Directors to comply with mandatory accounting standards.

Under the Section 211 of the Companies Act, where the financial statements do not comply with the accounting standards, such companies shall disclose the following:

- (a) the deviation from the accounting standards
- (b) the reasons for such a deviation
- (c) the financial effects, if any, arising out of such a deviation

By the powers conferred to the Central Government under the Section 210A of the Companies Act, the composition of the 'National Advisory Committee on Accounting Standards' had been notified on 15th June, 2001 by the Department of Company Affairs. The committee has been set up to advise the Central Government on the formulation and laying down of accounting policies and accounting standards for adoption by the corporate sector.

Table: 7.1: Accountancy Standards

Number of the Accounting Standard (AS)	Title of the Accounting Standard	Date from which Mandatory (accounting periods commencing on or after)
AS 1	Disclosure of Accounting Policies	1-4-1991/1-4-1993
AS 2 (Revised)	Valuation of Inventories	1-4-1999
AS 3 (Revised)	Cash Flow Statements	1-4-2001 *
AS 4 (Revised)	Contingencies and Events Occurring after the Balance Sheet Date	1-4-1995
AS 5 (Revised)	Net Profit or Loss for the Period, Prior Period Items and Changes in Accounting Policies	1-4-1996
AS 6 (Revised)	Depreciation Accounting	1-4-1995
AS 7 (Revised)	Construction Contracts	1-4-2003
AS8	Accounting for Research and Development	Is withdrawn from the date of applicability of AS 26 - Intangible Assets (01.04.03)
AS9	Revenue Recognition	1-4-1991/1-4-1993
AS10	Accounting for Fixed Assets	1-4-1991/1-4-1993
AS 11 (Revised)	The Effects of Changes in Foreign Exchange Rates	1-4-2004
AS12	Accounting for Government Grants	1-4-1994
AS13	Accounting for Investments	1-4-1995
AS 14	Accounting for Amalgamations	1-4-1995
AS 15	Accounting for Retirement Benefits in the Financial Statements of Employers	1-4-1995



AS16	Borrowing Costs	1-4-2000
AS 17	Segment Reporting	1-4-2001 *
AS18	Related Party Disclosures	1-4-2001
AS19	Leases	1-4-2001
AS 20	Earnings Per Share	1-4-2001
AS 21	Consolidated Financial Statements	1-4-2001
AS 22	Accounting for Taxes on Income	1-4-2001* 1-4-2002 for companies 1-4-2003 for all
AS 23	Accounting for Investments in Associates in Consolidated Financial Statements	1-4-2002
AS 24	Discontinuing Operations	1-4-2004/1-4-2005
AS 25	Interim Financial Reporting	1-4-2002
AS 26	Intangible Assets	1-4-2003/1-4-2004
AS 27 Ventures	Financial Reporting of Interests in Joint Ventures	1-4-2002
AS 28	Impairment of Assets	1-4-2004*/1-4-2006/1-4-2008
AS 29	Provisions, Contingent Liabilities and Contingent Assets	1-4-2004

\* Accounting standard is mandatory for the following:

- (i) Enterprises, whose equity or the debt securities are listed on a recognised stock exchange in India, and those enterprises, that are in the process of issuing equity or debt securities that will be listed on a recognised stock exchange in India.
- (ii) All other commercial, industrial and business reporting enterprises, whose turnover for the accounting period exceeds Rs. fifty crores.

A brief summary of the contents and purposes of the accounting standards, issued by the Institute of Chartered Accountants of India, is as follows:

### 1. Accounting Standard - 1

It deals with the disclosure in the financial statements of significant accounting policies followed in the preparation and presentation of such statements. The purpose of this standard is to promote a better understanding of the financial statements by such a disclosure. Compliance of this standard helps in facilitating a more meaningful comparison between the financial statements of two different enterprises.

Following are some examples of the areas in which the different accounting policies may be adopted by different enterprises:

- (i) Treatment of goodwill
- (ii) Valuation of inventories
- (iii) Valuation of investments
- (iv) Valuation of fixed assets
- (v) Methods of depreciation (vi)
- Treatment of retirement benefits (vii)
- Treatment of contingent liabilities

*Disclosures of accounting policies.*

1. All significant accounting policies adopted in the preparation of financial statements should be disclosed.

2. The disclosure of the significant accounting policies as such should form a part of the financial statements and the significant accounting policies should normally be disclosed in one place.

3. Any change in the accounting policies that has a material effect in the current period or that which is reasonably expected to have a material effect in a later period should be disclosed. In the case of a change in accounting policies that has a material effect in the current period, the amount by which any item in the financial statement is affected by such a change should also be disclosed to the extent ascertainable. Where such an amount is not ascertainable wholly or in part, the fact should be indicated.

4. If the fundamental accounting assumptions, viz., going concern, consistency and accrual, are followed in the financial statements, specific disclosure is not required. If a fundamental accounting assumption is not followed, the fact should be disclosed. **2. Accounting Standard - 2 (Revised)**

The standard has been made mandatory for the accounting periods commencing from 1st April, 1999. The standard deals with the determination of the values at which inventories are carried in the financial statements until the related revenues are recognised. The standard also deals with determination of such value, including the ascertainment of cost of inventories and any write-down thereof to net realisable value. It states that inventories are to be valued at a lower of cost or net realisable value. Weighted average cost or first in first out (FIFO) methods is permitted in cases where goods are ordinarily interchangeable. Specific identification method is permitted only when goods are not ordinarily interchangeable. The standard does not permit the use of the direct costing method and states that absorption-costing method is to be applied to manufactured goods. This standard is not applied to:

- (a) Work in progress arising under construction contracts
- (b) Work in progress of service providers
- (c) Shares, debentures, etc., held as stock-in-trade
- (d) Inventories of livestock, agricultural and forest products, and mineral oils, ores and gases

**3. Accounting Standard - 3 (Revised)**

The standard deals with the preparation of a cash flow statement and its presentation along with the financial statements. It states that the cash flow statement should report the cash flows during the period of financial statements classified by the operating, investing and financing activities. It prescribes a direct and indirect method of reporting cash flows. It states that a cash flow statement should disclose the components of cash and cash equivalents and simultaneously present a reconciliation of the amounts in the cash flow statement with the equivalent items reported in the balance sheet. Cash comprises of cash in hand and demand deposits with the banks.

Cash equivalents are short-term high liquid investments that are readily convertible into a known amount of cash and are subject to an insignificant risk of change in value. For the purpose of the cash flow statement, current items of balance sheet are classified into three categories;

- (i) Cash and cash equivalents

- (ii) Trade current items: Examples of trade current items are debtors, bills receivables, stock, prepaid expenses, accrued income, bills payable, creditors, outstanding expenses, income received in advance, etc.
- (iii) Non-trade current items: Examples of non-trade current items are current investments (which cannot be classified as cash equivalents), short-term advances received, short-term advances made, and current liabilities for fixed assets.

The Accounting Standard 3 requires the cash flows to be classified into three heads:

- (a) Operating activities
- (b) Investing activities
- (c) Financing activities

#### **4. Accounting Standard - 4 (Revised)**

This accounting standard is mandatory. It deals with the treatment in financial statements of contingencies and events occurring after the balance sheet date. Contingencies are events whose outcomes will be known only on their occurrence, e.g. a case in the High Court, penalty proceedings under law, etc., are events whose outcome will be known only on their occurrence. Events occurring after the balance sheet date are those that occur between the balance sheet date and the date on which the financial statements are approved later by the Board of Directors of the company. Let us say, insolvency of a debtor, recovery from whom was considered as doubtful as on the date of balance sheet. The standard sets down, that contingencies must be provided if the loss due to these can be reasonably estimated. The standard also states that assets and liabilities should be adjusted for events occurring after the balance sheet date if they establish the conditions existing on the balance sheet date.

##### *Accounting treatment of contingent losses*

- (a) If it is likely that a contingency will result in a loss to the enterprise, then it is prudent to make a provision for that loss.
- (b) If there is insufficient evidence, then disclosure is made of the existence and nature of the contingency.
- (c) A potential loss to an enterprise may be reduced by a related counterclaim. In such cases, the amount of the provision is determined after taking into account the probable recovery under the claim, if no significant uncertainty as to measurability exists.

##### *Accounting treatment of contingent gains*

Contingent gains are not recognised. However, when the realisation of a gain is virtually certain, then this gain is not a contingency and hence, accounting for the gain is appropriate.

##### *Events occurring after the balance sheet date*

Events occurring after the balance sheet date are those significant events that occur between the balance sheet date and the date on which the financial statements are approved by the Board of Directors.

- (a) Adjustments to the assets and liabilities are required for events occurring after the balance sheet date that provide additional information relating to the conditions existing at the balance sheet date.
- (b) Adjustments are not appropriate if such events do not relate to conditions existing at the balance sheet date.
- (c) Events occurring after the balance sheet date, that do not affect the figures, would not normally require disclosure.

- (d) There are events that take place after the balance sheet date, which are reflected in the financial statements because of a statutory requirement, e.g. dividend proposed.
- (e) Events may indicate that the enterprise ceases to be a going concern, e.g. the destruction of a major production plant by a fire may indicate a *need* to consider whether it is proper to use the fundamental accounting assumption of a going concern.

### 5. Accounting Standard - 5 (Revised)

This accounting standard is mandatory. It deals with the treatment in the financial statements of a prior period and extraordinary items and changes in accounting policies. Prior period items are debits or credits that arise in the accounts of current year because of a mistake or omission in the preparation of the financial statement of one or more earlier years. Extraordinary items are unusual items distinct from the day-to-day activities of an entity. The nature and significant amount of such items need to be provided for in the financial statements. A change in the accounting policy shall be made only if the change is required by statute or standard or for appropriate presentation and any such change should be reported and quantified with respect to its impact on the profit or loss of the entity for the period of change/ future period.

Ordinary activities are any activities that are undertaken by an enterprise as a part of its business.

When the items of income and expense arising from the profit or loss from the ordinary activities are of such size, nature, or incidence that their disclosure is relevant to explain the performance of the enterprise for the period, the nature and amount of such items should be disclosed separately.

Circumstances, which may give rise to a separate disclosure of items of income and expense, include:

- the writing-off of inventories to net realisable value
- a restructuring of the activities of an enterprise
- disposals of items of fixed assets
- disposals of long-term investments
- legislative changes having retrospective application
- litigation settlements
- other reversals of provisions

Extraordinary items: They are incomes or expenses that arise from events or transactions that are clearly distinct from the ordinary activities of the enterprise and therefore, are not expected to recur frequently or regularly.

Prior period items are incomes or expenses, which arise in the current period because of errors or omissions in the prior periods.

#### *Changes in accounting estimates*

Changes in accounting estimates are uncertainties inherent in business activities. The estimation process involves judgements based on the latest information available. The use of reasonable estimates is an essential part of the preparation of a financial statement and does not undermine their reliability.

- An estimate may have to be revised, if changes occur regarding the circumstances. The revision does not bring the adjustment within the definitions of an extraordinary item or a prior period item.

Change in an accounting policy should be made only if the adoption of a different accounting policy is required: by statute

- for compliance with an accounting standard
- if it is considered that, the change would result in a more appropriate presentation of the financial statements of the enterprise.

### 6. Accounting Standard - 6 (Revised)

This accounting standard will be mandatory in character, applicable from 1 st April, 2003. It deals with the accounting for depreciation and the disclosure requirements in connection therewith. It suggests various methods of depreciation in respect of various types of fixed assets. It states that the depreciation method should be selected carefully, systematically and consistently applied from year to year. It also lists the factors, that affect the depreciation and the treatment to be given if method of depreciation is changed. The standard also lays down the treatment in case of revaluation of assets.

"Depreciation" is a measure of the wearing out, from use, effluxion or obsolescence through technology and market changes.

Does not apply to:

- (a) Forests, plantations
- (b) Wasting assets
- (c) Expenditure on research and development
- (d) Goodwill
- (e) Livestock
- (f) Land, unless it has a limited useful life.

#### *Disclosures*

1. The depreciation methods
2. Total depreciation
3. Gross amount of depreciation on each class is to be disclosed with accounting policies.

### 7. Accounting Standard - 7 (Revised)

It deals with the accounting for construction contracts. Contract accounting is complicated because the contract period exceeds a single year in most cases. This poses serious accounting problems relating to revenue, treatment of advances received, work-in-progress, etc., in the financial statements. The standard recognises two methods of accounting or the construction contract, namely, the percentage of completion; method and the completed contract method. The standard explains the relevance of both the methods of accounting and the method that is more appropriate under a given set of circumstances. It slates the essential ingredients of these two methods and deals with the disclosures to be made in this regard.

This standard should be applied in accounting for construction contracts in the financial statements of contractors.

#### *Construction contract*

A construction contract is a contract specifically negotiated for the construction of an asset or a combination of assets that are closely interrelated or interdependent in terms of their design, technology and function or their ultimate purpose or use.

#### *Construction contracts include*

- (a) contracts for the rendering of services, which are directly related to the construction of the asset.
- (b) contracts for destruction or restoration of assets.

*Types of contracts*

A fixed price contract is a construction contract in which the contractor agrees to a fixed contract price, or a fixed rate per unit of output, that in some cases is subject to cost escalation clauses.

A cost plus contract is a construction contract in which the contractor is reimbursed for allowable or otherwise defined costs, plus a percentage of these costs or a fixed fee.

*Disclosures*

An enterprise should disclose:

1. the amount of contract revenue recognised
2. the methods used to determine the contract revenue recognised
3. the method used to determine the stage of completion of contracts in progress
4. the aggregate amount of costs incurred and profits recognised (less recognised losses) up to the reporting date
5. the amount of advances received
6. the amount of retentions

An enterprise should present: (i) the gross amount due from customers for contract work as an asset

(ii) the gross amount due to customers for contract work as a liability

**8. Accounting Standard - 8**

This standard stands deleted from 1st April, 2003. Research and Development Expense is now covered by AS-26.

**9. Accounting Standard - 9**

It deals with the basis for the recognition of revenue, i.e. income and the time when the income can be said to have arisen. It also states the quantum of income to be credited to the profit and loss account. The statement shows how revenue is to be recognised from the various activities carried on by the enterprise. Let us say, from sale of goods, rendering of services and use by others of enterprise resources yielding interest royalties, and dividends, etc. This standard does not deal with:

- (a) Revenue arising from construction contracts
- (b) Revenue arising from hire purchase, lease agreements
- (c) Revenue arising from government grants and other similar subsidies
- (d) Revenue of insurance companies arising from insurance contracts.

*Disclosure*

When revenue recognition is postponed, the disclosure of the circumstances necessitating the postponement should be made.

**10. Accounting Standard -10**

This standard will be recommendatory in character. It deals with the accounting for fixed assets and specifies the disclosures to be made in the financial statement in relation thereto. It lays down the elements of cost that should form a part of the book value in respect of a particular asset purchased and used by an enterprise. It also states, when the fixed asset should be written off and the treatment, if any, on revaluation of the fixed assets.

This standard does not deal with:

- (a) Forests, plantations and similar regenerative natural resources
- (b) Wasting assets
- (c) Expenditure on real estate development
- (d) Livestock
- (e) Government grants and subsidies
- (f) Assets that are under leasing rights.

#### *Components of cost*

Cost of an item of fixed assets includes:

Purchase price

Import duties

Other non-refundable taxes or levies

Any directly attributable cost of bringing the asset to its working condition

Less: Trade discounts and rebates

The cost of a fixed asset may undergo changes because of exchange fluctuations, price adjustments, changes in duties or similar factors.

Financing costs relating to deferred credits or to borrowed funds up to the completion are also sometimes included in the gross book value of the asset.

Financing costs on fixed assets are not capitalised to the extent that such costs relate to the period after such assets are ready to be put to use.

Administration and other general overhead expenses may be included only if such expenses are specifically attributable to construction/acquisition of a fixed asset.

Expenditure incurred on test runs and experimental production, is usually capitalised.

All expenses incurred between the date a project is ready to commence and the date it actually commences is charged to the profit and loss statement.

#### *Disclosures include*

1. gross and net book values at the beginning and end of the year, showing additions, disposals, acquisitions and other movements
2. expenditure incurred
3. Re valued amounts substituted for historical costs.

### **11. Accounting Standard -11 (Revised 2003)**

This comes in effect on or after 1 st April, 2004 and is mandatory in nature. It deals with the accounting for transactions in foreign currencies in the financial statements prepared by an enterprise and with the translation of the financial statements of foreign branches prepared in foreign currency, into Indian rupees for including them in the financial statements of the head office in India. Rules with respect to foreign currency translation (conversion) and the difference arising, if any, from the conversion of foreign currency into Indian rupees, is also dealt with by the standard.

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### *Applied to*

- (a) accounting for transactions in foreign currencies
- (b) translating the financial statements of foreign operations
- (c) foreign currency transactions in the nature of forward exchange contracts

### *Does not deal with*

1. Restatement of an enterprise's financial statements from its reporting currency into another currency for the convenience of users.
2. The presentation in a cash flow statement of cash flows arising from transactions in a foreign currency and the translation of cash flows of a foreign operation.
3. Exchange differences arising from foreign currency borrowings to the extent that they are regarded as an adjustment to interest costs.

### *Definitions*

- Exchange rate is the ratio for exchange of two currencies.
- Reporting currency is the currency used in presenting the financial statements.  
Foreign currency is a currency other than the reporting currency of an enterprise.
- Forward exchange contract means an agreement to exchange different currencies at a forward rate.

### *Disclosures*

1. The amount of exchange differences included in the net profit or loss for the period.
2. Net exchange differences accumulated in the foreign currency translation reserve as a separate component of shareholders' funds.
3. Reconciliation of the amount of such exchange differences at the beginning and end of the period.
4. When the reporting currency is different from the currency of the country in which the enterprise is domiciled, the reason for using a different currency should be disclosed.
5. When there is a change in the classification of a significant foreign operation, an enterprise should disclose the:
  - (i) nature of the change in classification (ii) reason for the change (iii) impact of the change in classification on shareholders' fund
  - (iv) impact on net profit or loss for each prior period presented had the change in classification occurred at the beginning of the earliest period presented

## **12. Accounting Standard -12**

It deals with the accounting for government grants received by an entity and how should such grants be presented in the financial statement. Such grants may be in the form of subsidies, cash incentives or duty drawbacks, etc. The various approaches to the grant as suggested by the standard would depend upon the purpose for which the grant is received and conditions that have to be fulfilled to obtain and enjoy the grant. Treatment of withdrawal of grants is also laid down in the standard.

### *This standard does not deal with*

1. Government assistance - in the form of the government grants, i.e. tax holiday in backward areas, tax exemption in notified areas.
2. Government participation - in the ownership of the enterprise, i.e. investment by the government as equity.



Recognition of Government grants:

Government grants available to an enterprise are considered for inclusion:

- (a) Where there is reasonable assurance.
- (b) Where such benefits have been earned and it is reasonably certain that the ultimate collection will be made.
  - (i) Government grants are rarely gratuitous. The enterprise earns them through compliance with their conditions and meeting the envisaged obligation.
  - (ii) Government grants should be recognised in the profit and loss statement on a systematic and rational basis over the periods necessary to match them with the related costs.

*Disclosures*

The following disclosures are appropriate:

1. The accounting policy adopted for government grants, including the methods of presentation in the financial statement.
2. The nature and extent of government grants recognised in the financial statements, including grants of the non-monetary assets given at a concessional rate or free of cost.

### **13. Accounting Standard - 13**

It deals with accounting for investments made by an entity and its presentation in the financial statements. The standard defines the current and long-term investments and their basis of classification. To the extent the standard relates to current investments, it is also applicable to shares, debentures and other securities held as stock-in-trade, with suitable modification as specified in the standard itself. It lays down the criteria for bifurcation between the current and long-term investments and how they are to be classified as such.

This standard does not deal with:

- Interest, dividends and rentals earned on investments.
- Operating or finance leases.
- Investments of retirement benefit plans and life insurance enterprises.
- Mutual funds.

Forms of Investments:

1. Investments having no physical existence and are represented merely by certificates, e.g. shares.
2. In physical form, e.g. buildings.
3. Investment may be in the nature of debt.
4. Investments representing financial rights.

Classification of Investments:

Investments are classified as long-term investments and current investments.

*Disclosures*

1. The accounting policies;
2. The amounts included in profit and loss statement for:
  - (i) Gross income should be stated, the amount of income tax deducted at source being included under advance taxes paid.
  - (ii) Profit and loss on the disposal changes in carrying amount.
  - (iii) Profit and loss on the disposal of long-term investments and changes.

3. Significance restrictions on the right of ownership readability;
4. The aggregate amount of the quoted and unquoted investments, giving the aggregate market value of quoted investments.

#### **14. Accounting Standard - 14**

It deals with the accounting for amalgamation and the treatment of any resultant goodwill or reserves in the books of account, arising out of such an amalgamation transaction. Amalgamation means the formation of a new company to take over the existing business of two or more companies. The standard does not deal with cases of acquisitions, whereby the acquired company is not dissolved and its separate entity continues to exist. The standard lays down the methods of amalgamation and the accounting adjustment under each method.

This accounting standard deals with accounting to be made in the books of Transferee Company in case of amalgamation.

This accounting standard is not applicable to cases of acquisition of shares when one company acquires/purchases the shares of another company and the acquired company is not dissolved and its separate entity continues to exist.

The standard is applicable where the acquired company is dissolved the separate entity ceases to exist and the purchasing company continues with the business of acquired company.

The company acquired is called the transferor company (selling company). The acquiring company, which is purchasing the business of acquired company, is called the transferee company (purchasing company).

#### *Disclosures*

In the first financial statement of the transferee company, the following disclosures for all amalgamations should be made:

- Names and general nature of business of amalgamating companies.
- Effective date of amalgamation.
- Method of accounting used.
- Particulars of scheme sanctioned under a statute.

Amalgamation accounted under the pooling interest method:

Description and number of shares issued;

- Difference between consideration and net assets acquired.

Amalgamation accounted under the purchase method:

- Consideration for the amalgamation.
- Difference between the consideration and net assets acquired and the treatment thereof, including period of amortisation of the goodwill.

#### **15. Accounting Standard - 15 (Revised 2005)**

It deals with accounting for retirement benefits provided to employees in the financial statements of employers. Retirement benefits would include provident fund, superannuation/pension and gratuity; leave encashment, post retirement health and welfare schemes. This statement does not apply to those retirement benefits for which the employer's obligations cannot be reasonably estimated.

*Disclosures*

1. The financial statements should disclose the method by which the retirement benefit costs for the period have been determined.
2. In case the costs related to gratuity and other defined benefit schemes are based on an actuarial valuation, the financial statements should also disclose whether the actuarial valuation was made at, the end of the period or at an earlier date and the date of the actuarial valuation should be specified.
3. The method by which the accrual for the period has been determined should also be briefly described if the same is not based on the report of the actuary.

**16.Accounting Standard- 16**

The standard is mandatory for accounting periods commencing from 1st April, 2000. It deals with the accounting for the borrowing cost and not with the actual cost of owner's equity/preference capital. It states that the borrowing costs like interest and other costs that are directly attributable to the acquisition, construction or production of any qualifying asset (assets that take a substantial period to get ready for its intended use or sale) should be capitalised. It states that the income on the temporary investment of the borrowed funds be deducted from the borrowing costs. It states that the capitalisation of the borrowing cost be suspended during extended periods in which the development is interrupted. Capitalisations should cease when asset is completed substantially or if completed in parts, in respect of that part, all the activities for its intended use or sale are complete. Policy with regard to borrowing cost needs to be disclosed in the financial statements.

Borrowing costs include:

- (a) Interest and commitment charges
- (b) Amortisation of discounts or premiums
- (c) Amortisation of ancillary costs for the arrangement of borrowings
- (d) Finance charges in respect of assets acquired under finance leases
- (e) Exchange differences arising from foreign currency borrowings to the extent that they are regarded as an adjustment to interest costs

*Disclosures*

The financial statements should disclose:

1. The accounting policy adopted for the borrowing costs
2. The amount of borrowing costs capitalised during the period

**17. Accounting Standard -17**

The standard is mandatory for accounting periods commencing from 1st April, 2001. It deals with the reporting of information about the different types of products and services of an enterprise and its operations in different geographical areas for assessing the risk and returns of a diversified or multi-location enterprise that is not determinable from the aggregated data. The statement is applicable to general purposes financial statements and consolidated financial statements (a separate accounting standard is presently being formulated on the consolidated financial statements). It lays down the criteria for identifying a 'business segment' and 'geographical segment' and requires reporting of the segments subject to fulfilment of certain criteria specified in the statement. It states that the segment information should be prepared in conformity with the accounting policies adopted for preparing and presenting financial statements of an enterprise as a whole.

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This should help the user of financial statement to:

- Better, understand the enterprise's performance.
- Better, assess the risks and returns of the enterprise.
- Better, assess its prospects for future net cash flows.
- Make more informed judgements about the enterprise as a whole.

### *Scope*

1. To be applied in presenting general purpose financial statements.
2. Also applicable in case of consolidated financial statements.
3. Segment information should be prepared in conformity with the accounting policies adopted for preparing and presenting the financial statements of the enterprise as a whole.
4. To be compiled with in full and not selectively.

### *Other disclosures*

1. When the majority of the enterprise's revenue is from inter-segment sales
2. Basis for determining prices for inter-segment sales
3. When an enterprise operates in a single business or geographical segment
4. Change in basis for determining price for inter-segment sales
5. Change in accounting principles employed for segment disclosure
6. Revision in definitions of industry or geographic segment
7. Indicate type of products and services included in each reported segment
8. Indicate the composition of each reported geographical segment.

## **18. Accounting Standard - 18**

The standard is mandatory for accounting periods commencing from 1 st April, 2001. It deals with the reporting of related party relationships and transactions between a reporting enterprise and its related parties. The statement is applicable to general-purpose financial statements and consolidated financial statements (a separate accounting standard is presently being formulated on consolidated financial statements). The statement applies to the related party relationship as described in the statement. It states that the requirement of the statement shall not apply in circumstances where the providing such disclosures would conflict with the reporting enterprise's duties of confidentiality as specifically required in terms of a statute or by any regulatory or similar competent authority. It states that name of the related party and nature of the related party relationship where control exists should be disclosed irrespective of whether or not there have been transactions between the related parties.

### *Disclosure requirements*

If there is no transaction but control exists:

1. Name of the related party and
2. Nature of relationship

If there are transactions:

1. Name of the related party
2. Nature of relationship
3. Description of nature or transactions
4. Volume of the transactions

5. Amounts outstanding at the balance sheet date
6. Amounts provided, written off, written back during the year.

### 19. Accounting Standard -19

The objective of this standard is to prescribe, for lessors and lessees, the appropriate accounting policies and disclosure in financial statements in relation to finance lease and operating leases. It lays down the guidelines for classification of a lease between finance and operating lease. It lays down the treatments to be given to the finance and operating leases in the financial statements of the lessor and lessee. It also states that the disclosure requirements apply equally to sale and leaseback transaction.

This accounting standard comes into effect in respect of all assets leased on or after 1st April, 2001 and is mandatory.

Does not apply to:

1. Lease agreement for natural resources.
2. Licensing agreements for films, patents and copyrights, etc.
3. Lease agreement to use land.
4. Does not apply to agreements that are contracts for services that do not transfer the right to use the assets from one contracting party to the other.

Lease: A lease is an agreement whereby the lessor conveys to the lessee in return for a payment or a series of payments the right to use an asset for an agreed period.

### 20. Accounting Standard - 20

The objective of this statement is to prescribe principles for the determination and presentation of earnings per share, which will improve the comparison of performance among different enterprises. This statement applies to enterprises whose equity or potential equity shares are listed on a recognised stock exchange in India. This statement requires the presentation of earnings per share information based on the consolidated financial statements as well as the individual financial statements of the parents in case of a consolidated financial statement.

A financial instrument is any contract that gives rise to both a financial asset of one enterprise and a financial or equity share of another enterprise. Share warrants or options are financial instruments that give the holder the right to acquire equity shares. For this purpose, a financial asset is any asset that is:

- (a) Cash;
- (b) A contractual right to receive cash or another financial asset from another enterprise;
- (c) A contractual right to exchange financial instruments with another enterprise under conditions that are potentially favourable; or
- (d) An equity share of another enterprise.

Potential equity share includes:

- (a) Debt instruments or preference shares, that are convertible into equity shares
- (b) Share warrants
- (c) Options
- (d) Shares which would be issued upon the satisfaction of certain conditions resulting from contractual arrangements

*Presentation*

1. An enterprise should present basic and diluted earnings per share on the face of the statement of profit and loss for each class.
2. This statement requires an enterprise to present basic and diluted earnings per share, even if the amounts disclosed are negative.

*Disclosures*

1. The amounts used as the numerators in calculating basic and diluted earnings per share, and a reconciliation of these amounts to the net profit or loss for the period;
2. The weighted average number of equity shares used as the denominator in calculating basic and diluted earnings per share, and a reconciliation of these denominators to each other; and
3. The nominal value of shares along with the earnings per share figures.

**21. Accounting Standard - 21**

A parent that presents consolidated financial statements should present these statements in addition to its separate financial statements.

Financial statements of the parent and its subsidiaries should be combined on a line-by-line basis, by adding together like items of assets, liabilities, incomes and expenses. The following steps should be taken:

- (a) The cost to the parent of its investment in each subsidiary and the parent's portion of equity, of each subsidiary, at the date on which investment in *each* subsidiary is made, should be eliminated
- (b) Any excess described as goodwill to be recognised as an asset in the consolidated financial statements and the deficit should be taken to capital reserve
- (c) Minority interests in the net *income* of consolidated subsidiaries should be identified and adjusted
- (d) Minority interest should be identified and presented separately from the liabilities and the equity, of the parent's shareholders.

*Disclosures*

1. A list of all subsidiaries including the name, country, proportion of ownership and proportion of voting power held.
2. The nature of the relationship, between the parent and a subsidiary, more than one-half of the voting power of the subsidiary.

**22. Accounting Standard - 22**

Taxes on income accrue in the same period as the revenues and the expenses to which they relate. Problems arise when the taxable income is different from the accounting income due to certain revenues or expenses not considered in computation of taxable income or their amounts differ.

*Scope*

This statement prescribes the method of determination of the amount of expense or saving relating to taxes on income in respect of an accounting period.

This statement prescribes the disclosure of such an amount in the financial statements.

Does not deal with taxes payable on the distribution of dividends.

*Definitions*

*Accounting income (loss)* is the net profit or loss for a period, as reported in the statement of profit and loss, before deducting the income tax expenses or adding the income tax savings.

*Taxable income (loss)* is the amount of the income (loss) for a period, determined in accordance with the tax laws, based upon which income tax payable (recoverable) is determined.

*Tax expense (tax saving)* is the aggregate of current tax and deferred tax charged or credited to the statement of profit and loss for the period.

*Current tax* is the amount of income tax determined to be payable (recoverable) in respect of taxable income (tax loss) for a period.

*Deferred tax* is the tax effect of timing differences.

*Timing differences* are the differences between taxable income and accounting income for a period that originate in one period and are capable of reversal in one or more subsequent periods.

*Permanent differences* are the differences between taxable income and accounting income for a period that originate in one period and do not reverse subsequently.

#### *Disclosures*

1. Deferred tax assets and liabilities should be distinguished from current tax assets and liabilities.
2. Deferred tax assets and liabilities should be disclosed under a separate heading in balance sheet separately from the current assets and liabilities.
3. Break-up of deferred tax assets and liabilities into major components should be disclosed in the notes to account.
4. In case of unabsorbed depreciation or carry forward losses, disclose the nature of evidence supporting the recognition of deferred tax assets.

### 23. Accounting Standard - 23

This statement should be applied in accounting for investments in associates in the preparation and presentation of consolidated financial statements by an investor (and not for separate financial statement).

An Associate is an enterprise in which the investor has significant influence and which is neither a subsidiary nor a joint venture of the investor.

Significant influence is the power to participate in the financial and/or operating policy decisions of the investee but not the control over their policies. Significant influence may be gained by share ownership, statute or agreement. Share ownership means if an investor holds, directly or indirectly through a subsidiary, twenty per cent more of the voting power of the investee.

#### Significant influence includes

- (a) Representation on the Board of Directors or corresponding governing body of the investee
- (b) Participation in the policymaking processes
- (c) Material transactions between the investor and the investee
- (d) Interchange of managerial personnel
- (e) Provision of essential technical information.

Disclosures are required for proportion of ownership interest and, if different, the proportion of voting power held should be disclosed in the consolidated financial statements.

1. Investments in associates accounted for using the equity method should be classified as long-term investments.
2. The investor's share of any extraordinary or prior period items should also be separately disclosed.

**24. Accounting Standard - 24**

If an enterprise has plans, to discontinue the operation of a particular segment, then the user has to understand the information about the discontinuing operation distinctly from that of the continuing operation, so that the user can make the projections of cash flows of the enterprise, the earning generating capacity and the financial position by segregating the information about the discontinuing operation from the information about the continuing operation.

A discontinuing operation:

- (a) that the enterprise, pursuant to a single plan, is:
  - disposing of substantially in its entirety, such as by selling the component in a single transaction or by a de merger or a spin-off of ownership of the component to the enterprise's shareholders; or
  - disposing in piecemeal, such as by selling off the component's assets and settling its liabilities individually; or
  - terminating through abandonment;
- (b) that represents a separate major line of business or a geographical area of operations
- (c) that can be distinguished operationally and for financial reporting purposes
  - if an enterprise sells a component substantially in entirety, a binding sale agreement is entered into on a specific date.

the enterprise may discontinue and dispose of the components on a piecemeal basis and the disposal of a component may be in progress at the end of a financial reporting period. To qualify as a discontinuing operation, the disposal must be pursuant to a single coordinate plan.

- an enterprise may terminate an operation by abandonment without a substantial sale of assets.

*Procedure of disclosure*

The disclosures should be presented in the notes to the financial statements except the following, which should be shown on the face of the profit and loss statement:

1. The amount of pretax profit or loss from the ordinary activities attributable to the discontinuing operation during the current financial reporting period, and the income tax expense related; and
2. The amount of the pretax gain or loss recognised, on the disposal of assets or settlement of liabilities.

**25. Accounting Standard - 25**

Interim reporting period is a period, which is not a complete financial period. Interim reporting is the financial reports of a period, which is less than a complete financial period.

A complete set of financial statements normally includes:

- (a) balance sheet
- (b) statement of profit and loss
- (c) cash flow statement
- (d) notes including those relating to accounting policies.

Components of an interim financial report are:

- condensed balance sheet;
- condensed statement of profit and loss;



- condensed cash flow statement; and
- selected explanatory notes.

Interim reporting and annual reporting:

- (a) An enterprise that reports half-yearly, uses information available by mid-year in making the measurements in its financial statements.
- (b) If the twelve-month measurements reflect any changes in estimates of amounts reported for the first six-month period, the amounts reported in the interim financial report for the first six-month period are not retrospectively adjusted.
- (c) Revenues that are received seasonally or occasionally within a financial year should not be anticipated or deferred as of an interim date if anticipation or deferral would not be appropriate at the end of the enterprise's financial year.
- (d) Some enterprises consistently earn more revenues in certain interim periods of a financial year than in other interim periods; such revenues are recognised when they occur.
- (e) A change in the accounting policy, other than the one for which the transition is specified by an accounting standard, should be reflected by restating the financial statements of prior interim period of the current financial year.

## 26. Accounting Standard - 26

This statement is mandatory for all accounting periods commencing from 1st April, 2003. Intangible assets do not include:

- (a) intangible assets that are covered by another AS, e.g. lease tax assets
- (b) financial assets
- (c) mineral rights and the expenditure on the exploration for, or development and extraction of minerals, oil, natural gas and similar non-regenerative resources; and
- (d) Intangible assets arising in insurance enterprises from contracts with policyholders.

This statement applies to:

Expenditure on advertising, training and start-up cost.

Research and development activities.

Rights under licensing agreements for items such as motion picture films, video recordings, plays, manuscripts.

- Patents, copyrights and trademarks.
- Goodwill.

An intangible asset is:

Identifiable

- A non-monetary asset

Without physical substance

Held for use in the production or supply of goods or services, for rental to others, or for administrative purposes.

The definition of an intangible asset requires that an intangible asset be identifiable. To be identifiable, it is necessary that the intangible asset is clearly distinguished from goodwill.

An asset is separable if the enterprise could rent, sell, exchange or distribute the specific future economic benefits attributable to the asset without also disposing of future economic benefits that flow from other assets used in the same revenue earning activity.

Some intangible assets may be contained in or on a physical substance such as a compact disk (in the case of computer software), legal documentation (in the case of licence or patent). The cost of the physical substance containing the intangible asset is usually not significant and hence, it is treated as a part of the intangible asset.

If the physical substance is significant, then it is treated under the AS 10.

#### *Disclosures*

The financial statements should disclose the following for each class of intangible assets:

- (a) the useful lives or the amortisation rates used;
- (b) the amortisation methods used;
- (c) the gross carrying amount and the accumulated amortisation (aggregated with accumulated impairment losses) at the beginning and end of the period;
- (d) a reconciliation of the carrying amount at the beginning and end of the period.

The financial statements should also disclose:

- (i) if an intangible asset is amortised over more than ten years, the reasons why it is presumed that the useful life of an intangible asset will exceed ten years. In giving these reasons, the enterprise should describe the factor(s) that played a significant role in determining the useful life of the asset
- (ii) a description, the carrying amount and remaining amortisation period of any individual intangible asset that is material to the financial statements of the enterprise as a whole
- (iii) the existence and carrying amounts of intangible assets whose title is restricted and the carrying amounts of intangible assets pledged as security for liabilities
- (iv) the amount of commitments for the acquisition of intangible assets.

### **27. Accounting Standard - 27**

A joint venture is an economic activity that is controlled jointly by the parent enterprise and another party outside the group. This statement should be applied in accounting for interests in joint ventures and reporting the joint venture assets, liabilities, incomes and expenses in the financial statements of the venturers and investors. The requirement relating to accounting for joint ventures in consolidated financial statements, are applicable only where consolidated financial statements, are prepared and presented by the venturer.

#### *Definitions*

A joint venture is a contractual arrangement whereby two or more parties undertake an economic activity, which is subject to joint control.

Joint control is the contractually agreed sharing of control over an economic activity.

Control is the power to govern the financial and operating policies of an economic activity to obtain benefits from it.

A venturer is a party to a joint venture and has joint control over that joint venture.

An investor in a joint venture is a party to a joint venture and does not have joint control over that joint venture.

Proportionate consolidation is a method of accounting and reporting whereby a venturer's share of each of the assets, liabilities, incomes and expenses of a jointly controlled entity is reported as separate line items in the venturer's financial statements.

#### *Disclosures*

A venturer should disclose the aggregate amount of the following contingent liabilities:

1. Any contingent liabilities that the venturer has incurred in relation to its interests in the joint ventures and its share in each of the contingent liabilities which have been incurred jointly with other venturers.
2. Its share of the contingent liabilities of the joint ventures themselves for which it is contingently liable.
3. Those contingent liabilities that arise because the venturer is contingently liable for the liabilities of the other venturers of a joint venture.
4. Any capital commitments of the venturer in relation to its interest in the joint ventures and its share in the capital commitments.
5. Its share of the capital commitments of the joint ventures themselves.
6. A venturer should disclose a list of all joint ventures and descriptions of interest in significant joint ventures.
7. A venturer should disclose, in its separate financial statements, the aggregate amounts of each of the assets, liabilities, incomes and expenses related to its interests in the jointly controlled entities.

#### **28. Accounting Standard - 28**

It is mandatory in nature, comes into effect on or after 1 st April, 2004 for enterprises whose equity or debt securities are listed on a recognised stock exchange and all other commercial, industrial and business reporting, enterprises, whose turnover for the accounting period exceeds Rs. 50 crores. In respect of all other enterprises, the accounting standard comes into effect after 1st April, 2005. The standard is not applied to:

- (a) inventories (AS 2)
- (b) assets arising from construction contracts (AS 7)
- (c) financial assets, including investments (AS 13)
- (d) deferred tax assets (AS 22).

The objective of this AS is to prescribe the procedure applied to ensure that the carrying amount of an asset is not more than the recoverable amount of the asset. An asset is carried at more than its recoverable amount if its carrying amount exceeds the amount to be recovered through use or sale of the asset.

An impairment loss is the amount by which the carrying amount of an asset exceeds its recoverable amount.

Recoverable amount is the higher of:

- an asset's net selling price, and
- its value in use.

Value in use is the present value of the estimated future cash flows expected to arise from the continuing use of an asset and from its disposal at the end of its useful life.

Costs of disposal are the incremental costs directly attributable to the disposal of an asset, excluding the finance costs and income tax expense.

An enterprise should assess at each balance sheet date whether there is any indication that an asset may be impaired. If any such an indication exists, the enterprise should estimate the recoverable amount of the asset. The concept of materiality applies in identifying whether the recoverable amount of an asset needs estimation.

#### *Disclosures*

Disclosure requirements can be categorised into four major categories:

- Basic requirements for each class of assets.
- Requirement for segment reporting.
- Requirement for cash generating unit.
- Requirement for reversal of impairment loss.

### **29. Accounting Standard - 29**

It comes into effect in respect of accounting periods commencing on or after 1 st April, 2004. This Standard is mandatory in nature from that date in its entirety, for the enterprises, whose equity or debt securities are listed or is in the process of listing, banks, financial institutions, insurance companies, all enterprises, whose turnover for the immediately preceding accounting period exceeds Rs. 50 crore, all enterprises, having borrowings in excess of Rs. 10 crore, Holding and subsidiary enterprises of anyone of the above.

In the case of all enterprises whose turnover for the immediately preceding accounting period exceeds Rs. 40 lakh but does not exceed Rs. 50 crore, all enterprises having borrowings in excess of Rs. 1 crore but not in excess of Rs. 10 crore, Holding and subsidiary enterprises of anyone of the above, the standard is applicable except for the paragraph 67.

It is applicable in its entirety, except the paragraphs 66 and 67, for the enterprises, which do not fall in any of the categories given above.

### **OBJECTIVE**

The objective of this Standard is to ensure that appropriate recognition criteria and measurement bases are applied to the provisions and contingent liabilities and that sufficient information is disclosed in the notes to the financial statements to enable users to understand their nature, timing and amount. The objective of this Standard is also to lay down the appropriate accounting for contingent assets.

A provision should be recognised when:

- an enterprise has a present obligation because of a past event
- it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation
- a reliable estimate can be made of the amount of the obligation. If these conditions are not met, no provision should be recognised.

### **Reliable Estimate of the Obligation**

Except in extremely rare cases, an enterprise will be able to determine a range of possible outcomes and can therefore, make an estimate of the obligation that is reliable to use in recognising a provision.

- An enterprise should not recognise a contingent liability.
- An enterprise should not recognise a contingent asset.
- The amount recognised as a provision should be the best estimate of the expenditure required to

settle the present obligation at the balance sheet date. The amount of a provision should not be discounted to its present value.

- Provisions should be reviewed at each balance sheet date and adjusted to reflect the current best estimate. If it is no longer probable that an outflow of resources embodying economic benefits will be required to settle the obligation, the provision should be reversed.
- A provision should be used only for expenditures for which the provision was originally recognised.

#### *Disclosure*

1. In the statement of profit and loss, the expense relating to a provision may be presented net of the amount recognised for a reimbursement.
2. For each class of provision, an enterprise should disclose
  - (a) the carrying amount at the beginning and end of the period
  - (b) additional provisions made in the period, including increases to existing provisions
  - (c) amounts used (i.e. incurred and charged against the provision) during the period
  - (d) unused amounts reversed during the period
  - (e) a brief description of the nature of the obligation and the expected timing of any resulting outflows of economic benefits
  - (f) an indication of the uncertainties about those outflows. Where necessary, to provide adequate information, an enterprise should disclose the major assumptions made concerning the future events
  - (g) the amount of any expected reimbursement, stating the amount of any asset that has been recognised for that expected reimbursement.
3. Unless, the possibility of any outflow in settlement is remote, an enterprise should disclose for each class of contingent liability at the balance sheet date a brief description of the nature of the contingent liability and, where practicable
  - (a) an estimate of its financial effect
  - (b) an indication of the uncertainties relating to any outflow
  - (c) the possibility of any reimbursement.

Where any of this information is not disclosed because it is not practicable to do so, that fact should be stated.

4. In extremely rare cases, disclosure of some or all of the information required by the paragraphs 2 and 3 above can be expected to prejudice seriously the position of the enterprise in a dispute with other parties on the subject matter of the provision or contingent liability. In such cases, an enterprise need not disclose the information, but should disclose the general nature of the dispute, together with the fact that, and reason why, the information has not been disclosed.

## **7.6 SUMMARY**

Accounting is an important service activity in business and is concerned with the collecting, recording, evaluating and communicating the results of past events. The history of accounting development reflects its changing role in response to the changing business and social needs. An entity operating for profits keeps a systematic record of its day-to-day events so that it can ascertain its profits, assets and liabilities through accounting. Accounting is defined as the art of recording of business transactions in an analytical form and involves the preparation of financial statements. Accounting is also concerned with interpreting

the results of an enterprise from its financial statements. Accounting records the financial transactions in terms of money. Accountancy follows a set of concepts, conventions and principles. Accounting is important as it provides a systematic record of the business transactions, ascertains its results, facilitates rational decision-making and satisfies the requirements of law in case of entities like companies, etc. With the emergence of management accounting, the focus of accounting has been shifting from a mere recording of transactions to that of aiding the management in decisions.

Accounting standards are rules and principles for accounting transactions and events issued by an apex accountancy body to ensure uniformity in accountancy practices in the preparation of financial statements.

In India, the Accounting Standards Board, constituted by the Council of the Institute of Chartered Accountants of India, issues accounting standards.

The Institute of Chartered Accountants of India (ICAI) has so far issued twenty-nine standards:

- (AS 1) Disclosure of Accounting Policies
- (AS 2) Valuation of Inventories
- (AS 3) Cash Flow Statements
- (AS 4) Contingencies and Events Occurring after the Balance Sheet Date
- (AS 5) Net Profit or Loss for the period, Prior Period and Extraordinary Items and Changes in less Accounting Policies
- (AS 6) Depreciation Accounting
- (AS 7) Accounting for Construction Contracts
- (AS 8) Accounting for Research and Development (deleted w.e.f. 1/4/2003)
- (AS 9) Revenue Recognition
- (AS 10) Accounting for Fixed Assets
- (AS 11) Accounting for the Effects of Changes in Foreign Exchange Rates
- (AS 12) Accounting for Government Grants
- (AS 13) Accounting for Investments
- (AS 14) Accounting for Amalgamations
- (AS 15) Accounting for Retirement Benefits in the Financial Statements of Employers
- (AS 16) Borrowing Costs
- (AS 17) Segment Reporting
- (AS 18) Related Party Disclosures
- (AS 19) Leases
- (AS 20) Earnings per Share
- (AS 21) Consolidated Financial Statements
- (AS 22) Accounting for Taxes on Income
- (AS 23) Accounting for Investments in Associates in Consolidated Financial Statements
- (AS 24) Discontinuing Operations
- (AS 25) Interim Financial Reporting
- (AS 26) Intangible Assets
- (AS 27) Financial Reporting of Interest in Joint Ventures
- (AS 28) Impairment of Assets

(AS 29) Provisions, Contingent Liabilities and Contingent Assets

## **7.7 GENERALLY ACCEPTED ACCOUNTING PRINCIPLES OF USA (US GAAP)**

Generally accepted accounting principles or US GAAP, are the accounting rules used to prepare financial statements for the publicly traded companies and many private companies in the United States. Generally accepted accounting principles for local and state governments operates under a different set of assumptions, principles, and constraints, as determined by the Governmental Accounting Standards Board (GASB).

In the United States, as well as in other countries, practicing under the English common law system, the government does not set accounting standards, in the belief that the private sector has a better knowledge and resources. The GAAP, is not written in law, although the US Securities and Exchange Commission (SEC) requires that it be followed in financial reporting by the publicly traded companies. Currently, the Financial Accounting Standards Board (FASB) sets the accounting principles for the profession. The US GAAP provisions differ somewhat from International Financial Reporting Standards though efforts are underway to reconcile the differences so that reports created under the international standards will be acceptable to the SEC for companies listed on US markets.

### **Basic Objectives**

Financial reporting should provide information that is:

- useful to present to the potential investors and creditors and other users in making a rational investment, credit, and other financial decisions.  
helpful to present to the potential investors and creditors and other users in assessing the amounts, timing, and uncertainty of prospective cash receipts.  
about the economic resources, the claims to those resources, and the changes in them.

### **Fundamental Qualities**

To be useful and helpful to users, financial statements must be:

- **Relevant:** relevant information makes a difference in a decision. It also helps users make predictions about the past, present and future events (it has a predictive value). Relevant information helps users to confirm or correct prior expectations (it has a feedback value). It must also be available on time, that is, before the decisions are made.  
**Reliable:** reliable information is verifiable (when independent auditors using the same methods get similar results), neutral (free from bias), and demonstrate representational faithfulness (what really happened or existed).
- **Comparable:** information must be measured and reported in a similar manner for different enterprises (allows financial statements to be compared between different companies).
- **Consistent:** the same accounting methods should be applied from period to period and all changes in methods should be well explained and justified.

### **Setting GAAP**

These organisations influence the development of GAAP in the United States.

- **United States Securities and Exchange Commission (SEC)**

The SEC was created because of the great depression. At that, time there was no structure for setting the accounting standards. The SEC encouraged the establishment of private standard-setting bodies

through the AICPA and later the FASS, believing that the private sector had the proper knowledge, resources, and talents. The SEC works closely with various private organisations setting GAAP, but does not set GAAP itself.

• **American Institute of Certified Public Accountants (AICPA)**

In 1939, urged by the SEC, the AICPA appointed the Committee on Accounting Procedure (CAP). During the years 1939 to 1959, CAP issued 51 Accounting Research Bulletins that dealt with a variety of timely accounting problems. However, this problem-by-problem approach failed to develop the much-needed structured body of accounting principles. Thus, in 1959, the AICPA created the Accounting Principles Board (APB), whose mission was to develop an overall conceptual framework. It issued 31 opinions and was dissolved in 1973 for a lack of productivity and their failure to act promptly. After the creation of the FASS, the AICPA established the Accounting Standards Executive Committee (AcSEC). It publishes:

1. Audit and Accounting Guidelines, which summarises the accounting practices of specific industries (e.g. casinos, colleges, airlines, etc.) and provides specific guidance on matters not addressed by the FASS or GASS.
2. Statements of Position, which provides guidance on financial reporting topics until the FASS or GASS sets standards on the issue.
3. Practice Bulletins, which indicate the AcSEC's views on narrow financial reporting, issues not considered by the FASS or the GASS.

• **Financial Accounting Standards Board (FASB)**

Realising the need to reform the APS, leaders in the accounting profession appointed a study group on the establishment of accounting principles (commonly known as the Wheat Committee for its chairperson (Francis Wheat). This group determined that the APS must be dissolved and a new standard-setting structure be created. This structure is composed of three organisations: the Financial Accounting Foundation (FAF, it selects members of the FASB, funds and oversees their activities), the Financial Accounting Standards Advisory Council (FASAC), and the major operating organisation in this structure the Financial Accounting Standards Board (FASB). FASB has four major types of publications."

1. Statements of Financial Accounting Standards - the most authoritative GMP setting publications. More than 150 have been issued to date.
2. Statements of Financial Accounting Concepts - first issued in 1978. They are part of the FASB's conceptual framework project and set forth the fundamental objectives and concepts that the FASB uses in developing future standards. However, they are not a part of GMP. There have been seven concepts published to date.
3. Interpretations - modify or extend existing standards. There have been around fifty interpretations published to date.
4. Technical Bulletins - guidelines on the application of standards, interpretations, and opinions. Usually solves some very specific accounting issues that will not have a significant, lasting effect.

In 1984 the FASB created the Emerging Issues Task Force (EITF) which deals with new and unusual financial transactions that have the potential to become common (e.g. accounting for Internet based companies). It acts more like a problem filter for the FASB - the EITF deals with the short-term, quickly resolvable issues, leaving the long-term, more pervasive problems for the FASB.

• **Governmental Accounting Standards Board (GASB)**

Created in 1984, the GASB addresses the state and local government reporting issues. Its structure is similar to that of the FASB's.



**Other influential organisations** (e.g. American Accounting Association, Institute of Management Accountants, Financial Executives Institute)

### House of GAAP

#### House of GAAP

Category (a) (Most authoritative)	FASB Standards and Interpretations	Accounting Principles Board (APB) Opinions	AICPA Accounting Research Bulletins (ARBs)
Category (b)	FASB Technical Bulletins	AICPA Industry Audit and Accounting Guides	AICPA Statements of Position (SOPs)
Category (c)	FASB Emerging Issues Task Force (EITF)		AICPA AcSEC Practice Bulletins
Category (d) (Least authoritative)	AICPA Accounting Interpretations	FASB Implementation Guides (Q and A)	Widely recognised and prevalent industry practices

## 7.8 TRANSFER PRICING

Another concept that needs to be understood in this context is the Transfer Pricing. It has more relevance as far as segment reporting is concerned.

### The Concept

Transfer pricing refers to the pricing of goods and services within a multidivisional organisation, particularly with regard to cross-border transactions. When different divisions of a multi-entity company are in charge of their own profits, they are also responsible for their own 'Return on Invested Capital'. Therefore, when divisions are required to transact with each other, a transfer price is used to determine the costs. For example, goods from the production division may be sold to the marketing division or goods from a parent company may be sold to a foreign subsidiary, with the choice of the transfer price affecting the division of the total profit among the parts of the company. This has led to the rise of transfer pricing regulations as the governments seek to stem the flow of taxation revenue overseas, making the issue one of great importance for multinational corporations.

In practice a great many factors influence the transfer prices that are used by multinationals, including performance measurement, capabilities of accounting systems, import quotas, customs duties, VAT, taxes on profits, and (in many cases) simple lack of attention to the pricing.

### Role of administrative regulations and guidelines

Although there is sound economic theory behind the selection of a transfer pricing method, the fact remains that it can be advantageous to arbitrarily select prices such that, in terms of bookkeeping, most of the profit is made in a country with low taxes, thus, shifting the profits to reduce the overall taxes paid by a multinational group. However, most countries enforce tax laws based on the arm's length principle as defined in the DECO Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations, limiting how transfer prices can be set and ensuring that the country gets to tax its 'fair' share. Proper use of regulations also provides a method of protecting against double taxation, if the transactions, are carried out between divisions in countries bound by bilateral tax treaties.

### Arm's length price

Arm's length price is the price at which two unrelated and non-desperate parties would agree to a transaction.

### Calculation of the arm's length price

Although, there are discrepancies in the specifics of each country's laws concerning the calculation of the arm's length price, the fact, that they are primarily based in the DECD guidelines, means that although such a strategy carries a greater taxation risk, than the solutions tailored to each country, the global transfer pricing policies can be effectively used to determine an appropriate range, representing the arm's length price, for the transactions carried out across a global enterprise. The following definitions are thus, based on the DECD Guidelines.

### Traditional methods

#### 1. Comparable Uncontrolled Price Method

The Comparable Uncontrolled Price (CUP) method compares the price at which a controlled transaction is conducted to the price at which a comparable uncontrolled transaction is conducted. This makes it the easiest to grasp conceptually, as the arm's length price quite simply, is determined by the sale price between two unrelated corporations. However, the fact that virtually any minor change in the circumstances of trade (billing period, amount of trade, branding, etc.) may have a significant effect on the price makes it exceedingly difficult to find a transaction - much less transactions - that are sufficiently comparable.

#### 2. Cost Plus Method

The Cost Plus (CP) method, generally used for the trade of finished goods, is determined by adding an appropriate mark-up to the costs incurred by the selling party in manufacturing/purchasing the goods or services provided, with the appropriate mark-up being based on the profits of other companies comparable to the tested party. For example, the arm's length price for a transaction involving the sale of finished clothing to a related distributor would be determined by adding an appropriate mark-up to the cost of materials, labour, manufacturing, and so on.

#### 3. Resale Price Method

The Resale Price (RP) while similar to the CP method, is found by working backwards from the transactions taking place at the next stage in the supply chain and is determined by subtracting an appropriate gross mark-up from the sale price, to an unrelated third party, with the appropriate gross margin being determined by examining the conditions, under which, the goods or services are sold and comparing the said transaction to other, third-party transactions. In our clothing example, then, the arm's length price would be determined by subtracting an appropriate gross margin from the price at which the distributor sold the products received from the manufacturer to third-party retailers - department stores, boutiques, etc.

In this example, both the CP and the RP methods are being used to examine the same transaction - the one between the manufacturer and the distributor - meaning that the selection of one for use is ultimately dependent on the availability of data and comparable transactions. This flexibility is not available in other transactions, particularly those that involve intangible goods (i.e. it is exceedingly difficult to determine the costs involved in the development of technological know-how and so the arm's length price for the payment of royalties, from one company to another, is best determined by working backwards from the profits gained, based on the usage of the know-how - in other words, the RP method).

### Non-traditional Methods

There are any number of non-traditional methods available for determining the arm's length price, with the most common being the **Profit Split** (PS) method and the **Transactional Net Margin Method** (TNMM).

The **PS method** (and its derivatives, including the Comparative and Residual Profit Split methods) is applied, when the businesses involved in the examined transaction are too integrated to allow for a separate evaluation, and so the ultimate profit derived from the endeavour is split based on the level of contribution - itself often determined by some measurable factor such as employee compensation, payment of administration expenses, etc., of each of the participants in the project. To present a highly simplified example, if the company A above sent three researchers to the company A (sub) to aid in the development of widgets tailored for the Turkish market, while Company A (sub) allocated seven identically-compensated researchers to aid in the development, we would expect that Company A (sub) would pay Company A thirty per cent of the ultimate profits as a royalty fee for the technical knowledge provided by company A's researchers.

**TNMM**, meanwhile, is a method that requires a thorough examination of the company in question in order to determine the net profit margin relative to an appropriate base of costs to be realised through the examined transaction. Essentially, TNMM is a unified version of the RP and CP methods whereby comparable companies are used to ensure an appropriate margin is applied. Although not one of the traditional three methods, TNMM is gaining recognition as a relatively accurate, easy method of calculating the arm's length price.

### **Transfer Pricing Mechanism in Banking Context**

Transfer Pricing is not a new concept to the banks in India but the application varies from bank to bank and it is being used for different purposes. Generally, it is used to evaluate the performance of branches. Recently, in the light of implementation of the prudential accounting norms in banks, the evaluation of performance of the branches attained importance. The concept of profit and profitability of banks is gaining momentum and each bank is taking steps to improve the profitability of branches and thereby the bank itself. Now, the Transfer Price Mechanism (TPM) is used by bank for this purpose. Transfer price, in the context of banking, is the interest charged by the surplus funds branch to the deficit funds branch on the transfer of funds. The price (interest rate) adopted may vary from bank to bank. However, it will have to be fixed to suit within the definition of arm's length price.

## **7.9 KEYWORDS**

**Accounting:** An art of recording, classifying and summarising in a significant manner and in terms of money, transactions and events, that are, in part at least, of a financial character and interpreting the results thereof.

**Financial Statement:** A set of documents that shows the results of business operations during a period, how the results were achieved and the position of assets and liabilities on a given date. It normally means the balance sheet, profit and loss account, statement of changes in the financial position (which may be either a fund flow statement or a cash flow statement), explanatory statements, notes and relative schedules forming part of financial statement.

**Accounting Standards:** The policy documents issued by the recognised expert accountancy body relating to the various aspects of measurement, treatment and disclosure of accounting transactions and events.

## **7.10 TERMINAL QUESTIONS**

1. What is meant by accountancy? What are its features?
2. Explain and list the accounting concepts.
3. State the purposes/objectives of accountancy.

4. 'Financial Accounting is an extension of Stewardship Accounting'. Comment.
5. What new developments in accounting have taken place over the past twenty-twenty five years? Examine the main factors that have affected such developments.
6. Distinguish management accounting from financial accounting.
7. What is meant by 'Accounting Standards' and what are its advantages?
8. State the Accounting Standards issued by the institute of chartered accountants of India and their status.
9. How are Accounting Standards helpful to the users of financial statement?
10. State the background of Accounting Standards in India.
11. Briefly describe the contents of each Accounting Standard issued by the institute of chartered accountants of India.
12. Objectives of the Accounting Standards.
13. List any twelve Accounting Standards issued by the institute of chartered accountants of India, which are mandatory.
14. Explain US GMP. Who sets the same?
15. Describe 'Transfer Pricing Mechanism' and its use in banking sector.
16. Accounting Standards are statements prescribed by:
  - (a) Law
  - (b) Government regulatory bodies
  - (c) Bodies of shareholders
  - (d) Professional accounting bodies
  - (e) None of the above
17. State whether the following statements are True or False:
  - (a) In 1494 in Venice, Luca De Bargo Pacioli, an Italian monk, gave birth to the concept of modern accounting.
  - (b) Accounting refers to the art of recording the business transactions in an analytical form.
  - (c) Accountancy and bookkeeping are the same.
  - (d) Accounting records all types of transactions including quarrels between the management and workers, etc.
  - (e) Accounting Standard 1, deals with depreciation.
  - (f) Accounting Standard 2, is mandatory.
  - (g) The institute of chartered accountants of India is a member of the international accounting standards committee.
  - (h) Financial Statements are prepared using accounting standards.
  - (i) Accounting Standards issued are reviewed regularly and are subject to revisions.
18. Fill in the blanks:
  - (a) \_\_\_\_\_ was written by Kautilya on accountancy in ancient India.
  - (b) \_\_\_\_\_, an Italian monk in Venice gave birth to the modern concept of accounts and \_\_\_\_\_ bookkeeping.
  - (c) In \_\_\_\_\_ system of accounting, incomes and expenses are recognised as and when they are due irrespective of their actual receipt/payment.
  - (d) In \_\_\_\_\_ method of accounting, profit represents excess of receipts over expenditure.
  - (e) \_\_\_\_\_ system of recording transactions in books is not a scientific one.
  - (f) \_\_\_\_\_ are like rules of accounting issued by an apex accounting body.
  - (g) In India, accounting standards are issued by the \_\_\_\_\_ under the Council of the Institute of Chartered Accountants of India.

- (h) There are \_\_\_\_\_ accounting standards in India.
- (i) Accounting Standard 6 relates to \_\_\_\_\_
- (j) Compliance with accounting standard is the duty of the \_\_\_\_\_

### 7.11 ANSWERS TO TERMINAL QUESTIONS

16. (d)
17. (a) True; (b) True; (c) False; (d) False; (e) False; (f) False; (g) True; (h) True; (i) True;
18. (a) 'Arthashastra'; (b) Luca De Bargo Pacioli;  
(c) Mercantile; (d) Cash;  
(e) Single Entry; (f) Accounting Standards;  
(g) Accounting Standards Board; (h) Twenty-Nine;  
(i) Depreciation Accounting; (j) Auditor.



# UJIT<sup>IT</sup> BASIC ACCOUNTANCY PROCEDURES

## STRUCTURE

- 8.0 Objectives
- 8.1 Introduction
- 8.2 Concepts of Accountancy
- 8.3 Entity Going Concern Entity
- 8.4 Double Entry System
- 8.5 Principle of Conservatism
- 8.6 Revenue Recognition and Realisation
- 8.7 Accrual and Cash Basis
- 8.8 Summary
- 8.9 Keywords
- 8.10 Terminal Questions
- 8.11 Answers to Terminal Questions

## **8.0 OBJECTIVES**

After studying this unit, you should be able to appreciate:

- the Accounting concepts, accounting conventions and accounting systems
- the need for a conceptual framework of accounting
- the importance and necessity for uniformity in accounting practices
- the system of keeping records

## **8.1 INTRODUCTION**

As with language, accounting has many dialects. There are differences in terminology. In dealing with the framework of accounting theory, one is confronted with a serious problem arising from the differences in terminology. A number of words and terms have been used by different writers to express and explain the same idea or notion. Thus, confusion abounds in the literature as far as the theoretical framework is concerned. For the recording of transactions, there are certain basic rules laid down based on experience, reason, usage and necessity. These are the fundamental ideas or the basic assumptions underlying the theory and practice of financial accounting and form the broad working rules for all accounting activities developed and accepted by the accounting profession. Let us study these under two broad heads.

### Accounting Concepts

#### At the Recording Stage

- (aj) Business entity concept
- (b) Money measurement concept
- (c) Objective evidence concept
- (d) Historical record concept
- (e) Cost concept
- (f) Dual aspect concept

#### At the Reporting Stage

- (a) Going concern concept
- (b) Accounting period concept
- (c) Matching concept
- (d) Conservatism concept
- (e) Full disclosure concept
- (g) Materiality concept

The various terms used for describing the basic ideas of accounting are:

concepts, postulates, propositions, basic assumptions, underlying principles, fundamentals, conventions, doctrines, rules, etc.

Although each of these terms is capable of a precise definition, general usage by the profession of accounting has served to give them a loose and overlapping meaning. The same idea has been described by one author as a concept and by another as a convention. To take another instance, the idea implied in conservatism has been labelled by one author as a (modifying) convention, by another as a principle and yet by another as a doctrine. Fundamental accounting concepts are broad general assumptions that underlie the periodic final accounts of business enterprises. The reason why some of these ideas are called concepts is that they are basic assumptions and have a direct bearing on the quality of the financial accounting information. The alternation of any of the basic concepts (or postulates) would change the entire nature of financial accounting.

## **8.2 CONCEPTS OF ACCOUNTANCY**

Accounting is often called the language of business through which a business house normally communicates with the outside world. In order to make this language intelligible and commonly



understood by all, it is necessary that it is based on certain uniform scientifically laid down standards. These standards are termed as accounting principles.

Accounting principles have been defined as 'the body of doctrines commonly associated with the theory and procedure of accounting, serving as an explanation of current practices and as a guide for the selection of conventions or procedures where alternatives exist'. Rules governing the formation of accounting axioms and the principles derived from them have arisen from common experiences, historical precedents, statements by individuals and professional bodies and, regulations of government agencies. In short, accounting principles are guidelines to establish standards for sound accounting practices and procedures in reporting the financial status and periodic performance of a business.

### 8.2.1 Concepts

These are the basic assumptions or conditions on which the service of accounting is based whereas accounting conventions denote customs and traditions that have been accepted as a guide for the preparation of the accounting standards.

The following are the main accounting concepts:

(a) *Cost concept*: Every business transaction is recorded in the books of accounts at cost price, e.g. the machinery is recorded in the books by that amount which is paid to the supplier plus the expenses of bringing and installing the machinery which are necessary to put it in working order.

#### *Applications*

1. Fixed assets are kept at the cost of purchases and not their market value.
2. Every transaction is recorded with the present value and not any future value.
3. Unrealised gains are ignored.
4. An item, that has no cost, is not taken in books.

The resources (land, buildings, machinery, property rights, etc.) that a business owns, are called assets. The monetary values that are assigned to assets are derived from the cost concept. This concept states that an asset is worth the price paid for or the cost incurred to acquire it. Thus, assets are recorded at their original purchase price and this cost is the basis for all subsequent accounting for the assets. The assets shown on the financial statements do not necessarily indicate their present market worth (or market values). This is contrary to what is often believed by an uninformed person reading the statement or report. The term 'book value' is used for amount shown in the accounting records.

In case of certain assets, the accounting values and market values may be similar; cash is an obvious example. In general, the longer an asset has been owned by the company, the lesser are the chances that the accounting value will correspond to the market value.

The cost concept does not mean that all assets remain on the accounting records at their original cost for all time to come. The cost of an asset that has a long but a limited life; is systematically reduced by a process called 'depreciation'. It is a process by which the cost of the asset is gradually reduced (or written off) by allocating a part of it to the expense in each accounting period. This will have the effect of reducing the profit of each period. In charging depreciation, the intention is not to charge depreciation equal to the fall in the market value of the asset. As such, there is no relationship between depreciation and changes in market value of the assets. The purpose of depreciation is to allocate the cost of an asset over its useful life and not to adjust the cost to bring it closer to the market value. Sometimes, the assets are shown at cost even when there are wide differences between their costs and market values. The main argument is that the cost concept meets all the three basic criteria of *relevance, objectivity and feasibility*.

(b) *Money measurement concept:* Every transaction that is recorded in books of accounts must be measured in terms of money. All the transactions are converted into a common form, which is money. Example, quarterly production, sales, wages, etc., all are converted in terms of money.

#### *Applications*

1. Health of a proprietor or manager is not taken into the books although it may have a great impact on the overall business.
2. We do not include any inflation or deflation in the value of any asset.

In accounting, only those facts that are expressible in terms of money are recorded. As money is acceptable, not only as a medium of exchange, but also as a store of value, it has very important advantage, since a number of widely different assets and equities are expressible in terms of a common denominator. Without this addition, heterogeneous factors like five buildings, ten machines, six trucks will not have much meaning.

While money is probably the only practical common denominator and yardstick, we must realise that this concept imposes two severe limitations. In the first place, there are several facts that though vital to the business, are not recorded in the books of accounts because they are not expressible in money terms. For example, the state of health of the managing director of a company who has been the key contributor to the success of business, is not recorded in the books. Similarly, the fact that the production manager and the chief internal auditor are not on speaking terms or that a strike is about to begin because the labour is dissatisfied with the poor working conditions in the factory or that a competitor has recently taken over the best customers or that it has developed a better product and so on will not be recorded even though all these events are of great concern to the business. From this standpoint, one can say that accounting does not give a complete account of the happenings in the business that have a bearing on the future profitability of the company.

Secondly, the use of money implies that a rupee today is of equal value to rupee ten years back or ten years later. In other words, we assume a stable or constant value of rupee. In accounts, money is expressed in terms of its value at the time an event is recorded. Subsequent changes in the purchasing power of money do not affect this amount. You are perhaps aware that most economies today are facing inflationary conditions with rising prices. The value of rupee of 1980's has depreciated to an unbelievably low level in the 90s. Most accountants know fully well that the purchasing power of the rupee does change but very few recognise this fact in the accounting books and make an allowance for the changing price level. This is so, despite the fact that the accounting profession has devoted considerable attention to this problem and numerous suggestions have been made to account for the effects of the changes in the purchasing power of money. In fact, one of the major problems of accounting today is to find a means of solving the measurement problem, that is, how to extend the quality and the coverage of meaningful information. It will be desirable to present in a supplementary analysis the effect of price level changes on the reported income of the business and the financial position.

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(c) *Business entity concept:* This concept separates the entity of the proprietor from the business transactions. The capital contributed by the owner is a liability for the business because business, which is an artificial person, is different from owner.

#### *Applications*

1. Any money withdrawn by the proprietor is treated separately as drawings.
2. Profit is a liability while loss is an asset.

In accounting, we make a distinction between the business and the owner. All records are kept with the viewpoint of the business rather than from that of the owner. An enterprise is an economic unit separate and apart from the owner or owners. As such, transactions of the business and those of the owners are accounted for and reported separately. In recording a transaction, the important question is, how does it affect the business? For example, if the owner of a shop were to take cash from the cash box for meeting certain personal expenditure, the accounts would show that cash had been reduced even though it does not make any difference to the owner himself. Similarly, if the owner puts cash into the business, he has a claim against the business for capital brought in.

This distinction can be easily maintained in the case of a limited company because a company has a legal entity (or personality) of its own. Like a natural person, it can engage itself in economic activities of producing, owning, managing, storing, transferring, lending, borrowing and consuming commodities and services. Distinction, however, is difficult in the case of partnership, and even more so in the case of a one-man business. Nevertheless, accounting still maintains separation of business and owner. This implies that the owner's personal and household expenses or obligations (e.g. expenditure on food, clothing, housing, entertainment, debts, mortgages, etc.) will not appear in the books of account. It may be clarified that it is only for accounting purposes that partnerships and sole proprietorships are treated as separate and apart from the owners, although law does not make such a distinction. A creditor would be justified in looking to both the business assets and the private estate of the owner for satisfaction of his claim. One reason for this distinction is to make it possible for the owners to have an account of the performance from those who manage the enterprise. The managers are entrusted with funds supplied by owners, banks and others; they are responsible for the proper use of the funds. The financial accounting reports are designed to show how well this responsibility has been discharged.

(d) *Realisation concept*: This concept tells us when is the revenue treated as realised or earned. It is treated as realised or earned on that date when the property in the goods pass to the buyer and he becomes legally liable to pay.

#### *Applications*

1. No future income is considered.
2. Goods sold on approval will not be included in sales but taken at cost only.
3. The rules of revenue recognition determines that the earning process should be either complete or near completion.

(e) *Going concern concept*: This concept indicates that the business is a going concern and the transactions are recorded accordingly. If an expense is incurred and its utility is consumed during the year, then it is treated as an expense, otherwise it is recorded as an asset.

#### *Applications*

1. The fixed assets are valued at cost and not at market value.
2. Current assets are valued at cost or the market value whichever is less.
3. Depreciation is provided based on the total number of years of life of asset. Balances of one year are carried forward to the next year.
4. Reserves and provisions are created for any future liability.
5. Deferred revenue expenditures are written off over a number of years.
6. It also helps investors as they can assume the life the business entity to be infinite.

(f) *Dual aspect concept*: This concept explains that every transaction has a double effect. One is debit and the other is credit. Example, if X starts a business with Rs. 50,000, the business has an asset of Rs. 50,000 and it is liable to pay the owner Rs. 50,000 as liability that is capital.

#### *Applications*

1. Every transaction has two aspects.
2. The accounting equation is:  $\text{Assets} = \text{Capital} + \text{Liability}$ .

(g) *Matching concept*: This concept explains that we have to match the income of a certain period with expenses of that period only. The term matching refers to the close relationship that exists between certain expired costs and revenues realised as a result of incurring those costs. The justification of the matching concept arises from accounting period concept.

#### *Applications*

1. All adjustments regarding prepaid expenses, outstanding expenses are made in the final accounts.
2. Deferred revenue expenditure concept arises due to this.

(h) *Historical records concept*: In accounts, usually past happenings are recorded. This is based on assumption of realisations. Accounting involves the recording of business transactions that have taken place. A trader purchases a business premises for Rs. 5,00,000. The amount due is paid to the vendor and the business acquires that place. Now, this transaction can be recorded in the books. The business transactions are recorded as and when they take place, i.e. date-wise. This leads to the preparation of historical records of all transactions. The future transactions can hardly be identified and measured accurately.

(i) *Accounting period concept*: It is assumed that the business will run for a long period, therefore, accounts of each period are recorded. Although, the results of operations of a specific enterprise are known precisely only after the business has ceased to operate, its assets have been sold off and the liabilities paid off. The knowledge of the results periodically is also necessary. Those who are interested in the operating results of a business obviously cannot wait until the end. The requirements of these parties, therefore, force the accountant to report the changes in the wealth of a firm for the short-time period. These periods in actual practice vary, though a year is the most common interval because of *established* business practice, *tradition* and government requirements. Some firms adopt the calendar year, some others the financial year of the government. However, more and more firms are changing to the 'natural' business year, the end of which is marked by the relatively lower or lowest volume of business activity in the twelve-month period. The custom of using the twelve-month period is applied only for external reporting. The firms usually adopt a shorter span of interval, say one month or three months, for the internal reporting purposes.

The allocation of long-term costs and the difficulties associated with this process directly stem from this concept. While matching the earnings and the costs of those earnings for any accounting period, all revenues and costs relating to the year in question are taken into account, irrespective of whether or not they have been received in cash or paid in cash. Despite the difficulties that arise in the allocations and adjustments, short-term reports (i.e. yearly reports) are of such importance to the owners, management, creditors, and other interested parties, that the accountant has no option but to resolve such difficulties. Obviously, the utility of the periodic financial statement outweighs the difficulties.

### **8.2.2 Main Conventions of Accounting**

(a) *Accounting of full disclosure*: Entries are made in such a way, that they provide honestly all information relating to the activities of the business. The records should not conceal anything from outsiders. Secret reserves should not be maintained as per this convention.

This implies, that accounts must be honestly prepared and all material information must be disclosed therein. The Indian Companies Act makes ample provisions for the disclosure of essential information in accounts. Law prescribes the contents of the balance sheet and profit and loss account. These are designed to make disclosure of all material facts compulsory. The practice of appending notes relating to the various facts or items, that do not find place in accounting statements, is in pursuance of the convention of full disclosure of material facts; examples are:

- contingent liabilities
- market value of investments

(b) *Convention of materiality*: All material information, must be recorded. What is material depends upon the value of the item involved and the circumstances of individual case of business.

*Example*: Paisa is not recorded (insignificant item) separately.

### *Applications*

1. The accountant does not record insignificant items separately.
2. If the combined total of any item is lesser than ten-fifteen per cent, then they are insignificant.

Many events in a business are trivial or insignificant in nature. The cost of recording and reporting such events will not be justified by the usefulness of the information derived. Materiality concept holds that items of small significance need not be given a strictly theoretically correct treatment. For example, a paper stapler costing Rs. thirty may last for three years. However, the effort involved in allocating its cost over the three-year period is not worth the benefit that can be derived from this operation. Since the item obviously is immaterial when related to the overall operations, the cost incurred on it may be treated as an expense of the period in which it is acquired. Some of the stationery purchased for office use in any accounting period may remain unused at the end of that period. In accounting, the amount spent on the entire stationery would be treated as an expense of the period in which the stationery was purchased, notwithstanding the fact that a small part of it still lies in stock. The value (or cost) of the stationery lying in stock would not be treated as an asset and carried forward as a resource to the next period. The accountant would regard the stock lying unused as immaterial. Hence, the entire amount spent on the stationery would be taken as the expense of the period in which such expense was incurred. Where to draw the line between material and immaterial events is a matter of judgement and common sense. There are no hard and fast rules in this respect. Whether a particular item or occurrence, is material or not should be determined by considering its relationship to other items and the surrounding circumstances. It is desirable to establish and follow uniform policies governing such matters.

(c) *Convention of conservatism*: While recording transactions, all possible losses must be taken into consideration, while all anticipated profits should be ignored. This is also called the principle of prudence.

### *Applications*

1. Creation of provisions for doubtful debts.
2. Creation of contingency reserve.
3. Value the stock in hand at lower of the cost or market value.
4. Show the joint life policy at surrender value on the assets side of the balance sheet.

(d) *Convention of consistency*: If a method is sfWt^H f,-.- ~«—>;-- -----

*Example*

If the straight-line method is once chosen for depreciation, then it should be followed in the future also. If it is changed in the future, then the impact of this must be shown in accounts.

In practice, there are several ways to record an event or a transaction in the books of account. For example, the trade discount on the raw material purchased may be deducted from the cost of goods and the net amount entered in the books, or alternatively, trade discount may be shown as income with the full cost of raw material purchased entered in the books. Similarly, there are several methods to charge depreciation (which is a decrease in the value of assets caused by wear and tear, and passage of time) on the assets or of valuing inventory. The consistency concept requires that once a company has decided on one method and has used it for some time, it should continue to follow the same method or procedure for all subsequent events of the same character unless it has a sound reason to do otherwise. If, for valid reasons, the company makes any departure from the method it has been following so far, then the effect of the change must be clearly stated in the financial statements in the year of change.

The utility of accounting information lies in the fact that one can draw valid conclusions from the comparison of data drawn from the financial statements of one year with the data of other year. Comparability is essential, so that trends or differences may be identified and evaluated. Inconsistency in the application of accounting methods might significantly affect the reported profit and the financial position. Further, inconsistency also opens the door for the manipulation of reported income and assets. The comparability of financial information depends largely upon the consistency with which a given class of events are handled in the accounting records year after year.

### 8.3 ENTITY GOING CONCERN

Accounting assumes that the business (an accounting entity) will continue to operate for a long time in the future unless there is good evidence to the contrary. The enterprise is viewed as a *going concern*, i.e. as continuing in operation, at least in the near future. The owners have neither the intention, nor the necessity, to wind up or liquidate its operations.

This assumption is of considerable importance for it means that the business is viewed as a mechanism for adding value to the resources it uses. The success of the business, can be measured by the difference between the output values (sales or revenues) and input values (expenses). Therefore, all the unused resources can be reported at cost rather than at market values.

The assumption that the business is not expected to be liquidated in the foreseeable future, in fact, establishes the basis for many of the valuations and allocations in accounting. For example, depreciation (or amortisation) procedures rest upon this concept. It is this assumption that underlies the decision of investors to commit their capital to the enterprise. The concept holds that the continuity of business activity is a reasonable expectation for the business unit for which the accounting function is being performed. Only on the basis of this assumption, the accounting process can remain stable and achieve the objective of correctly recording and reporting on the capital invested, the efficiency of management, and the position of the enterprise as a going concern. Under this assumption, neither higher current market values, nor liquidation values, are of particular importance in accounting. This assumption provides a basis for the application of cost in accounting for assets.

However, if the accountant has good reasons to believe that the business, or some part of it, is going to be liquidated or that it will cease to operate (say within a year or two), then the resources could be reported at their current values (or liquidation values).

## 8.4 DOUBLE ENTRY SYSTEM

There are two systems of keeping records, i.e.

1. Single entry system and
2. Double entry system

1. The single entry system appears to be time saving and economical but it is unscientific as under this system some transactions are not recorded at all whereas some other transactions are recorded only partially. Under the double entry system of bookkeeping, both aspects of each and every transaction are recorded. This is known as the dual aspect analysis. Under the single entry system, only one aspect of the transaction, i.e. personal is recorded and the other aspect is ignored. For example, goods sold on credit to a customer. Here, only the customer's account is opened and debited but the goods account is not opened. Under this system, only the accounts which are absolutely necessary are maintained. Other accounts, i.e. nominal and real accounts are not opened except cash. The accounts maintained under this system are incomplete and unsystematic and, therefore, the system is not reliable. The system is followed by small business firms.
2. On the other hand, the double entry system is based on scientific principles and is, therefore, used by most of the business houses. The system recognises the fact, that every transaction has two aspects and records both the aspects of each and every transaction. Under this system, in every transaction, an account is debited and some other account is credited. The crux of accountancy lies in finding out which of the two accounts are affected by a particular transaction and out of these two accounts, which account is to be debited and which account is to be credited.

Every business transaction has a dual effect and under 'Double Entry System', entries are made showing both the aspects. The account that involves receiving aspect, is debited and the account that involves giving aspect is credited. In order to understand the rules of debit and credit, one must understand the term 'account'. An account is a summarised record of all transactions relating to a particular person, a thing, or an item of income or expense.

### Name of the Account

Dr.				Cr.			
Date	Particulars	J.F.	Amount (Rs.)	Date	Particulars	J.F.	Amount (Rs.)

An account, is vertically divided into two halves just like the English alphabet 'T'. The left hand side, is called the 'debit side'. It is denoted by the word 'Dr' on the left hand top corner. The right hand side, is known as the 'credit side' and denoted by 'Cr' on the right hand top corner of the account. The name of the account, i.e. xyz a/c, is written at the top in the centre.

### Principles of Double Entry System

The following are the main principles of double entry system:

1. For every transaction, two parties must be interested.
2. Every business transaction has two aspects, one of receiving the benefit and the other of giving it. In simple words, 'double entry' system means 'every debit has a corresponding credit'.

3. Both the aspects, are recorded in the books of account.
4. The two-fold effect of a business transaction is recorded by debiting one account and crediting the other account at the same time.

### **Merits of Double Entry System**

- (a) It keeps a complete record of business transactions. Both, the personal accounts and impersonal accounts are kept. The entire information regarding the value of assets and profits earned during the year can be easily obtained.
- (b) It provides a check on the arithmetical accuracy of both the accounts, since every debit has corresponding credit to it and vice versa.
- (c) The detailed profit and loss account can be prepared to show the profits earned or the loss suffered during any given period.
- (d) The system makes possible the comparison of purchases as well as sales, expenditure, income, etc., of a current year, with those of the previous years, thus enabling a businessman to control his business activities.
- (e) The balance sheet can be prepared at any specified point of time or any date showing the actual amount of assets, liabilities and capital.
- (f) The system being a scientific one, prevents commission of fraud and, if a fraud is committed, it can be easily detected.
- (g) The accurate details, with regard to any account, can be easily obtained.

### **8.5 PRINCIPLE OF CONSERVATISM**

The concept of conservatism, also known as the concept of prudence, is often stated as 'anticipate no profit, provide for all possible losses'. This means an accountant should follow a cautious approach. He should record the lowest possible values for assets and revenues, and the highest possible value for liabilities and expenses. According to this concept, revenues or gains should be recognised only when they are realised in the form of cash or assets (usually legally enforceable debts), the ultimate cash realisation of which can be assessed with reasonable certainty. Further, provision, must be made for all known liabilities, expenses and losses, whether the amount of these are known with certainty or are, at best, an estimate in the light of the information available. Probable losses in respect of all contingencies should also be provided for. A contingency is a condition or a situation, the ultimate outcome of which – gain or loss – cannot be determined accurately, at present. It will be known only after the event has occurred (or has not occurred). For example, a customer has filed a suit for damage against the company in a court of law. Whether the judgement will be favourable or unfavourable to the company cannot be determined for sure. Hence, it will be prudent to provide for a likely loss in the financial statements. Because of the application of this concept, net assets and income are likely to be understated rather than overstated, and liabilities and expenses are likely to be overstated rather than understated. Based on this concept is the widely advocated practice of valuing inventory (stock of goods left unsold) at cost or market price, whichever is lower. You will note that this convention, in a way, modifies the earlier cost concept. It should be stated that the logic of this convention has been under stress recently; many writers have challenged it on the ground that it stands in the way of fair determination of profit and the disclosure of the true and fair financial position of the business enterprise. The concept is not applied as strongly today as it was in the past. In any case, conservatism must be applied rationally as over-conservatism may result in misrepresentation.



## **8.6 REVENUE RECOGNITION AND REALISATION**

There is a saying that 'there is many a slip between the cup and the lip'. Accounting recognises this in the sense that no profit is supposed to accrue only on the acquisition of anything; however certain it may be that it will be sold at a profit. Hence, according to this concept, revenue is recognised only when a sale is made. Unless the money has been realised, i.e. either cash has been received or a legal obligation to pay has been assumed by the customer, no sale can be said to have taken place and no profit can be said to have arisen. It prevents business firms from inflating their profits by recording incomes that are likely to accrue, i.e. expected incomes or gains are not recorded.

## **8.7 ACCRUAL AND CASH BASIS**

The accrual concept makes a distinction between the receipt of cash and the right to receive it, and the payment of cash and the legal obligation to pay it. In actual business operations, the obligation to pay and the actual movement of cash may not coincide. The accrual concept recognises this distinction. In connection with the sale of goods, revenue may be received

- (i) before the right to receive arises, or (ii) after the right to receive has been created.

The accrual concept provides guidelines to the accountant as to how he should treat the cash receipt and the rights related thereto. In the former case, the receipt will not be recognised as the revenue of the period for the reason that the right to receive the same has not yet arisen. In the latter case, the revenue will be recognised, even though the amount is received in the subsequent period.

Similar treatment would be given to expenses incurred by the firm. Cash payments for expenses may be made before or after they are due for payment. Only those sums, that are due and payable, will be treated as expenses. If a payment is made in advance (i.e. does not belong to the accounting period in question) it will not be treated as an expense, and the person who received the cash will be treated as a debtor until his right to receive the cash has matured. Where an expense has been incurred during the accounting period but no payment has been made, the expense must be recorded and the person to whom the payment should have been made is shown as a creditor.

The following are the essential features of this concept:

- Revenue, is recognised as it is earned.
- Costs are matched against revenues on the basis of relevant time period to determine periodic income.
- Costs, that are not charged to income, are carried forward and are kept under continuous review. Any cost, that appears to have lost its utility or its power to generate future revenue, is written off as a loss.

## **8.8 SUMMARY**

Accounting records the financial transactions in terms of money. Accountancy follows a set of concepts, conventions and principles. The two systems of recording entries in books of account are the single entry system and the double entry system of bookkeeping. The methods of accounting, that may be adopted for preparing the financial statements, are cash, mercantile and, hybrid system of accounting. Accounting is a system evolved to achieve a set of objectives. In order to achieve these objectives, a systematic record of all business transactions is maintained for the interested parties. There are certain

rules and regulations that are used as guidelines to prepare, maintain and record all business transactions in the form of accounting books. These rules and conventions are known as 'Generally Accepted Accounting Principles' or 'Basic Accounting Concepts'. The concepts, can be classified into two broad groups as follows:

- (a) Concepts, to be observed at the recording stage.
- (b) Concepts, to be observed at the reporting stage.

(a) *Concepts to be observed at the recording stage:* The concepts that guide us in identifying, measuring and recording the transactions are:

1. Business entity concept.
2. Money measurement concept.
3. Objective evidence concept.
4. Historical record concept.
5. Cost concept.
6. Dual aspect concept.

(b) *Concepts to be observed at the reporting stage:* The following concepts have to be kept in mind while preparing the final accounts:

1. Going concern concept.
2. Accounting period concept.
3. Matching concept.
4. Conservatism concept.
5. Consistency concept.
6. Full disclosure concept.
7. Materiality concept.

### **8.9 KEYWORDS**

**Consistency Concept:** It envisages that the accounting information should be prepared on a consistent basis from period to period, and within the periods, there should be a consistent treatment of similar items.

**Conservatism Concept:** It forbids the inclusion of unrealised gains but advocates the provision for possible losses.

**Business Entity:** This concept separates the business from owner(s), from the standpoint of account.

**Dual Aspect Concept:** means that each transaction in accounts has two aspects which are expressed as 'Debit' and 'Credit' and are recorded in books of account accordingly.

**Money Measurement Concept:** It records only those transactions that can be recorded in monetary terms.

**Cost Concept:** means that the transactions are recorded at the amounts involved while the assets are always recorded at cost.

**Objective Evidence Concept:** It states that all transactions recorded in the books of account should be evident and supported by objective documentary evidence.

**Historic Record Concept:** It states that transactions are to be recorded in the books of account as and when they take place, i.e. in a chronological manner, date wise.

**Going Concern Concept:** It refers to the expectation that the organisation will have indefinite life. This assumption has an important bearing on how the assets are to be valued.

**Materiality Concept:** This concept admonishes that events of relatively small importance need not be given a detailed or a theoretically correct treatment. They may be ignored for a separate recording.

**Disclosure:** A good accounting practice that demands that all significant accounting practices and policies followed in the preparation of accounts and financial statements should be disclosed along with any other significant information materially affecting the preparation of financial statements.

**Single Entry System:** An incomplete or partial system of recording transactions. Under this system, only the cash book or the bank book may be maintained, on the basis of which the financial statements are prepared.

**Double Entry System:** A scientific system in which the business transactions are recorded in books of account in two accounts, one account is debited and the other is credited.

### 8.10 TERMINAL QUESTIONS

1. Examine the role of accounting concepts in the preparation of financial statements.
2. Explain and list the accounting concepts.
3. Enumerate the 'Basic Accounting Concepts'.
4. Write a note on 'Double Entry System'.
5. Explain and list the accounting conventions.
6. Explain the two systems of recording transactions in the books of account.
7. Do you find any of the accounting concepts conflicting with each other? Give examples.
8. Answer whether the following statements are True or False:
  - (a) The materiality concept refers to the state of ignoring small items and values from accounts.
  - (b) The generally accepted accounting principles prescribe a uniform accounting practice.
  - (c) The conservatism concept leads to the exclusion of all unrealised profits.
9. Name the accounting concept that is violated in any of the following situations:
  - (a) Rs. 1,00,000 figure for inventory in a balance sheet, is the amount for which it could be sold on the balance sheet date.
  - (b) The balance sheet of a retail store, which has experienced a gross profit of forty per cent on sales, contains an item of a merchandise inventory of Rs. 1,15,00,000: Merchandise inventory (at cost) Rs. 69,00,000.
  - (c) Company M does not charge annual depreciation, preferring instead to show the entire difference between the original cost and proceeds of sale as a gain or loss in the period when the asset is sold. It has followed this practice for many years.
10. Problems:
  - (a) A company revalues its buildings which were purchased at a cost of Rs. 5,00,000 in 1985 to Rs. 50,00,000 in 2003 and records the difference of Rs. 45,00,000 as profit for the year 2003. Is the practice right?
  - (b) The accounting year of a firm closes on 31 December each year. The rent for business premises of Rs. 50,000 for the last quarter could not be paid to the owner because of his being away in a foreign country. Will the rent payable, be taken into account for computing the firm's income for the accounting year?
  - (c) A government contractor supplies stationery to various government offices. Some bills amounting to Rs. 10,000 were still pending with various offices at the close of the accounting

year on 31 st March. Should the businessman take the revenue of Rs. 10,000 into account for computing the net profit of the period?

11. Accounting concepts are:
  - (a) Broad assumptions
  - (b) Methods of presenting financial accounts
  - (c) Bases selected to prepare a specific set of accounts
  - (d) None of the above
12. For nominal accounts, the fundamental rule of debit and credit is, debit expenses and losses and credit
  - (a) The giver
  - (b) What goes out
  - (c) Incomes and gains
  - (d) None of the above
13. In bookkeeping, is the Capital Account a real account?
  - (a) Yes
  - (b) No
14. Where should a withdrawal of cash from business by the proprietor be credited?
  - (a) Drawings
  - (b) Proprietor's A/c
  - (c) Capital A/c
  - (d) Cash A/c
15. In accordance with the going concern concept in accounting, a business is considered as having an indefinite life.
  - (a) Yes
  - (b) No
16. What is a Nominal Account?
  - (a) An account of each person or firm with whom the trader deals
  - (b) An account of each head of expense or source of income
  - (c) An account of each property or possession dealt in by the trader in his business
  - (d) None of these
17. What is the fundamental rule of debit and credit with regard to assets or real accounts?
  - (a) Debit the receiver and credit the giver
  - (b) Debit what comes in and credit what goes out
  - (c) Debit expenses and losses and credit gains
  - (d) All the above
18. How do profits made from normal operations retained in business appear in the balance sheet?
  - (a) Under capital
  - (b) Under capital, reserves and surplus
  - (c) Under cash in hand, at the bank
  - (d) None of the above
19. Where does the net profit appear in the balance sheet?
  - (a) Liabilities side
  - (b) Assets side
  - (c) Either (a) or (b)
  - (d) None of these
20. In double entry bookkeeping, entry is balanced with a corresponding \_\_\_\_\_ entry.

- (a) Reverse entry  
 (b) Adjusting entry  
 (c) Contra entry  
 (d) Double entry
21. The proprietor of a firm withdrew Rs. 50,000 for his personal use. This was shown as an expense of the firm. Profits were reduced to pay a lower tax. Is this right from accounting point of view?
22. Suppose the managing director of a company is killed in a plane crash. To the extent an organisation is the lengthened shadow of a man, the real value of the company will change immediately and this will be reflected in the market price of the company's shares. Will this have any effect as far as the accounts of the company are concerned?
23. A company had been charging depreciation on a machine at Rs. 20,000 per year for the first three years. Then it began charging Rs. 12,000 for the fourth year and Rs. 8,000 for fifth year and so on. Is this practice justified? Give reasons for your answer.
24. Fill in the blanks:  
 (a) The proprietor has separate \_\_\_\_\_ from the business.  
 (b) Objective evidence means \_\_\_\_\_ evidence.  
 (c) Dual aspect concept means recording of \_\_\_\_\_ effects of a transaction.  
 (d) Business transactions are recorded at \_\_\_\_\_ cost.  
 (e) \_\_\_\_\_ is the common unit of measurement.  
 (f) The system of recording transactions based on dual aspect concept is called \_\_\_\_\_.
25. Find out the two accounts involved in the following transactions:  
 (a) Purchased goods on credit from Ramesh Rs. 60,000.  
 (b) Paid rent to landlord Rs. 500.  
 (c) Received interest on Government Securities Rs. 400.  
 (d) Purchased a typewriter for Rs. 5,000.  
 (e) Proprietor paid Rs. 500 towards tuition fee on his son.
26. Complete the following accounting equations:  
 (a) Capital Rs. 40,000 + Liabilities Rs. 15,000 = Assets Rs. \_\_\_\_\_ .  
 (b) Capital Rs. 65,000 + Liabilities Rs. \_\_\_\_\_ = Assets Rs. 80,000.  
 (c) Assets Rs. 90,000 - Liabilities Rs. \_\_\_\_\_ = Capital Rs. 50,000.  
 (d) Capital Rs. \_\_\_\_\_ + Liabilities Rs. 20,000 = Assets Rs. 90,000.

### 8.11 ANSWERS TO TERMINAL QUESTIONS

8. (a) False; (b) False; (c) True  
 9. (a) Conservatism concept; (b) No violation; (c) Periodicity concept  
 10. (a) Revaluation violates several concepts like, cost concept, conservatism concept and continuity concept. To take credit for an extraordinary gain like this, is normally, not considered justified. However, were a substantial gap to exist between the historical cost of a fixed asset and its market value, it has been observed that the accounting profession has been supporting such revaluations so that the balance sheet could show a realistic position of the enterprise.  
 (b) It should be taken into account, otherwise profit would be overstated.  
 (c) It should be taken into account, otherwise profit would be understated.  
 11. (a); 12. (c); 13. (a); 14. (d); 15. (a); 16. (b); 17. (b); 18. (b); 19. (d); 20. (c)  
 21. This is not right from the accounting point of view.

22. The accounts of the company will not be affected.
23. The company is required to charge depreciation under one of the methods consistently. If there is any change in the method followed, in a particular year, it should be explained and its impact mentioned.
24. (a) Existence; (b) Documentary; (c) Double; (d) Historical; (e) Money; (f) Double entry
25. (a) Goods and Ramesh; (b) Rent and Cash; (c) Cash and Interest; (d) Typewriter and Cash; (e) Drawings and Cash
26. (a) Rs. 55,000; (b) Rs. 15,000; (c) Rs. 40,000; (d) Rs. 70,000

**UNIT**  
**9**

**MAINTENANCE OF CASH/  
SUBSIDIARY BOOKS AND LEDGER**

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**STRUCTURE**

- 
- 9.0 Objectives
  - 9.1 Introduction
  - 9.2 Record Keeping Basics
  - 9.3 Account Categories
  - 9.4 Debit and Credit Concepts
  - 9.5 Accounting and Columnar Accounting Mechanics
  - 9.6 Journalising
  - 9.7 Summary
  - 9.8 Keywords
  - 9.9 Problems
  - 9.10 Terminal Questions
  - 9.11 Answers to Terminal Questions

## **9.0 OBJECTIVES**

After studying this unit, you should be able to:

- Analyse the transactions and identify the accounts to be debited and credited  
Understand rules for debit and credit
- Know the business transactions and identify the accounts affected
- Know the purpose of journal  
To post journal entries in the respective ledger accounts
- Prepare different types of cash book  
Post cash book entries into ledger  
Write petty cash book
- Balance a ledger account and explain *the significance of balance in an account*
- Prepare a trial balance to test the arithmetical accuracy of recording the transactions in the books of account

## **9.1 INTRODUCTION**

Business transactions involve the exchange of value either in the form of money or of goods or services measured in terms of money. Bookkeeping or accounting is the systematic recording of transactions with a view to ascertaining the financial position of the business. Maintenance of accounts of all recognised business concerns are in what is known as the 'Double Entry Book Keeping' system. According to this system, every business transaction has a two-fold financial aspect, which means that it affects two accounts, one account to be debited, and the other credited with a like amount. This is the fundamental principle of double entry bookkeeping.

Bookkeeping has been defined as 'the art of recording business transactions with a view to having a permanent record of them and of showing their effect on wealth'. It is a science that records pecuniary transactions (i.e. transactions in money or money's worth) in such a manner that a trader is able to ascertain:

1. The nature and value of his assets, including the amount owed to him by sundry debtors.
2. The amount of his liabilities, including the amount owed by him to his creditors.
3. Whether he has made a profit or loss during a given period and how the amount that he has gained or lost is made up.
4. Whether, he is solvent or insolvent and the amount, of his capital or deficiency.

### **9.1.1 Journal**

The form of a journal contains a column L.F., i.e. Ledger Folio. Journal records each transaction. However, if anyone wants to find out transactions affecting a personal account or an expense account, he will have to turn over pages of journal, add all debits and credits and then find out the balance of a particular account. To overcome this difficulty, the transactions pertaining to a particular person, asset, liability, income or expense, are recorded on particular pages, in the ledger.

### **9.1.2 Cash Book**

The book that keeps records of all cash transactions, i.e. cash receipts and cash payments is called a cash book. Its ruling is like a ledger account and is divided into two sides, viz., debit and credit. All



receipts are recorded on the debit side whereas all payments are recorded on the credit side. Since it serves the function of cash account, there is no need for opening cash account in the ledger. Cash Book is book of original entry on the ground that all cash transactions are first recorded in it, and thereafter, recorded from cash book to the various ledger accounts. It is also called a ledger or book of final entry, since all cash receipts are entered on the debit side whereas all cash payments on the credit side, i.e. maintained under double entry principle. Thus, cash book is both a subsidiary book and a ledger account. By giving the cash book the shape of an account, the fundamental rule that every entry must at first be recorded in the book of prime entry and then posted to ledger has been ignored.

## 9.2 RECORD KEEPING BASICS

Accounting cycle includes the following:

1. *Recording*: In the first instance, all transactions should be recorded in the journal or the subsidiary books as and when they take place.
2. *Classifying*: All entries in the journal or subsidiary books are posted to the appropriate ledger account to find out at a glance the total effect of all such transactions in a particular account.
3. *Summarising*: The last stage is to prepare the trial balance and final accounts with view to ascertain the profit or loss made during a particular period and the financial position of the business on a particular date.

The ledger is the principal book of accounts where similar transactions relating to a particular person or property or revenue or expense are recorded. In other words, it is a set of accounts. It contains all accounts of the business enterprise whether real, nominal or personal. The main function of a ledger is to classify or sort out all the items appearing in the journal or the other subsidiary books under their appropriate accounts, so that at the end of the accounting period each account will contain the entire information of all the transactions relating to it in a summarised or condensed form. For instance, all the transactions that have taken place with Mr Prasad have been entered in the 'Prasad's Account'. Similarly, all items relating to cash, sales, purchases, salaries, discount, etc., appear in their respective accounts. Hence, the ledger helps in finding out the combined effect of entries for each individual account and also for the entire business. The following is the specimen ruling of the standard form of ledger account.

### Name of Account

Dr.				Cr.			
Date	Particulars	J.F.	Amount (Rs.)	Date	Particulars	J.F.	Amount (Rs.)

The following are the important features of the ledger account cited above:

- (i) The ledger account is divided into two sides - the left hand side is known as debit side while the right hand side is known as credit side. The abbreviations 'Dr' and 'Cr' are placed at the top left and right hand corners respectively. This is more by custom than under any law.
- (ii) The name of account is written in the middle of the account.
- (iii) J.F. denotes folio or page number on which its journal entry may be found.

*Relationship between Journal' and 'Ledger'*

Both Journal and Ledger are important books used under double entry system of bookkeeping. The following are the points of comparison between the two:

- (i) The transactions are recorded first in the journal and then they are posted to the ledger. Thus, journal is the book of first or original entry while the ledger is the book of second entry.
- (ii) The journal is a book for chronological record while the ledger is a book for analytical record.
- (iii) Journal is more reliable as compared to the ledger since, it is the book in which the entry is passed first.
- (iv) The process of recording transactions is termed as "Journalising" while the process of recording transactions in the ledger is known as 'posting'.

The term 'posting' means transferring the debit and credit items from the journal to their respective accounts in the ledger. It may be noted that the exact names of accounts used in the journal should be carried to the ledger. The following rules should be observed while posting transactions in the ledger from the journal:

- (a) Separate accounts should be opened in the ledger for posting transactions relating to the different accounts recorded in the journal.
- (b) The concerned account that has been debited in the journal should also be debited in the ledger, i.e. the debit of the journal entry is posted to the debit side. However, a reference should be made of the other account that has been credited in the journal.
- (c) The concerned account that has been credited in the journal should also be credited in the ledger, i.e. the credit of the journal entry is posted to the credit side, but a reference should be given of the other account that has been debited in the journal.
- (d) It is customary to use the words "To" and "By" while posting in the ledger. The word "To" is used with accounts shown on the debit side of the ledger account while the word "By" is used with accounts which appear on the credit side of the ledger account.
- (e) In the folio column, the page number of the journal from where the entry is transferred to ledger account is written.
- (f) The date of the transaction is written on the date column.

Balancing of an account means the process of equalising the two sides of an account by putting the difference on the side where amount is short. Where the debit side of an account exceeds the credit side, then the difference is put on the credit side, and the account is said to have a debit balance. This balance is brought down on the debit side while opening the account. Similarly, where the credit side of an account exceeds the debit side, the difference is put on the debit side, and the account is said to have a credit balance. This is also brought down on the credit side while opening the account. The following steps are followed for balancing the accounts:

- (i) Total the amounts of debit and credit entries in the account.
- (ii) If the debit and credit sides are equal then there is no balance. The account stands automatically balanced or closed.
- (iii) If the debit side total is more, put the difference on the credit side amount column, by writing the words 'By Balance c/d'. If the credit side total is more, put the difference on the debit side amount column by writing the words 'To Balance c/d'.
- (iv) After putting the difference in the appropriate side of the account, add both sides of the account and draw a thin line above and below the total.

- (v) Bring down the debit balance on the debit side by writing the words 'To Balance b/d'. Similarly, bring down the credit balance on the credit side by writing the words 'By Balance b/d'.

The debit balance of an account may represent either an asset or an expense. If such balance relates to a 'Personal Account' it reflects debtors; if it relates to a 'Real Account', it is a property, if it relates to a 'Nominal Account' it is an expense or loss. Similarly, credit balance of an account represents either a liability or a gain. If such balance relates to a 'Personal Account', it is a creditor, if it relates to a 'Nominal Account'; it is a gain or income. Real Accounts usually show a debit balance. In case there is a credit balance in a 'Real Account', it reflects a loss on sale of the asset. It may be noted that when the 'Nominal Accounts' have balances on the last day of an accounting year their balances are not carried down but are transferred to the 'Trading and Profit and Loss Account'.

### Illustration 1

Journalise the following transactions and post them into ledger:

January 2004	1 Cash on hand	15,000
	1 Purchased goods from Ashoka	5,000
	6 Sold goods to Madhav	4,000
	8 Pinto invoiced goods	8,000
	9 Purchased goods	7,000
	15 Cash sales made	12,000
	18 Paid cash to Ashoka	4,000
	20 Received from Madhav on account	2,000

### Solution

#### Journal

*J.R 10*

Date	Particulars	J.R	Debit (Rs.)	Credit (Rs.)
2004				
Jan. 1	Purchases a/c Dr. To Ashoka (Being purchase of goods on credit)	51 52	5,000	5,000
Jan. 6	Madhav a/c Dr. To Sales (Being sale of goods on credit)	53 55	4,000	4,000
Jan. 8	Purchases a/c Dr. To Pinto (Being purchase of goods on credit)	51 54	8,000	8,000
Jan. 9	Purchases a/c Dr. To Cash (Being cash, purchase made)	51 56	7,000	7,000

*(Contd.)*

Date	Particulars	J.F.	Debit (Rs.)	Credit (Rs.)
Jan. 15	Cash a/c Dr. To Sales (Being cash paid on account)	56 55	12,000	12,000
Jan. 18	Ashoka a/c Dr. To Cash (Being cash paid on account)	52 56	4,000	4,000
Jan. 20	Cash a/c Dr. To Madhav (Being cash received on account)	56 53	2,000	2,000

**Purchases a/c***L.F.51 Cr.*

Dr.

Date	Particulars	J.F	Amount (Rs.)	Date	Particulars	J.F	Amount (Rs.)
2004							
Jan. 1	To Ashoka	10	5,000				
Jan. 8	To Pinto	10	8,000				
Jan. 9	To Cash	10	7,000				

**Ashoka a/c***L.F.52*

Dr.

Cr.

Date	Particulars	J.F	Amount (Rs.)	Date	Particulars	J.F	Amount (Rs.)
2004	To Cash	10	4,000	2004	By Purchases	10	5,000
Jan. 18				Jan. 1			

**Madhav a/c***LF 53*

Dr.

Cr.

Date	Particulars	J.F.	Amount (Rs.)	Date	Particulars	J.F.	Amount (Rs.)
2004	To Sales	10	4,000	2004	By Cash	10	2,000
Jan. 6				Jan 20			

**Pinto a/c***L.F. 54*

Dr.				Cr.			
Date	Particulars	J.F.	Amount (Rs.)	Date	Particulars	J.F.	Amount (Rs.)
				2004 Jan. 8	By Purchases	10	8,000

**Sales a/c***L.F. 55*

Dr.				Cr.			
Date	Particulars	J.F.	Amount (Rs.)	Date	Particulars	J.F.	Amount (Rs.)
				2004 Jan. 6	By Madhav	10	4,000
				Jan. 15	By Cash	10	12,000

**Cash a/c***L.F. 56*

Dr.				Cr.			
Date	Particulars	J.F.	Amount (Rs.)	Date	Particulars	J.F.	Amount (Rs.)
2004 Jan. 1	To Opening balance b/d		15,000	2004 Jan. 9	By Purchases	10	7,000
Jan. 15	To Sales	10	12,000	Jan. 8	By Ashoka	10	4,000
Jan. 20	To Madhav	10	2,000				

**9.3 ACCOUNT CATEGORIES**

In order to obtain the details of an item, the business transactions are recorded in accounts. Thus, the transaction, recorded in the document is analysed in order to show the effect of the transaction and transferred to a separate head known as 'account'. An account is an individual record of a person, firm, or thing, an item of income or an expense. According to the 'Kohler's Dictionary for Accountants' an account has been defined as a formal record of a particular type of transaction expressed in terms of money.

Thus, an account is prepared for each type of asset, liability, owner(s) equity, revenue and expense. For example, the account of cash would show the cash receipts, cash payments and balance of cash in hand, an account of a person would show the business transactions that have taken place with that person and

Classification of accounts: Accounts are broadly classified into two classes:

(i) Personal Accounts and (ii) Impersonal Accounts. The latter is further sub-divided into:

- (a) Real Accounts
- (b) Nominal Accounts

Thus, all accounts can be classified into Personal, Real and Nominal Accounts.

#### (i) Personal accounts

These accounts show the transactions with customers, suppliers, moneylenders, banks and the owner. Personal accounts can take the following forms:

- (a) *Natural personal accounts*: The term natural person means persons who are the creation of God. For example, proprietor's account, supplier's account, receiver's account (Mohan's a/c, Rajesh's a/c, etc.).
- (b) *Artificial personal accounts*: These accounts include the accounts of corporate bodies or institutions that are recognised as persons in business dealings. For example, any limited company's account, bank account, insurance company's account, any firm's account, any club's account, etc.
- (c) *Representative personal account*: These are accounts that represent a certain person or group of persons. In books, the names of the parties will appear. Since these accounts are many in number and of the same nature, the amounts standing against these accounts are added and put under one common title. For example, if the business is not able to pay rent, say, for fifteen shops, then all property owners of these shops stand as creditors and the amount due to them is added and put under one common head known as "Rent Outstanding Account". This account is a personal account representing many property owners. Salary outstanding, rent prepaid, interest outstanding, interest received in advance, etc., are some of the other examples.

#### (ii) Impersonal accounts

##### (a) Real accounts

Real accounts may be of the following types:

- (i) *Tangible real accounts*: These are accounts of such things that are tangible, i.e. which can be seen, touched or felt, physically. Examples, land, building, furniture, cash, etc. (please note that a bank account is the account of some banking company that is an artificial person).
- (i) *Intangible real accounts*: These accounts represent such things that cannot be touched. Of course, they can be measured in terms of money. Examples are, goodwill, trademarks, patent rights, etc.

##### (b) Nominal accounts

Nominal accounts are opened in the books to explain the nature of the transactions. For example, in a business, salary is paid to the employees, rent is paid to the property owner, wages are paid to the workers, commission is paid to the salespersons, then in fact, cash goes out of the business, that is real, but the salary, rent, wages, commission, etc. as such do not exist. These accounts are opened to explain how the cash has been spent. Nominal accounts include accounts of all expenses, losses, incomes and gains.

The following list indicates, some more of the usual accounts coming under each category:

*Personal accounts* (a) Bank (an artificial person)

- (b) Tata Iron & Steel Co. (a company)
- (c) Santosh (an individual)
- (d) Capital (Rajesh - owner)
- (e) Bank loan (an artificial person)
- (f) Rent outstanding (representative personal account).

*Real accounts*

- (a) Plant and machinery
- (b) Investment
- (c) Land and building
- (d) Stock in hand
- (e) Bills receivable
- (f) Trademarks
- (g) Cash.

*Nominal accounts*

- (a) Interest
- (b) Salaries
- (c) Rent
- (d) Carriage
- (e) Commission received
- (f) Insurance
- (g) Discount received
- (h) Wages.

Accounts can be classified as follows:

Accounts	(a) Personal	<ul style="list-style-type: none"> <li>(i) Natural Personal Accounts</li> <li>(ii) Artificial Personal Accounts</li> <li>(iii) Representative Personal Accounts</li> </ul>
	(b) Real	<ul style="list-style-type: none"> <li>(i) Tangible Accounts</li> <li>(ii) Intangible Accounts</li> </ul>
	(c) Nominal	<ul style="list-style-type: none"> <li>(i) Expenses and gains</li> <li>(ii) Incomes and gains</li> </ul>

**Valuation accounts**

In addition to the traditional classification of accounts - personal and impersonal - valuation accounts, are also being recognised, e.g. provision for depreciation account, provision for doubtful debts account, stockreserve account, etc. Valuation accounts are also known as 'Contra' accounts.

**9.4 DEBIT AND CREDIT CONCEPT**

The two sides of any account are arbitrarily distinguished. The left side of an account is called the debit side; the right side is called the credit side. An entry on the left side of an account is called a debit entry, or merely a debit, an entry on the right side is called a credit entry m-

entry on the left side of an account, is called debiting the account; recording an entry on the right side of an account, is called crediting the account. The difference between the total debits and total credits is the account balance.

Double entry system means the recording of both the aspects, i.e. receiving of values and giving of values of each transaction. The two aspects are distinguished in terms of debit and credit. An account is capable of receiving and giving of values. When an account receives a value or benefit it is debited and when it gives a value or benefit, it is credited. As every transaction affects at least two accounts, one account receives a benefit of certain value; another account would give the benefit of the same value.

Rules have been framed for the correct debit and credit of personal, real and nominal accounts:

### 1. Personal Accounts

'Debit the receiver and credit the giver', i.e. debit the account of the person who receives something and credit the account of the person who gives something. For example, if you purchase goods from Gopi, on credit, the two accounts involved are 'Goods (Purchase) Account' and 'Gopi's Account'. The latter account is a personal account. Since Gopi is the giver in this transaction, his account will be credited. Similarly, if cash is paid to Gopi, Gopi's account will be debited since he is the receiver. Thus, the account of a person is debited with any benefit that such person receives and is credited with any benefit that the such person imparts.

### 2. Real Accounts

'Debit what comes in and credit what goes out', i.e. debit the account of the thing that comes in and credit the account of the thing that goes out. For example, where furniture is purchased for cash, furniture account is debited while cash account is credited.

### 3. Nominal Accounts

'Debit all expenses and losses and credit all incomes and gains', i.e. debit the accounts of expenses and losses and credit all incomes and gains. For example, if you pay salary to your clerk, the two accounts involved are the 'Salary Account' and 'Cash Account'. Salary account is a nominal account. Salary paid is an expense of the business and therefore, this account will be debited. Similarly, if interest is received, interest account will be credited, since interest is an income item. The rules of debit and credit can be summarised as under:

Types of Account	Debit	Credit
Personal	The Receiver	The Giver
Real	What Comes in	What Goes out
Nominal	Expenses or Losses	Incomes or Gains

If the three fundamental rules, described above, were kept in mind, it would be possible to record all the transactions correctly. You must have noted that if a transaction involves two accounts of different kinds, then relevant positions of relevant rules will be applied. For example, payment of salary affects the 'Salary Account' and 'Cash Account' - the former is a nominal account whereas the latter is a real account. Hence, the former part of the third rule and the latter part of the second rule will be applicable, i.e. the rule will be:



'Debit' all expenses and losses and 'Credit' what goes out.  
Salary Account will be debited and Cash Account is credited.

It is to be noted here that it is not necessary that the record should be made only when the actual amounts of goods or something tangible moves. A record is made even when an obligation arises.

### Example

Suppose a firm borrows Rs. 10,000 @ twelve per cent per annum. At the end of the year, Rs. 1,200 will be payable by the way of interest. If the interest is actually paid, the entry will be a debit interest account and a credit cash account. However, suppose cash has not yet been paid, even then, an entry will be made to record that the amount payable to the lender has increased by the amount of interest. The entry will be to debit the 'Interest Account' and credit the lender. When later on, the amount of interest is paid in cash, cash will be credited, since the balance of the cash is reduced and the lender's account will be debited, since the amount owing to him is also reduced.

### Significance of Debit and Credit

#### (a) *Debit in personal accounts*

- (i) If the account is new, debit implies that the person, whose account is being debited, has become debtor of the business.
- (ii) If the account is already there and the person, whose account is being debited, is already a debtor of the business, the new debit implies that the dues from that person have increased.

If the account of a person, who is a creditor of the business, is debited, the debit implies that the amount due to that person has decreased by the amount of debit. It is also conceivable that the creditor may become a debtor after a debit entry; it will happen when the amount of the debit exceeds the amount for which the person has a credit immediately before the debit.

#### (b) *Credit in personal accounts*

- (i) If the account is new, credit implies that the person, whose account is being credited, has become creditor of the business.
- (ii) If the account is already there, the amount due to that person, increases by the amount of the fresh credit. A credit in the account of a debtor of the business signifies that the amount for which the debtor was liable to the business has diminished by the amount of the credit entry. It is also possible that a debtor will become a creditor after the credit.

#### (c) *Debit in real accounts*

A debit in the real account means that either the value of the asset, whose account is being debited, has increased or the business has acquired more of that asset.

#### (d) *Credit in real accounts*

A credit in the real account implies that either the value of the asset, whose account is being credited, has decreased or the business has disposed off a part or, the whole of the asset, for the amount of the credit.

#### (e) *Debit in nominal accounts*

A debit in the nominal account signifies that there has been an expense or a loss of the amount of the debit or some income or profit has diminished by the amount of the debit.

#### (I) *Credit in nominal accounts*

A credit in a nominal account implies that there has been an income or a profit of the amount of credit or some expense or loss has diminished by the amount of the credit.

**Illustration 2**

1. Pranab gives a loan of Rs. 500 to Mamta.

In the books of Pranab:

Mamta receives the benefit, viz., cash. Therefore, Mamta's account is debited. In the books of Mamta:

Mamta gets the benefit from Pranab, Pranab is the giver of the benefit. Therefore, the account of Pranab is credited.

2. Sharad sells goods to Vilas for Rs. 5,000.

In the books of Sharad:

Vilas receives the benefit. His account is debited.

In the books of Vilas:

Sharad gives the benefit. Sharad's account is credited.

3. Sushma withdraws Rs. 10,000 from Dena Bank. In the books of Sushma:

Sushma gets the money from the bank; Dena Bank is the giver. Account of Dena Bank is credited. In the books of Dena Bank: Bank pays money to Sushma, who is the receiver. Hence, Sushma's account is debited.

**Illustration 3**

1. Jaswant purchases furniture worth Rs. 5,000 for cash.

In the books of Jaswant:

The accounts affected are: (i) Furniture and (ii) Cash; furniture comes in and as such furniture account is debited and cash goes out and as such cash account is credited.

2. Lalu Prasad purchased goods worth Rs. 5,000 from Ramvilas. In the books of Lalu Prasad:

Goods come in; goods account is a real account. Therefore, goods account is debited. Ramvilas gives the benefit in the form of goods. Ramvilas is a personal account. Therefore, Ramvilas account is credited.

3. Suresh receives Rs. 5,000 from Ramesh.

In the books of Suresh:

Cash comes in; cash is a real account, as such, cash account is debited. Ramesh is the giver; it is a personal account, so Ramesh's account is credited.

**Illustration 4**

1. A trader pays Rs. 1,500 to his manager as salary.

In the books of the trader:

Cash goes out; cash is a real account. Therefore, cash account is credited. Salary is an expense; it is a nominal account. Therefore, salary is debited.

2. Ramniklal pays rent Rs. 500 to the property owner.

In the books of Ramniklal:

Cash goes out; cash is a real account. Therefore, cash account is credited. Rent is a nominal account; hence, rent account is debited.

In the books of the property owner;

Cash comes in; cash is a real account; hence, cash account is debited. Rent is an income to the property owner. It is a nominal account and hence, rent account is credited.

### **9.5 ACCOUNTING AND COLUMNAR ACCOUNTING MECHANICS**

Cash Book may be defined as the record of transactions concerning cash receipts and cash payments. In other words, in cash book, all transactions (i.e. receipts and payments of cash) are recorded as soon as they take place. Cash book is in the form of an account and actually it serves the purpose of a 'Cash Account'. It has two sides - debit side and credit side. On the debit side, all receipts of cash are recorded while on the credit side, all the payments of cash are recorded. Items on the debit side of the cash book are posted on the credit side of the ledger account and items on the credit side are posted on the debit side of the ledger accounts. In case of cash transactions, only a single aspect of transactions is recorded in the ledger because the other aspect has to be recorded in cash book.

Cash book thus serves the purpose of a book of original entry as well as that of a ledger account.

A cash book has the following features:

- (a) Only cash transactions are recorded in the cash book.
- (b) It performs the functions of both, the journal and the ledger, at the same time.
- (c) All cash receipts are recorded in the debit side and all cash payments are recorded in the credit side.
- (d) It records only one aspect of transaction, i.e. cash.
- (e) All cash transactions are recorded chronologically in the cash book.

#### **9.5.1 Types of Cash Book**

The cash book can be of the following types:

- Simple (Single column) cash book: It is like an ordinary cash account. In this all cash receipts are recorded on the left hand side (real account - debit what comes in) and all cash payments are recorded on the right hand side (real account - credit what goes out). A specimen is as under:

#### **Cash Book**

Dr.					Cr.				
Date	Particulars	L.F.	R.No. (Rs.)	Amount	Date	Particulars	L.F.	Vr. No. (Rs.)	Amount
(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)

From the above proforma, we will observe that there are five columns each on both the sides.

Column No. 1. *Date*

The date on which cash is received or paid is entered in this column.

Column No. 2. *Particulars*

In this column, the name of the account in respect of which the amount is received or paid is shown.

Column No. 3. *L.F.*

Means ledger folio. This column shows page number of the ledger where the entry has been posted.

Column No. 4

On the receipts side, we have R. No., i.e. 'Receipt Number'.

All amounts, received by the business, are acknowledged by issuing receipts to the parties concerned. These are usually printed and have serial numbers. The serial number of the receipt is entered on receipts side. On the payments side Vr. No., i.e. voucher number is entered. For all payments made by the business, vouchers are prepared and these are serially numbered. The number of said vouchers is recorded on the payments side.

Column No. 5. *Amount*

This column shows amount of cash received or paid in the account.

For recording any receipts (on the receipts side) 'To', is written first in the 'Particulars' column. For all transactions entered on the payment (credit) side of the cash book, debit the concerned accounts in the ledger by writing 'To Cash sale' in the 'Particulars' column and then the account head which is to be credited, e.g. 7th January, 1998 - cash received from Ramesh- Rs. 500 will be recorded as follows:

Date	Particulars	L.F.	R.No.	Amount (Rs.)
1998 Jan. 7	To Ramesh			500

Similarly, on the payments side, 'By' is written first in the 'Particulars' column and then the account head which is to be debited, e.g. 10th January, 98 - paid rent Rs. 1,000- will be recorded as follows:

Date	Particulars	L.F.	Vr. No.	Amount (Rs.)
1998 Jan. 7	By Rent			1,000

### 9.5.2 Sources of Writing the Cash Book

The debit side of the cash book is called the 'Receipts' side. All receipts, in cash, are recorded on the debit side. In a business, the amounts in cash or by cheque, are received from customers to whom goods were sold on credit. This is the main source of receipts. Besides this, cash is also received because of cash sales. When the goods are sold on a cash basis, cash memos are issued by the business. On receipt of money from customers, a businessman issues an official receipt to them. Thus, we will observe that receipts and cash memos are the main sources for recording entries on the receipts side of the cash book.

On the credit side of the cash book, all payments in cash are recorded. A businessman has to prepare a voucher for each payment made in cash or by cheque. For payments by cheques, counterfoils of the cheque books can be used as the basis for preparing a voucher.

### 9.5.3 Posting the Cash Book

In order to complete the double entry of each transaction, that has been recorded in the cash book, posting of such transactions is to be made to the respective *Jej^s^^te- Cssh b3ck idsetfh* a ledger account of cash and hence, we need not open a cash account again in the ledger.

For all transactions entered on the receipts (debit) side of the cash book, credit the concerned accounts in the ledger by writing 'By Cash a/c' in the 'Particulars' column. Cash account is a real account and the relative golden rule, viz., debit what comes in and credit what goes out applies to all cash transactions.

#### 9.5.4 Balancing of Cash Book

We have to take the totals of both the debit and credit sides. In the cash account, debit side will be always more, since we cannot pay more than what is available with us. Thus, this balance will be called the debit balance and to close the account, it will be entered on the payments side of the cash book by putting the words 'By closing balance carried down'. This will be carried forward to the 'Debit' side, on the next day, by putting the words 'To opening balance brought forward'. In case of small traders, the cash book may be balanced at the end of the month, whereas, in case of big business establishments, it is balanced daily.

##### • Two (Double) Columnar Cash Book

Such a cash book has two columns on both sides; one is for cash and another is for discount. Cash column is meant for recording of cash receipts and payments while the discount column is meant for recording the discount received and allowed. The discount column on the debit side represents the discount allowed while discount column on the credit side represents the discount received. A specimen of the two columnar cash book is as under:

#### Cash Book

Dr.						Cr.					
Date (1)	Particulars (2)	L.F. (3)	R.No. (4)	Discount (5)	Amount (6)	Date (7)	Particulars	Vr. No. (9)	L.F. (10)	Discount (H)	Amount (12)

It should be noted that the cash column of the cash book serves both the functions of a cash book as well as a cash account, but the discount columns do not serve the function of a discount account. Discount columns are merely memorandum columns. Discount allowed account and discount received account are opened in the ledger and the totals of the discount columns are posted in these accounts.

#### Illustration 5

Enter the following transactions in a double column cash book, having the cash and discount columns:  
2003

- Dec.
- 1 Opening balance Rs. 11,000
  - 2 Sold goods to Sharad Rs. 3,000 and received half the amount in cash, after allowing 5% cash discount
  - 7 Purchased goods for cash Rs. 2,700
  - 9 Paid for November office rent Rs. 600
  - 15 Cash because of sale of machinery Rs. 3,000
  - 16 Paid to Madhuri Rs. 180 and received discount of Rs. 20
  - 19 Received from Payal Rs. 290 after allowing her discount of Rs. 10
  - 25 Received for cash sales Rs. 2,000
  - 29 Settled Madan's account Rs. 3,000 after adjusting discount @ 10%
  - 30 Paid into bank cash in excess of Rs. 100

## Cash Book

Dr.						Cr.					
Date	Particulars	R.No.	L.F	Discount	Cash (Rs.)	Date	Particulars	Vr. No.	L.F.	Discoun	Cash (Rs.)
2003 Dec.1	To Opening Balance b/d				11,000	2003 Dec.7	By Purchases (Cash purchases made)				2,700
2	To Sharad (Amount received from after allowing 5% cash discount)			75	1,425	9	By Office rent (Pay- ment of November rent)				600
15	To Sale (Sale of machinery)				3,000	16	By Madhuri (Paid to Madhuri and received discount)			20	180
19	To Payal (Received from Payal and allowed discount)			10	290	29	By Madan (Settled account at 10% discount)			300	2,700
25	To Sales (Cash sales made)				2,000		By Bank (Cash deposited in bank)				11,435
						31	3y Closing balance c/d				100
					17,715						17,715

Date	Particulars	R. No.	L.F.	Discount	Cash (Rs.)	Date	Particulars	Vr. No.	L.F.	Discount	Cash (Rs.)
2004 Jan. 1	To Opening balance b/d				100						

- *Three Columnar Cash Book:* This type of cash book contains the following three columns on each side:
  - (a) Discount column for discount received and allowed
  - (b) Cash column for cash received and cash paid
  - (c) Bank column for money deposited and money withdrawn from the bank.

The ruling of a three columnar cash book is as follows:

#### Cash Book

Dr.							Cr.						
Date (1)	Particulars (2)	R.No. (3)	L.F. (4)	Discount (5)	Cash (6)	Bank (7)	Date (8)	Particulars (9)	Vr. No. (10)	L.F. (11)	Discount (12)	Cash (13)	Bank (14)

When the introduction of the bank column on both sides of the cash book is made, there is no need for a separate bank account in the ledger. The bank account maintained by the enterprise is a personal account and the cash account is a real account. For recording transactions in the bank column of the cash book, the rule of debit and credit, applicable to personal accounts, should be followed, i.e. debit the receiver and credit the giver.

Thus, when cash is deposited in the bank, the bank would be the receiver and would be debited in the bank column of the cash book. Similarly, for cash withdrawn from the bank, the bank would be the giver and would be credited in the bank column of the cash book. However, when cash is received, it is recorded on the debit side in the cash column and whenever cash is paid out; it is entered on the credit side in the cash column.

One important feature of this cash book is that, if a transaction involves both cash and bank accounts, it is entered on both sides of the cash book, one in the cash column and second in the bank column, though on opposite sides. This is called 'Contra Entry' and the letter 'C' is indicated against that item in the L.F. column, e.g. when cash is withdrawn from the bank, it is recorded on the debit side in cash column and on the credit side in the bank column. Similarly, when cash is deposited with the bank, the amount is recorded on the debit side in the bank column and on the credit side in the cash column.

#### Illustration 6

From the following particulars, prepare a three columnar cash book of Mamta, balance it and post the entries:

2003

- Dec.
- 1 Opening balance Cash Rs. 3,000, Bank Rs. 12,000
  - 2 Received from Ajay - Cash Rs. 500 and Cheque Rs. 1,500
  - 4 Cheque received from Ajay deposited into Bank Paid to Navjot by cheque Rs. 450 in full settlement of Rs. 470

- 6 Cash Sales made for Rs. 6,000  
 8 Purchased Goods from Anil Rs. 2,000  
 10 Cash deposited into Bank Rs. 5,000 Cheque received from Ajay dishonoured  
 12 Received a cheque for Rs. 2,100 from Sunil in full settlement of Rs. 2,200  
 13 Endorsed Sunil's cheque to Vinod in full settlement of Rs. 2,150  
 15 Bank debited Rs. 20 towards bank charges  
 18 Saba directly deposited into bank a cheque for Rs. 3,500 Bank credited Rs. 250 in Pass Book towards interest on investment  
 As per Standing Instructions bank paid Insurance Premium Rs. 300  
 20 Purchase of Stationery Rs. 100  
 23 Cheque received from Izaz on account Rs. 10,000  
 26 Payment of Salaries Rs. 2,000  
 29 Cash withdrawn from Bank Rs. 1,000

**Cash Book**

Dr.							Cr.						
Date	Particulars	R. No.	L.F.	Cash (Rs.)	Bank (Rs.)	Discoun (Rs.)	Date	Particulars	Vr. No.	L.F.	Cash (Rs.)	Bank (Rs.)	Discount (Rs.)
2003							2003						
Dec. 1	To						Dec. 4	By Navjot		21		450	20
	Opening balance			3,000	12,000			(Payment in full settlement of Rs. 470)					
2	To Ajay		20	2,000			4	By Bank		C	1,500		
	(Received from Ajay a Cheque for Rs. 1,500 and cash Rs. 500)							(Cheque received from Ajay deposited into Bank)					
4	To Cash		C		1,500		8	By		23	2,000		
	(Cheque received from Ajay deposited into bank)							Purchases (Goods purchased from Anil)					



Date	Particulars	R. No.	L.F.	Cash (Rs.)	Bank (Rs.)	Discoun (Rs.)	Date	Particulars	Vr. No	L.F.	Cash (Rs.)	Bank (Rs.)	Discount (Rs.)
6	To Sales (Cash sales made)		22	6,000			10	By Bank (Cash deposited into bank)		C	5,000		
10	To Cash (Cash deposited into bank)		C		5,000		10	By Ajay (Cheque received from Ajay dishonoured)		20		1,500	
12	To Sunil (Received a Cheque in full settlement of Rs. 2,200)		24	2,100		100	13	By Vinod (Sunil's Cheque endorsed)		25	2,100		50
18	To Saba (Cheque directly deposited into bank)		27		3,500		15	By Bank charges (As per debit in pass book)		26			20
18	To Interest on investment (Amount credited by bank)			28		250	18	By Insurance premium (amount paid by bank as per standing instruction)		29		300	
23	To Izaz (Cheque received on account)		32		10,000		20	By Stationery (Purchase of stationery)		30	100		
							26	By Salaries (Payment of salaries)		31	2,000		

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Date	Particulars	R. No.	L.F.	Cash (Rs.)	Bank (Rs.)	Discoun (Rs.)	Date	Particulars	Vr. No.	L.F.	Cash (Rs.)	Bank (Rs.)	Discoun (Rs.)
29	To Bank (Cash withdrawn)		C	1,000			29	By Cash (Cash withdrawn)		C		1,000	
							31	By Closing balance c/d			1,400	28,98	
				14,100	32,250	100					14,100	32,25	70
2004 Jan. 1	To Opening balance b/d			1,400	28,98								

**Ajay a/c**

*L.F. 20*

**Dr.**

**Cr.**

Date	Particulars	C.B.F.	Amount (Rs.)	Date	Particulars	C.B.F.	Amount (Rs.)
2003 Dec. 10	-To Bank	49	1,500	2003 Dec.2	By Cash	49	500
					By Bank		1,500

**Navjot a/c**

*L.F. 21*

**Dr.**

**Cr.**

Date	Particulars	C.B.F.	Amount (Rs.)	Date	Particulars	C.B.F.	Amount (Rs.)
2003 Dec.4	To Bank	49	450				
	To Discount		20				

**Sales a/c**

*L.F. 22*

**Dr.**

**Cr.**

Date	Particulars	C.B.F.	Amount (Rs.)	Date	Particulars	C.B.F.	Amount (Rs.)
				2003 Dec. 6	By Cash	49	6,000

## Purchases a/c

L.F.23

Dr.

Cr.

Date	Particulars	C.B.F.	Amount (Rs.)	Date	Particulars	C.B.F.	Amount (Rs.)
2003 Dec. 8	To Cash	49	2,000				

## Sunil a/c

L.F.24

Dr.

Cr.

Date	Particulars	C.B.F.	Amount (Rs.)	Date	Particulars	C.B.F.	Amount (Rs.)
				2003 Dec. 12	By Cash	49	2,100
					By Discount		100

## Vinod a/c

L.F.25

Dr.

Cr.

Date	Particulars	C.B.F.	Amount (Rs.)	Date	Particulars	C.B.F.	Amount (Rs.)
2003 Dec. 13	To Cash		2,100				
	By Discount		50				

## Bank Charges a/c

L.F.26

Dr.

Cr.

Date	Particulars	C.B.F.	Amount (Rs.)	Date	Particulars	C.B.F.	Amount (Rs.)
2003 Dec. 15	To Bank	49	20				

182

Saba a/c

L.F. 27

Dr.				Cr.			
Date	Particulars	C.B.F.	Amount (Rs.)	Date	Particulars	C.B.F.	Amount (Rs.)
				2003 Dec. 18	To Bank	49	3,500

Interest on Investment a/c

L.F. 28

Dr.				Cr.			
Date	Particulars	C.B.F.	Amount (Rs.)	Date	Particulars	C.B.F.	Amount (Rs.)
				2003 Dec. 18	To Bank	49	250

Insurance Premium a/c

L.F. 29

Dr.				Cr.			
Date	Particulars	C.B.F.	Amount (Rs.)	Date	Particulars	C.B.F.	Amount (Rs.)
2003 Dec. 18	To Bank	49	300				

Stationery a/c

L.F. 30

Dr.				Cr.			
Date	Particulars	C.B.F.	Amount (Rs.)	Date	Particulars	C.B.F.	Amount (Rs.)
2003 Dec. 20	To Cash	49	100				

Salaries a/c

L.F. 31

Dr.				Cr.			
Date	Particulars	C.B.F.	Amount (Rs.)	Date	Particulars	C.B.F.	Amount (Rs.)
2003 Dec. 26	To Cash	49	2000				

## Izaz a/c

Dr.

L.F. 32

Dr.				Cr.			
Date	Particulars	C.B.F.	Amount (Rs.)	Date	Particulars	C.B.F.	Amount (Rs.)
				2003 Dec. 23	To Bank	49	10,000

- *Cash Receipts and Payments Book or Journal*

In practice, cash receipts and the cash payments book may be employed respectively to record the cash receipts and cash payments especially when the cash transactions are numerous. The posting is usually done daily from these books to the ledger accounts. The total cash received, as shown by the cash receipts journal, is debited to the cash account and the total cash paid, as shown by the cash payment journal, is credited to the cash account at the end of a period.

### 9.5.5 Petty Cash Book

In a business, there are number of petty (small) payments to be made every day. If all these payments are recorded in the main cash book, it will become bulky and unwieldy. Therefore, many firms appoint a person as a petty cashier to make all such petty payments.

A petty cash book is one of the subsidiary books, in which all the small payments or petty expenses, such as conveyance, cartage, etc. are recorded. The word 'petty' means small, i.e. small in amounts. The person maintaining the petty cash book is known as the petty cashier.

#### Types of Petty Cash Book

Following are the two types of petty cash book:

1. Simple Petty Cash Book
2. Columnar Petty Cash Book.

- *Simple Petty Cash Book*

It is similar to a cash book. It has two sides, viz., debit and credit. On the debit side, the amount received from main cashier is recorded and on the credit side, all payments made in cash are recorded.

#### Specimen of Simple Petty Cash Book

Dr.						Cr.
Amount received (Rs.)	Date	C.B.F.	Particulars	L.F.	Voucher No.	Amount (Rs.)

'Date' column is common for receipts as well as payments. C.B.F. on the debit side stands for Cash Book Folio. When the chief cashier makes a payment to petty cashier, the amount paid is recorded in the cash book on the payments side and the page (folio) number is recorded on the debit side of the petty cash book. In the 'Particulars' column, short details of transactions are recorded. When these payments are posted in the ledger of the respective accounts, the page number of the ledger is entered in L.F. column. The documentary evidence, i.e. cash memos or receipts are attached to the vouchers that are serially numbered and these serial numbers are recorded in 'Voucher No.' column. The amount column shows the actual amounts paid. The chief cashier pays a certain sum in advance. The petty cashier who keeps on making small payments out of this advance, records them in the petty cash book. At the end of a particular period, say, a week or a fortnight, the petty cashier balances his book and submits the vouchers to the chief cashier for his verification. After verification, a further sum is given to petty cashier as advance. This amount given by the chief cashier to petty cashier, from time to time, is called petty cash.

• *Columnar Petty Cash Book*

Under the simple petty cash book, each payment is posted in the ledger separately. There are certain payments that are made practically every day; for example, conveyance, tea expenses, etc. Thus, there will be many debits in the particulars column. To avoid this, additional columns are opened on the payment side of the petty cash book for the usual expense head and posting to the ledger accounts is made in the total at the end of the period. Each payment is, thus analysed and shown in the particular expense column. This type of petty cash book is, therefore, called the 'Columnar or Analytical Petty Cash Book'.

**Illustration 7**

Record the following transactions in a columnar petty cash book:

2003

			Rs.
November	1	Received from the chief cashier	200
	3	Purchased postage stamps	10
	4	Paid conveyance to office clerk	25
	6	Purchased office files	30
	8	Paid for cold drinks	24
	10	Registered AD charges paid	18
	14	Paid to Ramesh	50
	15	Washing charges paid to peon	10

**Solution**

**Columnar Petty Cash Book**

Amount Reed. (Rs.)	Date	Particulars	Vr. No.	Total Amt. (Rs.)	Postage Rs	Conve- yance (Rs.)	Station- ery (Rs.)	Tea Exps. (Rs.)	Office Exps. (Rs.)	Ledger	L.F.
200	2003 Nov. 1	To Chief Cashier									
	3	By Postage stamps purchased		10	10						

	4	By Conveyance to office cleri	25		25					
	6	By Purchase of office files	30			30				
	8	By Payment for cold drinks	24				24			
	10	By Registered A.D. charges	18	18						
	14	By Ramesh	50						50	
	15	By Payment of washing charges to peon	10					10		
			167	28	25	30	24	10	50	
	15	By Closing balance c/d	33 200							
33	Dec.1	To Opening balance b/d								

### 9.5.6 Imprest system of Petty Cash Book

This is the most popular system of the petty cash book. Under this system, the chief cashier pays a certain sum of money to the petty cashier for a particular period, say, a fortnight or a month. At the end of that period, petty cashier submits the statement of expenditure along with the supporting vouchers to the chief cashier. The chief cashier verifies the statement and after being satisfied, makes good the total amount actually incurred by the petty cashier, so that he is left with the same amount as at the beginning of the period. This system (of advance), is called the imprest system of petty cash and the amount given to petty cashier as advance is known as the 'Imprest Amount'. For example, on 1st January, Rs. 200 is given as advance to the petty cashier and during the week, he spent Rs. 198 on various petty expenses. Now, in the next week, the chief cashier will give him Rs. 198 only. So, at the beginning of the next period (here, it is next week), the petty cashier will have Rs. 200 with him. The 'Imprest System' of petty cash has the following advantages:

1. The chief cashier is relieved of maintaining records of petty cash payments and he can devote his time for more important matters like cash management, etc.
2. Under this system, the petty cashier, is not allowed to draw cash from the chief cashier as and when he desires. He has to estimate his requirements for a particular period and accordingly the cash is advanced to him. Since there is no unnecessary accumulation of cash in hand, chances of defalcation of cash are minimised.

# 1

3. As the petty cashier has to submit his account to the chief cashier before his further drawings, the accounts are always kept up to date. This ensures strict supervision and control over his activities.

**Illustration 8**

Enter the following transactions in a petty cash book, kept on the imprest system:

2004 March	Rs.
<sup>1</sup> Received from Chief Cashier	250
Bought ink	5
<sup>3</sup> Paid for telegrams	25
Printing charges paid	30
<sup>5</sup> Purchase of a tubelight	45
Paid for cartage	10
<sup>8</sup> Refreshment expenses paid for guest	25
<sup>10</sup> Purchased a pencil box, sharpener and 2 notebooks	40
<sup>12</sup> Paid for office expenses	20
<sup>15</sup> Paid conveyance to Raghu	12
<sup>18</sup> Purchased postcards	5

**Solution**

Amt. Reed. (Rs.)	Date	Particulars	Vr. No.	Total Amt. (Rs.)	Stationery (Rs.)	Postage (Rs.)	Electrical (Rs.)	Cartage (Rs.)	Refreshments (Rs.)	Office Exp. (Rs.)	Conveyance (Rs.)
250	2004 Mar.1	To Chief Cashier									
	• 3	By Ink purchased		5	5						
	5	By Telegram charges		25		25					
	8	By Printing charges paid		30	30						
		By Tube-light purchased		45			45				
	12	By Cartage paid		10				10			
	15	By Refreshment charges for guests		25					25		



	18	By Purchase of pencil sharpener & notebook By Office expenses	40 20	40					20	
	25	By Conveyance to Raghu	12							12
	30	By Post-cards purchased	5		5					
	15	By Closing balance c/d	217 33	75	30	45	10	25	20	12
			250							
33 217	April 1	To Opening balance b/d To Chief Cashier								

## 9.6 JOURNALISING

The journal is a book of prime entry in which every transaction is recorded before being posted into the ledger. It is that book of account in which the transactions are recorded in a chronological (day-to-day) order. In modern times, besides the main journal, specialised journals are maintained to record the different type of transactions.

For example, in the 'Purchase Book' (also called Purchases Journal) only credit purchases of the goods-in-trade are recorded, whereas in the 'Sales Book' or 'Sales Journal' only credit sales of goods-in-trade are recorded. Thus, several separate books of prime entry have come into use for recording of the different types of transactions. Journal is used only for the recording of those transactions for which no special book exists.

While learning accountancy, it is very rewarding to know how the various transactions can be recorded in a journal. If one can record all the transactions in the journal correctly, we can say that one has won more than half the battle. In the examinations also, frequently, candidates are asked just to pass the journal entries for all the transactions given in a question although, in actual practice, most of these transactions may not appear in the journal.

The process of recording a transaction in a journal is termed as 'Journalising'. A journal is generally kept on a columnar basis. It has the following five columns: (i) Date

(ii) Particulars

(iii) Ledger Folio (iv) Amount (Debit) (v)  
Amount (Credit) A specimen ruling of a  
journal is as under:

Date	Particulars	L.F.	Debit Amount (Rs.)	Credit Amount (Rs.)
(i)	(ii)	(iii)	(iv)	(v)

(i) Date

The date on which the transaction has taken place is recorded here. The year is written at the top of the date column of each page of the journal. Therefore, on the next line of the date column, the month and day of the first entry are written. Unless the month or year changes or until a new page is begun, neither the month nor the year, is repeated on the page.

(ii) Particulars

The two aspects of a transaction are recorded in this column, i.e. the details regarding the accounts that have to be debited and credited. The name of the account(s) to be debited is entered at the extreme left of the particulars column next to the date column. The abbreviation 'Dr' is written at the right end of the 'Particulars' column on the same line as of the account debited. The name of the account to be credited is entered on the next line with a prefix 'To' and is intended to the right of the date column. A brief explanation of the transaction, known-as narration, is written below the account titles of the transaction. Brevity in explanation is most desirable, but at the same time, narration should be as informative as possible. Finally, a thin line is drawn all through the particulars column to indicate that the entry of the transaction has been completed.

(iii) L.F. (Ledger Folio)

This column records the page number in the ledger where the accounts in the 'Particulars' column are transferred (posted).

(iv) Amount (Debit)

The debit amount is recorded in the amount (Dr.) column opposite to the title of the account debited, (v) Amount (Credit)

The credit amount is recorded in the amount (Cr.) column opposite to the title of the account credited.

The following procedure is followed for passing journal entries:

- Each transaction is analysed in terms of the accounts affected. As a rule, every transaction has at least two accounts corresponding to its giving and receiving aspects.
- Find out the type of accounts affected in a transaction, i.e. personal, real or nominal.
- Apply the rules of debit and credit to each type of the affected accounts.
- The equality of debit and credit must be established. Sometimes, a journal entry may have more than one debit or more than one credit. This type of journal entry is known as a compound journal entry. Regardless of the number of debits or credits in a compound journal entry' all debits are entered before any credits are entered. The aggregate amount of debits should be equal to the aggregate amount of credits.

- (e) For a business, journal entries generally extend to several pages, hence, the totals of the amount columns are cast at the end of each page. Against the debit and credit total at the end of a page, the words; 'Total c/f (c/f indicates, carried forward) is written in the particulars column. The debit and credit totals are then written in the beginning of the next page in the amount column and against them, the words 'Total b/f (b/f indicates, brought forward) are written in the particulars column. On the last page, 'Grand Total' is cast.

#### *Compound Journal Entry*

Transactions that are interconnected and have taken place simultaneously are recorded by means of a combined journal entry. For example, receipt of cash from a debtor and allowance of discount to him are recorded by means of a single journal entry. Similarly, transactions of the same nature are recorded by means of a combined entry provided they take place the same day. For example, if the amounts spent on the same day for salaries, wages, stationery, rent, etc., a combined entry can be passed, debiting all the relevant nominal accounts with the respective amounts and crediting the cash account with the total amount spent. There are cases (which will be known to you later on) where a combined entry is passed even for transactions of like nature that have taken place on different dates. This happens when the details of a particular type of transactions are recorded separately but journal entries are passed only periodically with the total amounts of those transactions.

#### **9.6.1 Points to be Noted While Passing Journal Entries**

1. First, read the transaction carefully and find out the two accounts involved in it.
2. Then find out to which category do these accounts belong, viz., real, nominal or personal.
3. Apply the golden rules of debit and credit and find out which account is to be debited and which is to be credited.
4. Enter the date of the transaction in the 'Date' column. Give a short description of the transaction (narration) in the 'Particulars' column.
5. Enter the amount figure in 'Debit' and 'Credit' Columns.
6. When it is not clearly stated in the problem whether the transaction is on a cash basis or on a credit basis and when the name of the party is not given, it should be considered to be on a cash basis.

e.g.,            Purchased goods            Rs. 5,000  
                      Sold goods                        Rs. 2,000

Both the above transactions are cash transactions.

7. When the name of the party is given and there is no mention of the cash paid/received, it should be considered as a credit transaction.

e.g.,            Purchased goods from Suresh    Rs. 2,000  
                      Sold goods to Bhagavati Traders Rs. 1,000

8. When the word 'Received' or 'Paid' appears in the transaction, it means cash is received or paid,

e.g.,            Paid salaries                        Rs. 2,000  
                      Received interest                Rs. 1,000

9. The term 'Purchases Account' should be used when goods are purchased and the term 'Sales Account' should be used when the goods are sold.
10. When goods are returned by the customers, the term 'Sales Return' or 'Returns Inward' should be used. Similarly, when goods are returned to the supplier, the term 'Purchases Return' or 'Returns Outward' should be used.

*Opening Entry*

When an accounting year is over, all nominal account balances are closed by transferring them to the 'Trading' and/or 'Profit and Loss Account'. Real and personal account balances are shown in the balance sheet. These balances will be carried forward to the next year by passing an opening entry in the next year's books. This entry is called the opening entry.

**Illustration 9**

Mr Prasad has the following balances of Assets and Liabilities on 31st December, 2006:

Cash on hand	Rs. 2,500
Furniture	Rs. 10,000
Bank Loan	Rs. 8,000
Stock of Goods	Rs. 22,500
Debtors	Rs. 12,000

Pass the Opening Entry on 1st January, 2007.

**Solution**

Date	Particulars	L.F.	Debit (Rs.)	Credit (Rs.)
Jan.1	Cash a/c Dr.		2,500	
	Stock a/c Dr.		22,500	
	Furniture a/c Dr.		10,000	
	Debtors a/c Dr.		12,000	
	To Bank Loan a/c			8,000
	To Bharat's Capital a/c			39,000
	(Being balances brought forward from previous year's account)			

**Illustration 10**

Record the following transactions in the books of Kesari: 2007

- February 1 Commenced business with Rs. 15,000 of which Rs. 5,000 was borrowed from his wife as loan at 12% interest p.a.
- 5 Purchased office equipments for Rs. 1,200 from Sharad & Co.
- 6 Bought goods from Satish at one month's credit for Rs. 6,000 of which half was invoiced to Mr Nayan at 30% above cost.
- 9 Paid carriage and cartage on goods sold to Mr Nayan on his behalf Rs. 40.
- 10 Office Rent Rs. 240 for the month was paid to the landlord.
- 12 Purchased 20 shares of ABC Ltd. at Rs. 20 per share.
- 14 Sold goods to Ambar for Rs. 1,200.
- 16 Ramesh invoiced goods to us Rs. 1,940.
- 18 Sent goods to Vijay against his pending order of the last month Rs. 670.
- 20 Paid salaries to clerks Rs. 1,220 and advertising expenses Rs. 180.
- 22 Ambar became insolvent, a dividend of 50 paise in a rupee is received.
- 28 Paid monthly charges to the Housing Society for his own residence Rs. 350.

**Solution**

In the Books of Kesari:

Date 2007	Particulars	L.F.	Debit (Rs.)	Credit (Rs.)
Feb.1	Cash a/c To Capital a/c To Loan from Mrs Kesari (Being business commenced with cash and loan from wife at 12% interest)	Dr.	15,000	10,000 5,000
Feb.5	Office equipments a/c To Sharad & Co. a/c (Being purchase of office equipments on credit)	Dr.	1,200	1,200
Feb.6	Purchases a/c To Satish a/c (Being purchase of goods on credit)	Dr.	6,000	6,000
Feb.6	Nayan a/c To Sales a/c (Being 50% of goods purchased from Satish sold to Nayan at 30% profit on credit)	Dr.	3,900	3,900
Feb.9	Nayan a/c To Cash a/c (Being payment of carriage and cartage on behalf of Nayan)	Dr.	40	40
Feb. 10	Office rent a/c To Cash a/c (Being payment of office rent to the landlord)	Dr.	240	240
Feb. 12	Investments a/c To Cash a/c (Being purchase of 20 shares of ABC Ltd. @ Rs. 20 per share)	Dr.	400	400
Feb.14	Ambar a/c To Sales a/c (Being sale of goods to Ambar)	Dr.	1,200	1,200

Feb. 16	Purchases a/c To Ramesh a/c (Being purchase of goods from Ramesh)	Dr.		1,940	1,940
Feb. 18	Vijay a/c To Sales a/c (Being sale of goods to Vijay on credit)	Dr.		670	670
Feb. 20	Salaries a/c Advertisement a/c To Cash (Being payment of salaries & advertisement charges)	Dr. Dr.		1,220 180	1,400
Feb. 22	Cash a/c Bad Debts a/c To Ambar (Being receipt of 50% of the balance due from Ambar on his becoming insolvent)	Dr. Dr.		600 600	1,200
Feb. 28	Drawings a/c To Cash a/c (Being payment of personal housing society charges)	Dr.		350	350

### **9.7 SUMMARY**

Every business transaction involves two aspects. Under the 'Double Entry System', both these aspects are to be recorded. The account that receives the benefit is to be credited. Therefore, we must first find out the two accounts involved in each transaction. The accounts are classified into three categories, viz., 'Personal', 'Real' and 'Nominal'. Separate rules are applicable for debiting and crediting different classes of accounts. These are called the golden rules of debit and credit.

Thus, the rules of debit and credit are:

<i>Types of accounts</i>	<i>Account to be debited</i>	<i>Account to be credited</i>
1. Personal Account	Receiver	Giver
2. Real Account	What comes in	What goes out
3. Nominal Account	Expenses and losses	Income and gains

The journal is a book of prime entry, wherein all business transactions are recorded first. For recording a transaction, first analyse it, find out the two accounts involved in it and then by applying the golden rules of debit and credit, pass the entry. The debit effect is always recorded first and then the credit effect. Entries relating to goods are made in five separate accounts depending on the nature of the transactions. These accounts are:

1. Sales account
2. Purchases account
3. Sales return account
4. Purchases return account
5. Stock account.

A ledger is the principal book of accounts. All entries made in the journal are posted in the ledger to the respective accounts. Posting is made on the debit side of the accounts that have been debited in the journal and on the credit side of the accounts that have been credited in the journal. These accounts are balanced regularly and a 'Trial Balance' is prepared to check the arithmetical accuracy of the double entry.

The book that keeps records all cash transactions, i.e. 'Cash Receipts' and 'Cash Payments', is called the cash book. There are three types of cash books, viz.,

1. Simple cash book
2. Two-(Double) column cash book
3. Three-(triple) column cash book.

All receipts are recorded on the debit side whereas all payments are recorded on the credit side. Since the cash book is nothing but a cash account, there is no necessity of opening a cash account again in the ledger.

Cash book is a book of original entry on the ground that all cash transactions are recorded first in it and then posted from the cash book to the various accounts opened in the ledger. It is also called a ledger since all receipts in cash and payments in cash are recorded in the same book. It is not necessary to have a separate cash account in the ledger because the record in the cash book takes the shape of a ledger account.

### **9.8 KEYWORDS**

**Account:** A summarised record of transactions pertaining to one person, property or expenses or gain.

**Journal:** A book of original entry.

**Journalising:** It is the process of recording a transaction in the journal. Journal entry is an entry made in the journal.

**L.F.:** Stands for Ledger Folio.

**Ledger:** A book that contains all accounts.

**Posting:** It means a process of transferring transactions from the journal into ledger accounts.

**Balance:** It is the net difference of debit and credit total of an account.

**Trial Balance:** A statement, as on a particular date, showing all ledger balances.

**Cash Discount allowed:** Discount given when payment is received before the due date.

**Cash Discount received:** It is discount received when payment is made before the due date.

**Trade Discount:** A discount given for purchases by the wholesalers to the retailers for bulk purchases.

**Contra Entry:** It means the debit as well as the credit is effected of the same transaction when it is recorded in the cash book.

**Petty Cash book:** A book maintained to record petty cash payments.

**Narration:** means Short description of a transaction.

**Personal accounts:** It shows transactions with persons.

**Real accounts:** It relate to properties or assets.

**Nominal accounts:** It relate to expenses, losses, incomes and gains.

**9.9 PROBLEMS**

1. Journalise the following transactions:

		2007
	Jan. 1	Commenced business with cash
	2	Cash deposited in Dena Bank to open an a/c
4		Purchased goods from Amita on credit
		16,000
5		Sold goods to Bharat on credit
		2,000
9		Bought furniture from Godrej & Boyce and amount paid by cheque
		3,000
12		Cash sales made
		5,000
18		Paid rent
		500
25		Purchased stationery for office use
		200

2. Journalise the following transactions in the books of Miss Monica:

		2007	Rs.
Feb.	1	Commenced business with cash Rs. 14,000 and furniture	2,000
	5	Received goods from Suresh on credit	12,000
	8	Made cash sales	5,000
	12	Invoiced goods to Ramesh	2,000
	13	Received free sample	400
	18	Placed an order with Maganbhai for goods	5,000
	20	Returned goods to Suresh	500
	25	Maganbhai sent their invoice	2,000
	28	Goods withdrawn for personal use	500

3. Record the following transactions in the books of Shri Kapoor:

		2007	Rs.
Jan.	1	Cash paid into Bank	20,000
	5	Purchased Goods from Chaganlal at 10% trade discount	40,000
	6	Sold 50% of the goods purchased from Chaganlal to Manisha at 10% profit	
	8	Purchased a typewriter	3,000
	10	Paid salary to the accountant	500
	15	Cash sales made	12,000
	18	Paid for advertisement	2,000
	20	Settled the account of Chaganlal by issuing a cheque to him. He offered a cash discount of 10%	
	25	Manisha settled her account	
	28	Paid household expenses	1,500
	30	Paid office rent	200



## 4. Journalise the following transactions and post them into ledger:

2007		Rs.
March	1 Standard business with goods worth Rs. 7,000 and cash	5,000
	5 Cash received from Manganlal as a loan	10,000
	6 Opened a bank account with Bank of India	5,000
	8 Bought furniture from Suresh Furniture Mart	6,000
	9 Bought goods for cash less 5% cash discount	2,000
	12 Sold goods to Banwarilal	6,000
	15 Banwarilal returned 1/4th of the goods sold to him	
	18 Miscellaneous expenses paid in cash	500
	20 Received a cheque from Banwarilal	3,000

## 5. Journalise the following transactions in the books of Suresh and post them to various ledger accounts:

2007		Rs.
Feb.	1 Suresh commenced business with cash	20,000
	5 He opened an account with Dena Bank	15,000
	3 Bought goods for cash from Nayan	2,000
	6 Bought goods from Ayub	10,000
	8 Sold goods to Kavita	12,000
	9 Settled account of Ayub by cheque at 5% cash discount	
	12 Kavita gave us a cheque in full settlement of our account	10,000
	15 Drawn cash from bank for office use	2,000

## 6. From the following transactions, prepare Vimal account in the books of Ajay Traders and find out the amount receivable from Vimal:

2007	
March	1 Vimal owes Ajay Traders Rs. 2,000
	5 Vimal places an order for goods at catalogue price of Rs. 40,000 subject to 10% trade discount and 5% cash discount
	8 Ajay Traders supplied the goods to Vimal
	12 Ajay Traders paid Rs. 2,000 towards carriage on goods supplied to Vimal
	15 Vimal returned goods for catalogue price of Rs. 5,000
	16 Ajay Traders purchased goods from Vimal worth Rs. 8,000 at 5% trade discount
	20 Sold goods to Vimal Rs. 10,000 less 10% trade discount
	25 Vimal returned goods worth Rs. 900 net.
	30 Vimal settled his account at 5% cash discount (Ans. A cheque for Rs. 34,200 is received from Vimal)

## 7. Record the following transactions in a simple cashbook of Shri Madhav and post them into ledger

2007	
Jan.	1 Commenced business with cash Rs. 15,000
	2 Cash purchases made Rs. 12,000
	4 Paid for printing & stationery Rs. 400

- 8 Cash sales made Rs. 4,000  
 10 Paid cash to Mohan for goods purchased from him Rs. 2,000 16  
 Paid office rent to the landlord Rs. 200 18 Received from Raj an Rs.  
 3,000 22 Drew for household expenses Rs. 800 28 Paid to  
 Rajesh, salary for the month of January Rs. 500

(Ans. Closing Balance Rs. 6,100)

8. Enter the following transactions in a three column cash book: 2006

- Dec. 1 Commenced business with cash Rs. 25,000  
 4 Opened current account with Syndicate Bank Rs. 15,000  
 6 Paid by cheque to Ratnakar Rs. 950 who allowed a discount of Rs. 50  
 8 Received a cheque for Rs. 16,900 in full settlement of Rs. 17,000 from Vanita  
 9 Cheque received from Vanita endorsed to Babita  
 10 Paid staff salary Rs. 2,000  
 15 Paid to Sunil Rs. 1,000 in cash and Rs. 2,000 by cheque  
 18 Received from Chhotual Rs. 16,250 by cheque, allowed him a discount of Rs. 250  
 20 Received a cheque from Mr Ashok Rs. 2,000  
 25 Paid telephone bill Rs. 560  
 28 Paid transport charges to Mis Jolly Transport by cheque Rs. 5,000  
 31 Cash in excess of Rs. 100 deposited into the Bank.

(Ans. Closing Balance - Cash Rs. 100; Bank Rs. 31,640, Discount - Debit Rs. 350; Credit Rs. 50)

### **9.10 TERMINAL QUESTIONS**

1. What is a "Journal"?
2. Why is the "Journal" called a book of prime entry?
3. What do you mean by 'narration' in a journal? Is it necessary?
4. Explain the steps to be followed in journalising.
5. What is an Account?
6. What do you mean by balancing of an account?
7. What is the significance of a balance in the personal account and balance in a real account?
8. What is a Ledger?
  - (a) A book, where all transactions relating to a particular account are recorded at one place.
  - (b) A book where only cash transactions are recorded.
  - (c) A book where all business transactions are recorded daily.
  - (d) None of the above.
9. Are only cash sales recorded in the "Sales Book"?
  - (a) Yes
  - (b) No

10. The transactions in the bank column on the credit side of the 'Three Columnar Cash Book' indicates
- (a) Amount withdrawn from the bank
  - (b) Amount deposited into the bank
  - (c) Both (a) and (b) given
  - (d) None of the above
11. What does the 'Three Column Cash Book record'?
- (a) Cash transactions only
  - (b) Both cash and bank transactions excluding discounts
  - (c) Both cash and bank transactions including discounts
  - (d) None of the above
12. Is a ledger, a book of final entry?
- (a) Yes
  - (b) No
13. What is a journal?
- (a) Original entry
  - (b) Double entry
  - (c) Duplicate entry
  - (d) None of the above
14. The credit balance in the 'Capital Account' is a liability or an asset?
- (a) A liability
  - (b) A revenue
  - (c) An expense
  - (d) None of these
15. The amount brought in by the proprietor in the business should be credited to \_\_\_\_\_ .
- (a) Proprietor's account
  - (b) Drawings account
  - (c) Capital account
16. Wages paid to Raju should be debited to \_\_\_\_\_ .
- (a) Raju's account
  - (b) Wages account
  - (c) Cash account
17. Return of goods from a customer should be credited to \_\_\_\_\_ .
- (a) Sales return account
  - (b) Customer account
  - (c) Goods account
18. In case of a bad debt, the amount should be debited to \_\_\_\_\_ .
- (a) Bad debt account
  - (b) Customer account
  - (c) Discount account
19. Loan taken from Mamta should be credited to \_\_\_\_\_ .
- (a) Mamta account
  - (b) Loan from Mamta
  - (c) Bank account
20. Match the following:
- |                      |               |
|----------------------|---------------|
| A                    | B             |
| (a) Sheela           | (i) Real      |
| (b) Corporation Bank | (ii) Personal |

- (c) Salary (iii) Real (iv)  
 (d) Building Personal (v)  
 (e) Land Nominal

Fill in the blanks.

- (a) The two accounts concerned are \_\_\_\_\_ and \_\_\_\_\_ account.  
 (b) Both the accounts are \_\_\_\_\_ account  
 (c) \_\_\_\_\_ account is debited because \_\_\_\_\_ comes  
 \_\_\_\_\_ account is credited because \_\_\_\_\_ in. go  
 (e) Motor car account is a \_\_\_\_\_ account.  
 (f) Mukesh account is a \_\_\_\_\_ account,  
 (g) Capital account is a \_\_\_\_\_ account.  
 (h) Amount invested in business by its owner is known as \_\_\_\_\_ account.  
 (i) Drawings account is a \_\_\_\_\_ account.  
 (j) To record the transaction in the journal is called \_\_\_\_\_  
 (k) Journal is a book of \_\_\_\_\_  
 (l) Short description of a transaction is called \_\_\_\_\_  
 (m) Ledger is the \_\_\_\_\_ book of accounts.  
 (n) Every entry must be posted into \_\_\_\_\_  
 (o) \_\_\_\_\_ Transferring  
 (p) \_\_\_\_\_ entries from  
 (q) \_\_\_\_\_ journal to the  
 \_\_\_\_\_ ledger is called The difference between two sides of account is  
 (r) called \_\_\_\_\_  
 (s) A person who owes us something is called a \_\_\_\_\_ and a person whom we owe  
 (t) something is called a \_\_\_\_\_.  
 (u) The left hand side of an account is called \_\_\_\_\_ side,  
 (v) The right hand side of an account is called \_\_\_\_\_ side.  
 (w) A debit in nominal account denotes an \_\_\_\_\_ .  
 Nominal accounts are transferred to \_\_\_\_\_ at the end of the year.  
 (x) Balances of real accounts and personal accounts are \_\_\_\_\_ to the next period.  
 (y) The debit side of the cash book is called \_\_\_\_\_ side and the credit side is called  
 (z) \_\_\_\_\_ side.

Cash column of the cash book can never have a \_\_\_\_\_ balance.

The \_\_\_\_\_ balance in cash account should always be equal to the cash in the cash box.

Discount allowed by the creditor is recorded on

21. \_\_\_\_\_ the side of the cash book.

\_\_\_\_\_ balance.

(aa) In case of an overdraft, the bank column of the cash book will show a \_\_\_\_\_

(bb) All expenses are recorded on \_\_\_\_\_ side of the cash book and all receipts are recorded  
 on \_\_\_\_\_ side of the cash book.

(cc) Petty cash book with multiple columns for small payments is known as \_\_\_\_\_ petty  
 cash book.

(dd) Petty cash book is generally maintained on \_\_\_\_\_ system.

22. Name the accounts involved in the following transactions:

(a) Ranjana purchased goods worth Rs. 5,000 from Mayur.

(b) Sudhir sells goods to Ram Rs. 10,000 on credit.

(c) Ranjana pays cash Rs. 5,000 to Mayur.

(d) Balan withdraws Rs. 300 for personal use.

(e) Telephone charges Rs. 500 paid in cash.

23. Give appropriate word(s) for the following:

(a) Accounts book where individual records of persons, properties, expenses, etc., are maintained.

**r**

- (b) Transferring of an entry from the journal to the ledger.
  - (c) Total of debit side is greater than credit side of an account.
  - (d) Total credit side is greater than debit side of an account.
  - (e) Discount that is recorded in the books of account.
  - (f) Accounts book where the transactions are first recorded.
24. State whether the following statements are True or False:
- (a) Every transaction is recorded first in the cash book.
  - (b) Bank account is a personal account.
  - (c) Narration is not necessary.
  - (d) Journal is a book of original entry.
  - (e) Personal expenses of the proprietor are debited to the capital account.
  - (f) Bank account is a real account.
  - (g) Balancing of all accounts must be done at the end of each day.
  - (h) If the closing balance appears on the debit side of an account, it is said to have a credit balance.
  - (i) A business transaction is directly entered into the ledger, (j) Cash account always shows a debit balance, (k) Cash book is a book of original entry. (l) A cash book also serves the purpose of a cash account, (m) Cheques received from the customers are recorded on the credit side of the columnar cash book, (n) Interest allowed by the bank will be entered on the debit side of the cash book in the cash column, (o) A bearer cheque received from a customer or paid to a supplier will always be entered in the cash column of the cash book, (p) Credit sales are recorded on the credit side of the cash book.

### **9.11 ANSWERS TO TERMINAL QUESTIONS**

8. (a); 9. (b); 10. (a); 11. (c); 12. (a); 13. (a); 14. (a); 15. (c); 16. (b); 17. (b); 18. (a); 19. (b);
20. (a) (ii); (b) (iv); (c) (v); (d) (i); (e) (iii);
21. (a) Goods and Cash; (b) Real; (c) Cash - Cash; (d) Goods - Goods; (e) Real; (f) Personal; (g) Personal; (h) Capital; (i) Personal; (j) Journalising; (k) Original entry; (l) Narration; (m) Principal; (n) Ledger; (o) Posting; (p) Balance; (q) Debtor, Creditor; (r) Debit; (s) Credit; (t) Expense; (u) Profit & Loss Account; (v) Carried forward (w) Receipt-payment; (x) Credit; (y) Closing; (z) Payment; (aa) Credit; (bb) Credit-Debit; (cc) Columnar; (dd) Imprest.
22. (a) Goods and Mayur; (b) Ram and Goods; (c) Mayur and Cash; (d) Cash and Drawings; (e) Cash and Telephone charges.
23. (a) Ledger; (b) Posting; (c) Debit balance; (d) Credit balance; (e) Cash discount; (f) Journal;
24. (a) False; (b) True; (c) False; (d) True; (e) False; (f) False; (g) False; (h) True; (i) False; (j) True; (k) True; (l) True; (m) False; (n) False; (o) False; (p) False.

# MODULE -C

## SPECIAL ACCOUNTS

**Unit 10.** Bank Reconciliation Statement

**Unit 11.** Trial Balance - Rectification of Errors -Adjusting and Closing Entries

**Unit 12.** Capital and Revenue Expenditure

**Unit 13.** Inventory Valuation

**Unit 14.** Bills of Exchange

**Unit 15.** Consignment Account

**Unit 16.** Joint Venture

**Unit 17.** Leasing and Hire Purchase

**Unit 18.** Accounts of Non-Trading Organisations

**Unit 19.** Depreciation Accounting

**Unit 20.** Accounting from Incomplete Records (Single Entry System)

**Unit 21.** Ratio Analysis



# BANK RECONCILIATION STATEMENT

## STRUCTURE

- 10.0 Objectives
- 10.1 Introduction
- 10.2 Need for Bank Reconciliation
- 10.3 Causes of Differences
- 10.4 Preparation of Bank Reconciliation Statement
- 10.5 How to Prepare a Bank Reconciliation Statement when Extracts of Cash Book and Pass Book are Given
- 10.6 Adjusting the Cash book Balance
- 10.7 Advantages of Bank Reconciliation Statement
- 10.8 Let Us Sum Up
- 10.9 Keywords
- 10.10 Terminal Questions



## **10.0 OBJECTIVES**

After going through this unit, you will be able to:

- Describe what is a 'Bank Reconciliation Statement'  
Explain the need for 'Bank Reconciliation'
- List and describe the causes of differences between the 'Cash book' and 'pass book' balance.
- Reconcile 'Cash book' balance with 'Pass book' balance.
- State and describe the advantages of 'Bank Reconciliation Statement'

## **10.1 INTRODUCTION**

In a business, the majority of payments are made through banks. Where huge payments are involved, it is very risky to carry that much amount of cash. Therefore, a businessman will carry a cheque book with him that enables him to make any payment from Re.1 to Rs. 1 crore or even more by simply drawing a cheque.

In the cash book of a trader, a bank column is provided on both sides. Bank account is a personal account. When, a cheque is received and deposited in the bank, the trader debits his bank account by applying the principle of personal account, debit the receiver. When a cheque is issued for payment of any expenses or for the purchase of goods, Bank will make payment, on presentation of the cheque, provided there is sufficient balance to honour/pay it. The trader records the entry on the credit side of the cash book applying the principle: credit the giver. The trader records these entries immediately.

In a bank, the customer's account is opened. Based on the same principle, banker credits the customer's account when a cheque, deposited by a trader, is cleared and debits his account, when a cheque, drawn by him, is presented to it for payment.

In this unit, we shall examine the causes for differences in the balance in the cash book, maintained by the trader, and the pass book, maintained by the bank, as also the process of reconciling balances.

## **10.2 NEED FOR BANK RECONCILIATION**

The trader immediately records the deposits and withdrawals in the cash book. The bank, however, records these on the dates of clearing of the cheques and on the dates when the cheques are presented for payment over the counter or through the process of a clearing house. Thus, the dates of entries in the cash book and pass book may differ and balances shown by cash book and pass book may not tally. Let us suppose that a trader receives a cheque for Rs. 80,000 from his customer on 30<sup>th</sup> June and deposits it into his bank account on the same date. The bank will credit the same to his account only after clearance of the same from the bank on which cheque is drawn. This process may take about three to four days or even more, if the cheque is an outstation cheque. Under the circumstances, a trader cannot issue any cheque to his supplier or anyone else until the amount is credited in his bank account. It is, therefore, necessary to reconcile the balance shown as per the cash book and the balance as per the pass book. The statement that is prepared for reconciling these two balances, together with explanations, is called the 'Bank Reconciliation Statement'. This is normally prepared at the end of each month.

## **10.3 CAUSES OF DIFFERENCES**

Following are the main causes that lead to disagreement in balances of the cash book and the pass book:

**(a) Cheques issued but not presented for Payment**

A trader immediately records the payment made by a cheque to a creditor or, for any expenses, in the cash book credit side (payments side). The debit for the same, however, will appear in the pass book only when payee presents the cheque for payment to the bank. There is usually a time lag between the date of issue of the cheque by the drawer and presentation by the payee.

**(b) Cheques Deposited into Bank but not yet collected**

In a business, majority of receipts will be by cheques. The customers will issue cheques to the trader on the bank where they have an account, say, Dena Bank, Syndicate Bank, Central Bank and so on. The trader may have his business account in the State Bank of India. As and when the cheques are received, he will deposit these in his bank account and entries will be immediately recorded in his cash book on the debit side (receipts side). His banker, however, will credit the amounts of the cheques, to the customer's account, on the dates of clearance of the cheques by the clearing house. There is a time lag between the date of deposit of the cheques in the bank by the trader and that of credit in his account in the bank.

These two entries (a) and (b) will appear first in the cash book and then later on in the pass book.

Now, there are certain entries that originate in the pass book first and then from the pass book, the trader makes the necessary entries in the cash book.

**(c) Bank Charges**

For collection of outstation cheques, payments made as per the standing instructions, issue of cheque books, the bank will debit customer's account.

**(d) Interest on Saving Bank**

The bank credits the customer's account in the pass book for the interest on the credit balance.

**(e) Interest on Overdraft**

When the trader draws more than what he has in the bank account, the account is said to be overdrawn. This facility is normally availed by a trader with prior arrangements with his bank. The banker debits the customer's account for the interest on an overdrawn balance.

**(f) Amount Collected by Bank on Standing Instruction**

The trader often issues some standing instructions, authorising his banker to collect on his behalf certain amounts due to him, such as interest, dividend etc. On receipt of an advice from the bank, the trader records the same on the debit side in the cash book.

**(g) Amount paid by Bank on Standing Instruction**

The trader may instruct the banker to pay a certain amount on a particular date on his behalf, e.g. Life Insurance premium. Entries for the same transactions will be recorded in the cash book of the trader on the credit side on receipt of the bank advice or after comparing pass book with the cash book.

**(h) Direct Payments into the Bank made by Trader's Customers**

Many a time, customers directly deposit amounts into the trader's bank account. After clearing these cheques, the banker will credit these amounts to the trader's account. Entries for the same transactions will be recorded in the cash book of the trader on the debit side, on receipt of the bank advice or after comparing the pass book with the cash book.

**(i) Dishonour of a Cheque**

On dishonour of a cheque deposited by the trader, the bank will debit the customer's account.

## (j) Errors

While recording the entries, banker or an accountant might make some errors such as under casting, over casting, recording entry in cash or discount column, crediting the amount to some other account and so on. Due to these errors, bank balance and cash book balance may not tally.

**10.4 PREPARATION OF A BANK RECONCILIATION STATEMENT**

Write preparing a reconciliation statement, the following steps should be kept in mind:

- When there is a positive balance, it appears as a debit balance in the cash book and a credit balance in the pass book.
- When there is an overdrawn balance, it appears as a debit balance in the pass book but as a credit balance in the cash book.
- Open a rough cash book and pass book and mark the given balance, in both the books by way of a cross 'X'.
- Write 'G' (Given) on the top of the cash book if the balance is given as per the cash book and 'F' (find out) on the top of the pass book.
- Enter the given entry in the problem in the cash book or pass book wherever it appears and put a dash on the opposite side of the other book.
- Draw the balances in both the books. If the figure is below X balance will be '+' amount and if the figure is on the opposite side balance will be '-' amount.
- Always compare the 'F' balance with 'G' balance.
- If 'F' balance is more, add to the starting balance, in the reconciliation statement and when T' is less, reduce from the starting balance.

*Totalling error:* Where there is a totalling error, take that figure in the cash book and pass book twice. Take the correct total in one book, as stated in the problem, repeat the mistake in the other. Then draw the balances of both and compare these balances.

	Cash book		Pass book	
Balance as per cashbook is given				®
(1) Debit side total of cash book	500	X+1,500	X+1,000	500
(a) Overcast by Rs. 500	500			500
			Cash book is More by Rs. 500	
(b) Undercast by RS.500	® 500 500 X + 500			® 500 500 X + 1,000
			Cash book is Less by Rs. 500	

	Cash book		Pass book	
(2) Debit side total of passbook:				®
(a) Overcast by Rs. 400		400	400	
		400	400	
	X-800			X-1,200
			Pass book is More by Rs.400	
(b) Undercast by Rs. 800		800	800 800	
	« X-1,600	800	X-800	
			Pass book is less by Rs. 800	

*Wrong carry forward of a balance:* First show the amount in the cash book and the pass book on the correct side. Then cancel the figure where there is a mistake and show that figure on the wrong side. Draw the balances and compare.

	Cash book		Pass book	
Balance as per passbook (1) Debit				
Balance in passbook is Carried forward as Credit Balance Rs. 2000	®			®
	X - 2,000	2,000 X + 2,000		2,000
			Pass zbook is More by Rs. 4,000	
Credit balance in Cashbook is Carried forward as debit balance Rs. 500	® 500 X + 500	500	X-500	®
			Cash book is More by Rs. 1,000	

Enter all the items, given in the problem and then find out the final answer. If the final figure is a positive figure, carry forward the same narration, given to the opening balance in the statement. For example, if the starting balance is overdraft as per the cash book, the final answer will be overdraft as per the pass book. If the final answer is a negative balance, then reverse the starting point, i.e. overdraft will become positive balance.

**Illustration No. 1**

The cash book of Mr. Gadbawala shows Rs. 8,364 as the balance at the bank as on 31st December, 1997, but you find this does not agree with the balance as per the bank pass book. On scrutiny, you find the following discrepancies:

1. On 1st December, the payments side of the cash book was undercast by Rs. 100.
2. A cheque of Rs. 131, issued on 25th December, was not taken in the bank column.
3. One deposit of Rs. 150 was recorded in the cash book as if there is no bank column therein.
4. On 18th December, the debit balance of Rs. 1,526 as on the previous day, was brought forward as credit balance.
5. Of the total cheques, amounting to Rs. 11,514, drawn in the last week of December, cheques aggregating to Rs. 7,815, were encashed in December.
6. Dividend of Rs. 250, collected by bank and, subscription of Rs. 100, paid by it, were not recorded in the cash book.
7. One out-going cheque of Rs. 350 was recorded twice in the cash book. Prepare a bank reconciliation statement.

[Adapted from C.A. Foundation - Module]

**Solution****Rough Working**

Pass book (F)		Cash book (G)	
1.	100		100
	100		L 100
	X-200	(Minus Rs. 100)	X-100
	F is less by Rs. 100		
2.	131		-
	X-131	(Minus Rs. 131)	X
	F is less by Rs. 131		
3.	® 150	®	—
	X+150		X
	F is more by Rs. 150	(Add Rs. 150)	
4.			
	1,526 X +1,526		1,526 X- 1,526
	F is more by Rs. 3,052	(Add Rs. 3,052)	

Pass book (F)		Cash book (G)	
5,7815	₹	₹	11,514
F is more by	X-7,815 Rs. 3,699	(Add Rs. 3,699)	X-11,514
6.	₹ 250 dividend collected	₹	
(i)	X + 250		X
F is more by	Rs. 250	(Add Rs. 250)	
(ii) Subscription paid 100	₹ X-100	₹	
			X
F is less by	Rs. 100	(Minus Rs. 100)	
7) 350	₹		₹ 350 350
	X-350		X-700
F is more by	Rs. 350	(Add Rs. 350)	

**Final Answer**

Balance as per the cash book Add: Amount deposited but not recorded in the cash book Debit Balance in the cash book wrongly carried forward as credit balance Cheques issued but not presented Dividend collected but not recorded in the cash book Cheques issued but recorded twice in cash book	150 3,052 3,699 250	8,364
Less: Payment side of the cash book undercast Cheques issued but not recorded in the cash book Subscription paid debited in the pass book only	350 100 131 100	15,565
		15,534

**Illustration No. 2**

Prepare a bank reconciliation statement as on 30 April 1997, from the following particulars. 1.

Overdraft balance, as per the pass book, was Rs. 12,000 as on 30th April 1997.

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2. On 28th April, cheques have been issued for Rs. 7,000, of which cheques of Rs. 3,000 only had been encashed up to 30th April, 1997.
3. Cheques amounting to Rs. 3,500 had been deposited into the bank for collection, but of these, only Rs. 500 had been credited in the pass book.
4. Bank had charged an interest on an overdraft of Rs. 500, the intimation of which was received only on 4th May.
5. Bank pass book shows a credit for Rs. 1,000 representing Rs. 400 paid by a debtor directly into the bank and Rs. 600 collected by bank in respect of interest on investment. The trader received no intimations of these.
6. Bank had debited Rs. 1,200 because of life insurance premium of the trader; the advice for the same was issued by the bank on 6th May.

### Solution Rough

#### Working

Cash book (F)				Pass book (G)	
	₹ 7,000			₹ 3,000	
F is more by	X + 7,000	(Add Rs. 4 000)			X + 3,000
	Rs. 4,000				
3,500	₹ X-	₹			500 X - 500
	3,500				
F is less by	Rs. 4,000	(Minus Rs. 3,000)			
₹		₹			
		500			
	X				X + 500
F is less by	Rs. 500	(Minus Rs. 500)			
	₹	₹			Customer's cheque 400 + 600 interest
	X				X - 1,000
F is more by	Rs. 1,000	(Add Rs. 1 000)			
	₹	₹		1,200	
	X				X + 1,200
F is less by	Rs. 1,200	(Minus Rs. 1,200)			

**Final Answer**

Bank Reconciliation Statement as on 30th April, 1997	Rs.	Rs.
Bank overdraft as per the pass book Add: Cheques issued but not presented Credits in the pass book not recorded in the cash book -Direct deposit by a customer Interest on investment	4,000 400 600	12,000
Less: Cheques deposited but not credited Overdraft interest debited in the pass book but not recorded in the cash book Life Insurance Premium debited in the pass book only	3,000 500 1,200	17,000
Overdraft as per the cash book		12,300

**10.5 HOW TO PREPARE A BANK RECONCILIATION STATEMENT WHEN EXTRACTS OF THE CASH BOOK AND PASS BOOK ARE GIVEN**

When the cash book and pass book abstracts are given, the following points should be noted:

1. Find out the period for which both the abstracts are given.
2. Compare the cash book debit side with the pass book credit side and the cash book credit side with the pass book debit side.
3. When the period for which both the abstracts are given in common, i.e. the cash book abstract relates to January and the pass book abstract is also given for January, take into account only uncommon entries.
4. When the period for which both the abstracts are given is uncommon, i.e. the cash book relates to January but the pass book relates to February, take into account only common entries.
5. Where the period is same, uncommon entries will appear in the reconciliation statement.
6. When the period is different, common entries will appear in the reconciliation statement.

**Illustration No. 3**

From the following extracts of the cash book (bank column only) and the bank pass book of Suresh Trading Company, prepare a bank reconciliation statement, as on 31st December 1997.

**Cash book**

Dr.			Cr.		
Dec. 1997	Particulars	Rs.	Dec. 1997	Particulars	Rs.
1	To Balance b/f	12,500	4	By Goyal	3,000
10	To Mamta	3,000	8	By Pitre	4,000
15	To Geeta	5,000	10	By George	2,000
20	To Vidya	8,000	15	By Joshi	8,000
29	To Sheela	10,500	25	By Black	5,000
30	To Dividend	840	30	By White	100
				By Madanlal	4,000
				By Balance c/f	13,740
		39,840			1 39,840



**Bank Pass book**

Dec. 1997	Particulars	Withdrawals (Rs.)	Deposit (Rs.)	Balance (Rs.)
1	By Balance b/f		12,500	Cr. 12,500
6	To Goyal	3,000		Cr. 9,500
10	By Mamta		3,000	Cr. 12,500
	To Pitre	4,000		Cr. 8,500
16	By Geeta		5,000	Cr. 13,500
18	To Joshi	8,000		Cr. 5,500
22	By Vidya		8,000	Cr. 13,500
25	By Dividend		480	Cr. 13,980
28	To Black	5,000		Cr. 8,980
31	To L.I.C. Premium	500		Cr. 8,480
	To Balance c/f	8,480		
		28,980	28,980	

**Final Answers**

Bank Reconciliation Statement as on 31st December, 1997	Rs.	Rs.
Balance as per cash book Add: cheques issued but not presented: George White Madanlal	2,000 100 4,000	13,740
Less: cheque deposited but not cleared Dividend amount recorded more in 840 Cash book - 480 L.I.C. premium paid but not recorded in cash book Balance as per pass book	10,500 360 500	19,840
		8,480

**Illustration No. 4**

From the following entries in the bank column of cash book of Mr. Kartak, and corresponding bank pass book, prepare bank reconciliation statement as on 31 st March, 1997.

**Cash book**

Dr.			Cr.		
Mar. 1997	Particulars	Rs.	Mar. 1997	Particulars	Rs.
1	To Balance b/f To	3,400	7	By Drawings	1,500
3	Madan & Sons	500	8	By Salaries	2,200

13	To Jerbai	4,000	15	By Ardeshar & Co.	3,000
18	To Cowasji & Co.	1,200	28	By Merwan Bros.	1,550
28	To Dinshaw & Co.	2,200	29	By Raj & Sons	800
29	To Dhanbura & Co.	5,700	30	By Mackmillion Radios	400
31	To Anthony	3,425	31	By Chandu	1,600
				By Balance c/f	9,375
		20,425			20,425

**Bank Pass book (Mr. Kartak in Account  
with Central Bank)**

Dr.			Cr.		
Apr. 1997	Particulars	Rs.	Apr. 97	Particulars	Rs.
1	To Balance (overdraft)	750	2	By Dividend	500
2	To Raj & Sons	800	2	By Dinshaw & Co.	2,200
4	To Mackmillion Radios	400	3	By Hosang	200
8	To Salary	2,300	3	By Dhanbura & Co.	5,700
10	To Drawings	500	5	By Anthony	3,425
10	To Anthony (cheque dishonoured)	3,425	10	By Remy	170

**Final Answer**

Bank Reconciliation Statement as on 31st March, 1997	Rs.	Rs.
Balance as per cash book	800	
Add: Cheques issued but not presented: Raj & Sons	400	
Mackmillion Radios		9,375
Less: Cheque deposited but not credited:		
Dinshaw & Co. Dhanbura & Co. Anthony	2,200	
	5,700	
	3,425	
		10,575
Overdraft as per Pass book		-750

Here, we must remember that when final balance is negative (minus), then starting balance will be reversed at the end, i.e. balance becomes overdraft, as shown in the above case and Overdraft balance will become positive balance.

### 10.6 ADJUSTING THE CASH BOOK BALANCE

We have learnt that certain entries appear in the pass book first and then by comparing the pass book with the cashbook, these missing entries are incorporated in the cash book. The trader must know the correct bank balance at any time so that he can issue cheques only to the extent of the available bank balance. Therefore, before preparing a bank reconciliation statement, the accountant makes the necessary corrections in the cash book and adjusts the cash book balance.

The items, which can usually be adjusted in the cash book are:

1. Payments made by bank as per standing instructions.
2. Bank charges, interest on bank overdraft debited by the bank.
3. Collection of interest on securities and dividend on shares by bank.
4. Debits for the dishonour of cheques in the pass book.
5. Direct deposits made by customers of the trader.
6. Errors committed in the cash book.

Now with the adjusted cash book balance, reconciliation statement will be prepared. Let us solve illustration No. 1 by correcting the cash book balance.

#### Cash Book

Dr.		Cr.	
To Opening Balance	8,364	By Undercasting payment side	100
To Deposit Entry (shown in cash column)	150	By Cheque issued	131
To Wrong carry forward of balance	3,052	By Subscription paid by bank	100
To Dividend collected by bank	250	By Adjusted closing balance	11,835
To Outgoing cheque recorded twice	350		
	12,166		12,166

#### Final Answer

Bank Reconciliation Statement	Rs.
Corrected/adjusted balance as per cash book	11,835
Add: Cheques issued but not presented	3,699
Balance as per pass book	15,534

### 10.7 ADVANTAGES OF BANK RECONCILIATION STATEMENT

Following are the advantages of preparing the bank reconciliation statement:

1. It helps the management to check the accuracy of the entries made in the cash book.
2. It helps to detect errors and to take timely action for the correction of balances.

3. It is a very important control technique for the management.
4. It shows the correct bank balance at any particular time.
5. It reveals frauds committed by the staff handling cash and cheques and thus, helps the management to have effective control.

### 10.8 LET US SUM UP

In a business, the majority of transactions of receipts and payments take place through the bank account. In the cash book of a trader, a separate bank column is provided on both the sides. Cheques received from the customers and others are shown on the debit side in the cash book, whereas cheques issued to suppliers and others are shown on the payments side. We have seen in the earlier paragraphs that the dates of the cash book and pass book entries differ. The cheques deposited and issued are recorded in the cash book on the date when the cheque is deposited or issued. However, in the bank entries, debit and credit will appear only on the presentation of cheques to it and on clearance of cheques through the clearing house. The banks will honour their customers' cheques only when there is sufficient balance in their accounts. This requires the trader to compare his cash book balance with that shown by the bank. A bank reconciliation statement is, therefore, prepared at regular intervals, say, at the end of the month. It is prepared to explain the causes of differences and take the necessary follow up action.

### 10.9 KEYWORDS

**Bank Reconciliation Statement:** A statement that reconciles the cash book and passbook balances.

**Bank Charges:** Amount charged by bank for services rendered.

**Favourable Balance:** This indicates that the customer has money in the bank.

**Overdrawn Balance:** This indicates that customer has drawn more from bank than he had in his account.

**Standing Instruction:** Instruction given by the trader to the bank to pay a certain amount to someone on a fixed date of a month or year

### 10.10 TERMINAL QUESTIONS

I. Prepare a bank reconciliation statement from the following particulars:	
(a) Overdraft as per cash book	Rs. 8,000
(b) Cheques deposited in bank but no entry was passed in cash book	30
(c) Credit side of bank column cast short	0
(d) Cheques received but not sent to bank	100
(e) Insurance premium paid by bank as per standing instruction	1,000
(f) Bank charges entered in the cash book twice	500
(g) Cheques received returned by bank, but no entry passed	10
(h) Cheques issued returned on technical grounds	400
(i) Bills directly collected by bank	300
(j) Bank charges debited by bank	2,000
(k) Cheques received entered twice	12
(l) Bill discounted dishonoured	500
(Ans: overdraft as per pass book Rs. 11,902)	4,000

2. Janardan & Co. has bank accounts with two banks, viz., Dena Bank and Bank of India. On 31st December, 1977, his cash book (bank column) shows a balance of Rs. 5,000 with Dena Bank and an overdraft of Rs. 2,250 with Bank of India. On further scrutiny, the following facts were discovered:
1. A deposit of Rs. 1, 500, made in Dena Bank, on 20th December, 1997 has been entered in the column of Bank of India.
  2. A withdrawal of Rs. 500 from Bank of India on 2nd December, 1997 has been entered in the column for Dena Bank.
  3. Two cheques for Rs. 500 and Rs. 750 deposited in Dena Bank on 1st December, 1997 (and entered in Bank of India column) have been dishonoured by the bankers. The entries for dishonour have been made in the Bank of India column.
  4. Cheques issued on 29th December, 1997 on Dena Bank and Bank of India Rs.10,000 and Rs. 1,000 respectively. These cheques have not been encashed till December.
  5. Incidental charges of Rs.10 and Rs. 25 debited by Dena Bank and Bank of India respectively have not been entered in the books.
  6. Dena Bank has credited an interest of Rs.50 and Bank of India has charged interest Rs. 275. These have not been recorded in the books.
  7. The deposits of Rs. 5,000 and Rs. 3,500 made into Dena Bank and Bank of India respectively .have not yet been given credit to by them till 31st December.

Draw the bank reconciliation statement for the above two accounts. (Inter C.A.; Ans: Dena Bank Balance of Rs. 12,040 and Bank of India, overdraft Rs. 7,050).

3. Prepare a bank reconciliation statement as on 31st January, 1998 from the following extracts:

Cash book

Dr.			Cr.		
Jan. 1998	Particulars	Rs.	Jan. 1998	Particulars	Rs.
1	To Balance b/d	1,000	9	By Bandre	250
4	To Kanak	800	13	By Salaries	750
7	To Sales	500	18	By Purchase	300
10	To Ganesh	752	20	By Bhandare	309
15	To Ramesh	650	25	By Vinayak	200
20	To Interest	62	29	By Deshpande	100
			31	By Balance eld	1,855
		3,764			. 3,764
1st Feb.	To Balance b/d	1,855			

Pass book

Dr.			Cr.		
Jan. 1998	Particulars	Rs.	Jan. 1998	Particulars	Rs.
12	To Bandre 13	250	1 10	By Balance By Kanak	1,000
To Salaries 19	To	750	10	By Sales By Ganesh	800
Purchases 31	To	300	15	By Interest	500
Balance c/d		1,751	18		725 26
		3,051			3,051
			1st Feb.	By Balance b/d	1,751

4. (A) Write the word, term or phrase that can substitute each of the following statements:
- (1) The book, in which banking transactions are recorded by the bank.
  - (2) Statement explaining the causes of differences between the cash book and pass book balances.
  - (3) Normal balance of bank column as per the cash book.
  - (4) Credit balance of bank column as per the cash book.
  - (5) The side on which interest on an overdraft is recorded in the cash book.

Ans: (1) Pass book (2) Bank Reconciliation Statement (3) Debit Balance (4) Bank overdraft (5) Payment side

(B) Match the following pairs

Column 'A'		Column 'B'	
1	Cash book debit side	1	Deposits
2	Cash book credit side	2	Withdrawals
3	Pass book debit side	3	Receipts
4	Pass book credit side	4	Payments
5	Debit balance in pass book	5	Cheque Book
		6	Pass book
		7	Overdraft as per pass book

Ans: (1) - (3), (2) - (4), (3) - (2), (4) - (1), (5) - (7)

Column 'A'		Column 'B'	
1	Direct deposit by customer	1	Credit side of cash book
2	Interest charged by bank	2	Debit balance
3	Favourable balance of cash book	3	Credit balance
4	Overdraft as per cash book	4	^Credit side of pass book
5	Pass book	5	Dishonour of cheque
		6	Added
		7	Subtracted
		g	Copy of banking transaction

Ans : (1) - (4), (2) - (1), (3) - (2), (4) - (3), (5) - (8)

(C) State True or False

- (1) Bank reconciliation statements is an account.
- (2) Bank reconciliation statement is also prepared by bank.
- (3) Bank reconciliation statement is prepared to show causes of disagreement between two balances.
- (4) A credit balance in the pass book indicates an excess of deposits over withdrawals.

- (5) Bank reconciliation statement is prepared by businessman.
- (6) Debit balance as per the cash book means a credit balance as per the pass book.
- (7) Cheque issued to party is recorded on the receipt side of the cash book.
- (8) Interest and dividend collected by the bank decreases the bank balance.
- (9) Direct deposit by the customer increases bank balance.
- (10) Direct payments by the bank are recorded on the withdrawal side of the pass book.
- (11) Bank charges and commission charged by the bank are the income of the bank.
- (12) Cash book and pass book balance never agree.
- (13) Entry is recorded on the deposit side of the pass book for an increase in the bank balance.
- (14) Overcasting the receipt side of the cash book increases the bank balance in the cash book.
- (15) Usually a bank reconciliation statement is prepared at the end of month.

**Ans: (1) False (2) False (3) True (4) True (5) True (6) True (7) False (8) False (9) True (10) True (11) True (12) False (13) True (14) True (15) True**

**(D) Answer in one sentence:**

- (1) What is bank reconciliation statement?
- (2) What is a pass book?
- (3) What is an overdraft?
- (4) What do you mean by favourable balance as per the pass book?
- (5) What do you mean by unfavourable balance as per the cash book?

**Answer**

- (1) Bank reconciliation statement is a statement prepared to explain the difference between the balance of bank as per the cash book and pass book.
- (2) Pass book is a copy of the customer's account as it appears in the bank's ledger.
- (3) Overdraft is a facility given by the bank to a current account holder to withdraw an amount in excess of the credit balance up to an agreed level.
- (4) Favourable balance as per pass book means credit balance of account holder in the pass book.
- (5) Unfavourable balance as per cash book means credit balance of bank or balance payable to bank or overdraft as per cash book.

**(E) Fill in the blanks with appropriate words:**

- (1) Debit balance as per pass book means \_\_\_\_\_ .
- (2) Normally the items on debit side of cash book are found on \_\_\_\_\_ side of pass book.
- (3) Insurance premium paid by bank is \_\_\_\_\_ by bank in pass book.
- (4) Direct deposit by the customer is recorded first in \_\_\_\_\_ .
- (5) Direct deposit by the customer is recorded on \_\_\_\_\_ side of cash book.
- (6) Direct deposit by the customer \_\_\_\_\_ the bank balance.
- (7) Normally the pass book shows \_\_\_\_\_ balance.  
\_\_\_\_\_ balance.
- (8) Overdraft as per the cash book means \_\_\_\_\_ for bank.  
Interest credited by bank is \_\_\_\_\_ account holder.  
Cheque deposited but not cleared is \_\_\_\_\_ in bank reconciliation statement, when started with overdraft balance in pass book. (9) Interest credited by bank is \_\_\_\_\_  
Cheque issued but not presented is \_\_\_\_\_ **(10)**
- (11) \_\_\_\_\_ in bank reconciliation statement, when started with overdraft as per the cash book.  
Credit side of pass book is known as \_\_\_\_\_ side. (

12)





- (14) Debit side of pass book is known as \_\_\_\_\_ side.  
 (15) When entry is passed on deposit side of pass book, the bank balance \_\_\_\_\_.  
 (16) Bank overdraft means a \_\_\_\_\_ balance in pass book.  
 (17) Undercasting of the credit side the cash book has the same effect as overcasting of the \_\_\_\_\_ side of the pass book.

Deposited cheque cleared will be shown on the \_\_\_\_\_ customer's account as it appears in the  
 Cheque deposited and dishonoured is recorded on \_\_\_\_\_ bank's ledger.

- (18) \_\_\_\_\_ side of pass book.  
 (19) \_\_\_\_\_ side of the cash book.  
 (20)

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**Ans: (1) Overdraft (2) Credit (3) Debited (4) Pass book (5) Debit (6) Increases (7) Credit (8) Credit (9) Expense (10) Income (11) Subtracted (12) Subtracted (13) Deposit (14) Withdrawal (15) Increases (16) Debit (17) Debit (18) Pass book (19) Credit (20) Credit.**

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**(F) Select the correct answer from the alternatives given in the brackets:**

- (a) Debit balance in the cash book means \_\_\_\_\_. (overdraft, favourable balance, neither of the two)  
 (b) Bank reconciliation statement is \_\_\_\_\_. (ledger account, part of the cash book, a statement showing difference between the cash book and the passbook balances)  
 (c) Bank reconciliation statement is prepared by \_\_\_\_\_. (businessman, bank, debtor)  
 (d) When the balance as per the cashbook is the starting point, unpresented cheques are \_\_\_\_\_. (added, subtracted)  
 (e) When the payment side of the cash book is overcast by Rs. 100 and the overdraft, as per the pass book is starting point \_\_\_\_\_. (Rs. 100 will be added, Rs. 100 will be deducted)  
 (f) Interest on overdraft will appear \_\_\_\_\_. (in cash book, in pass book)

**Ans: (a) favourable balance (b) a statement showing difference between cash book and pass book balance (c) Businessman (d) added (e) added (f) in Pass book**

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**UNIT**  
**11**

**TRIAL BALANCE, RECTIFICATION  
OF ERRORS AND ADJUSTING &  
CLOSING ENTRIES**

**STRUCTURE**

- 11.0 Objectives**
- 11.1 Introduction**
- 11.2 Meaning of a Trial Balance**
- 11.3 Features and Purpose of a Trial Balance**
- 11.4 Types of Trial Balance and Preparation of a Trial Balance**
- 11.5 Disagreement of a Trial Balance**
- 11.6 Classification of Errors**
- 11.7 Location of Errors**
- 11.8 Rectification of Errors**
- 11.9 Suspense Account and Rectification**
- 11:10 Rectification of Errors when Books are closed**
- 11.11 Adjusting and Closing Entries**
- 11.12 Let Us Sum up**
- 11.13 Keywords**
- 11.14 Terminal Questions**

## **11.0 OBJECTIVES**

After studying this unit, you will be able to:

- Know what is a trial balance
  - Prepare a trial balance
  - Know various types of errors
  - Rectify the errors
- Rectify errors detected during subsequent year.

## **11.1 INTRODUCTION**

In the earlier units, we have learnt how business transactions are recorded in the journal. These entries are posted to various accounts in the ledger. The books of account are written on the basis of double entry system of bookkeeping. It means every debit has a corresponding credit. Thus, when a summary of these debits and credits is prepared, it must tally. Such a list of balances is known as Trial Balance.

## **11.2 MEANING OF A TRIAL BALANCE**

*The Directory for Accountants*, written by Eric. L. Kohler, defines Trial Balance as a list or abstract of balances

- or of total debits and total credits of the accounts
- in a ledger
- the purpose being
- to determine the equality of posted debits and credits
- and to establish a basic summary for financial statements.

Mr. Carter defines Trial Balance as

- a list of those debit and credit balances
- which are extracted from various accounts in the ledger
- and balance of cash in hand and cash at bank, as shown by cash book,
- are also included in it.

Thus, from the above two definitions, a simple definition can be drawn. Trial balance is a statement showing debit and credit balances taken from ledger including cash and bank balances as on a particular date.

## **11.3 FEATURES AND PURPOSE OF A TRIAL BALANCE**

1. It is a list of debit and credit balances drawn from ledger.
2. It includes cash and bank balances.
3. Its main purpose is to establish arithmetical accuracy of transactions recorded in the books of account.
4. It is usually prepared at the end of the year but it can also be prepared any time, as and when required, e.g. monthly, quarterly or half yearly.
5. It enables the trader to know amounts receivable from customers and amounts payable to suppliers.

6. It facilities preparation of final accounts.

#### **11.4 TYPES OF TRIAL BALANCE AND PREPARATION OF TRIAL BALANCE**

There are two types of trial balance:

1. Gross trial balance
2. Net trial balance

##### **1. Gross Trial Balance**

It is prepared in the following stages:

1. Take totals of debit and credit columns of each ledger account.
2. Take totals of receipts and payments of cashbook showing separately cash, bank and discount columns.
3. Write names of all accounts as per the ledger and cash, bank and discount accounts as per cash book onto a statement.
4. Enter the debit and credit totals against each item.
5. Finally take total of debit and credit columns.

All these steps should be taken as on a particular date.

##### **Illustration No. 1**

On 31 st March 1997, the totals of debit and credit sides of various ledger accounts and receipts and payments sides of cash and bank columns of cash book of Mr. Bhagwandas are as under:

Total of debit side (Rs.)	Name of the Account	Total of credit side (Rs.)
10,000	Bhagwandas Capital	1,35,000
25,000	Drawings	-
15,000	Stock on 31st March, 1996	-
1,90,000	Purchases	4,000
	Purchases Returns	18,000
6,000	Sales	2,45,000
13,000	Sales Returns	-
12,000	Expenses	-
3,05,000	Customers	2,50,000
2,00,000	Suppliers	2,35,000
1,00,000	Car	-
2,81,000	Dena Bank	2,75,000
43,000	Cash	38,000

You are asked to prepare a trial balance of Mr. Bhagwandas as on that date.

**Solution**

## Gross Trial Balance as on 31st March 1997

Name of the Account	L.F.	Debit (Rs.)	Credit (Rs.)
Bhagwandas Capital		10,000	1,35,000
Drawings		25,000	-
Stock on 31st March, 1996		15,000	-
Purchases		1,90,000	4,000
Purchases Returns		-	18,000
Sales		6,000	2,45,000
Sales Returns		13,000	-
Expenses		12,000	-
Customers		3,05,000	2,50,000
Suppliers		2,00,000	2,35,000
Car		1,00,000	
Dena Bank		2,81,000	2,75,000
Cash		43,000	38,000
<b>Total</b>		<b>12,00,000</b>	<b>12,00,000</b>

**(2) Net Trial Balance**

Under this trial balance, net balances of each account are drawn and shown in trial balance. If debit total of an account is more, it will show debit balance and if credit total of an account is more, it will show a credit balance. From the above illustration No. 1, net trial balance can be drawn as under:

## Net Trial Balance as on 31st March 1997

Name of the Account	L.F.	Debit (Rs.)	Credit (Rs.)
Bhagwandas Capital			1,25,000
Drawings		25,000	
Stock on 31st March, 1996		15,000	
Purchases		1,86,000	
Purchases Returns			18,000
Sales			2,39,000
Sales Returns		13,000	
Expenses		12,000	
Customers		55,000	
Suppliers			35,000
Car		1,00,000	
Dena Bank		6,000	
Cash		5,000	
<b>Total</b>		<b>4,17,000</b>	<b>4,17,000</b>

While preparing a trial balance, we must remember that: assets and expenses accounts show debit balances. Incomes and liabilities accounts show credit balances. **Illustration No. 2**

From the following balances of Shri Inderkumar, prepare a Trial Balance as on 31st March, 1998.

Inderkumar's capital		
Drawings		
Bank Balance	15,000	
Bank Overdraft	1,000	
Discount allowed	2,000	
Discount earned	5,000	
Salary	1,000	
Purchase	2,000	
Sales	5,000	
Printing & Stationery	15,000	
Loan from X	20,000	
Loan to Y	6,000	
Machinery	8,000	
Cash in hand	3,000	
	10,000	
	7,000	

**Trial Balance as on 31st March 1998**

Name of Account	L.F.	Debit (Rs.)	Credit (Rs.)
Inderkumar Capital			15,000
Drawings			
Bank Balance		1,000	
Bank Overdraft		2,000	
Discount allowed			5,000
Discount earned		1,000	
Salary			2,000
Purchase		5,000	
Sales		15,000	
Printing & Stationery			20,000
Loan from X		6,000	
Loan to Y			8,000
Machinery		3,000	
Cash in hand		10,000	
		7,000	
		<b>50,000</b>	<b>50,000</b>

### 11.5 DISAGREEMENT OF A TRIAL BALANCE

We have learnt in the earlier paragraphs that a trial balance is prepared to verify arithmetical accuracy of the transactions recorded in the books. Under the double entry system of book keeping, if all the

transactions are correctly recorded through various books of prime entry, correctly posted there from to the ledger and if totalling is correct, then only the trial balance should tally. However, it is possible that a few mistakes may be committed by the persons entrusted with the work of journalising and posting. In that event, the trial balance will not tally. At the same time, there are certain errors which are not disclosed even though the trial balance agrees. Let us try to understand what are these errors and how to rectify them.

### 11.6 CLASSIFICATION OF ERRORS

Errors can be broadly divided into two types:

- (1) Clerical errors
- (2) Principle errors

#### (1) Clerical Errors

These errors can be further divided into:

- (a) errors of omission,
- (b) errors of commission, and
- (c) compensating errors.

Let us study them in detail.

#### (a) Errors of Omission

When a transaction is completely or partially omitted to be recorded in books of account, it is called an 'Error of omission'. Goods are purchased on credit from Mr. A. This transaction is not recorded in the purchase journal. This is called error of 'Complete omission'. If the above entry is recorded in purchase journal but remains to be posted to the supplier, Mr. A's account, then it will be called 'Partial omission'. The error of complete omission does not affect the trial balance but the partial omission will result in disagreement of trial balance.

#### (b) Errors of Commission

When an error is committed in recording a transaction with wrong amount or posting to wrong side of the account, it is called an 'Error of Commission'. Following are some of the examples:

1. Posting of correct amount but on the wrong side
2. Posting of a wrong amount but on the correct side
3. Posting of a wrong amount on wrong side of an account
4. Totalling error in subsidiary book, i.e. purchase journal, sales journal, returns journal or totalling error in any ledger account.
5. A mistake committed in balancing of ledger account.

A credit sale of goods to Mr. Sanjay for Rs. 720 recorded correctly in the sales journal but while posting to Sanjay's account, it is posted as Rs. 270.

An amount received from a customer Ramesh Rs. 2,000 recorded correctly in the cash book but posted to the debit side of Ramesh's account in the ledger.

These errors will result in disagreement of trial balance.



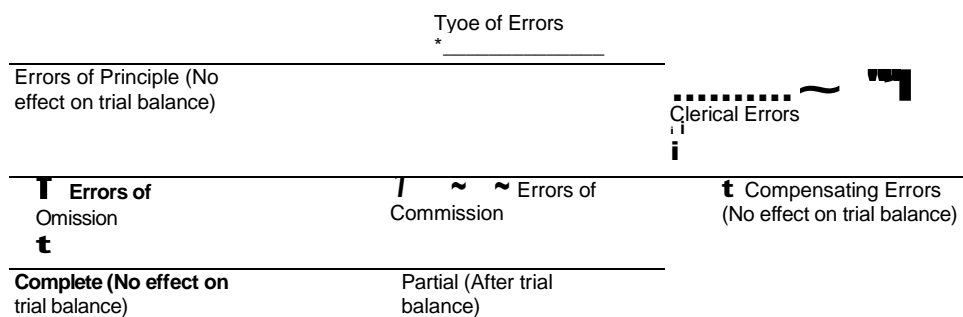
### (c) Compensating Errors

When one mistake nullifies the wrong effect of another, it is called a compensating error. These are two or more in number and balance each other. These are generally arithmetical errors. Let us suppose that total of rent account is undercast by Rs. 1,000 and the total of printing and stationery account is overcast by Rs. 1,000: both the errors will compensate each other and there will be no effect on the agreement of the trial balance.

### (2) Errors of Principle

These are errors arising from not observing the accounting principles correctly, e.g. wages paid for installation of machinery debited to wages account, purchase of fixed asset on credit recorded in purchase journal. These errors will not affect agreement of trial balance. /

Following chart will show the various types of errors:



## 11.7 LOCATION OF ERRORS

We have learnt different types of errors which are usually committed in the process of accounting. If the trial balance shows some difference, then we must first ascertain the exact amount of difference and try to locate it. Following steps can be taken to locate the difference:

1. Check the totals of debit and credit sides of trial balance.
2. Verify whether cash and bank balances are correctly shown in the trial balance.
3. When exact amount of difference is ascertained, say, debit side is excess by Rs. 1,600.
  - (a) Check whether debit of Rs. 1,600 appears twice in the trial balance.
  - (b) Take half the amount of difference i.e. Rs. 800 in our case. Find out if there is any item appearing in the trial balance on debit side and if this item is wrongly shown on debit side instead of credit side, then after correcting the item trial balance will tally.
  - (c) See whether there is any credit item of Rs. 1,600 omitted from trial balance.

## 11.8 RECTIFICATION OF ERRORS

### 11.8.1 One-sided Errors

One-sided errors, when located before preparing a trial balance, can be rectified by simply correcting the posting. No entry is required to be passed as it affects only one account.

**Illustration No. 3**

Rectify the following errors located before preparing trial balance.

1. Rent paid Rs. 90 posted as Rs. 900
2. Sales register undercast by Rs. 100
3. Amount received from Suresh Rs. 200 posted to his debit.

**Solution**

While rectifying the errors, first show the correct then wrong entry shown in the books compare wrong entry with the correct and then rectify the same.

**Solution**

V Correct Posting			x Wrong. Posting		
Dr.	Rent		Cr.	Rent	Cr.
	To Cash 90			To Cash 900	

Here Rent a/c is debited in excess. The excess debit of Rs. 810 is to be reversed. No entry is passed as it is one sided error. Credit rent account with the words 'By excess debit Rs. 810'.

Item No.2

Let us suppose there are two entries in the sales register of Rs. 500 and Rs. 100; correct entry and wrong entry will appear as under:

V Correct Posting			x Wrong Posting		
Sales a/c By	Cr.	Sales Register	Sales a/c By	Cr.	Sales Register
Sale Register	600	Amt. 500 100	Sales Register	500	Amt. 500 100
		600			500

Total of sales register is posted to the credit of sales a/c. Since there is an under casting of Rs. 100, sales account will show less credit to the extent of Rs. 100.

No entry is necessary as it is one sided error. Credit sales account with the words 'By under casting Rs. 100'.

Item No. 3

V Correct Posting			x Wrong. Posting		
Dr.	Suresh ale		Dr.	Suresh a/c	Cr.
	By Cash	200		To Cash	200

I | Here Suresh a/c. is wrongly debited with Rs. 200 instead of credit. When figure is posted to the opposite side, by mistake, difference will be double the amount.

In the above case, if we credit Suresh a/c. with Rs. 400, the account will show net credit of Rs. 200. No entry needs to be passed as it is one-sided error. Credit Suresh a/c. with Rs. 400 'Being the adjustment of the wrong debit Rs. 200'.

### 11.8.2 Two-sided Errors

Under two-sided errors, two or more accounts are affected and in most of the cases, the debit and credit are equally affected. While rectifying these errors, first pass the correct entry, then show wrong entry which is already passed in the books and by comparing wrong entry with the correct one, rectification entry can be passed.

#### Illustration No. 4

**Rectify the following errors:**

1. Goods purchased from Sohanlal wrongly recorded in sales register Rs. 500
2. Salary paid to Vijay, accountant, wrongly debited to his personal account Rs. 1,000.
3. Wages paid for installation of machinery Rs. 500 were debited to wages account.
4. Rent paid Rs. 200 wrongly debited to postage account.

#### Solution

(1)	V Correct Entry		x Wrong Entry	
	Purchases a/c	Dr. 500	Sohanlal a/c	Dr. 500
	To Sohanlal	500	To Sales	500

In the above case, sales account is wrongly credited and purchase account is not debited. Therefore, both these accounts required to be debited. Sohanlal account is wrongly debited instead of credited. Therefore, his account will be credited with double the amount of Rs. 500 (i.e. Rs. 1,000)

#### Rectification Entry

Sales a/c	Dr. 500
Purchase a/c	Dr. 500
To Sohanlal	1,000

(Being purchase of goods wrongly recorded in sales register now rectified).

(2)	V Correct Entry		x Wrong Entry	
	Salary a/c	Dr. 1,000	Vijay a/c	Dr. 1,000
	To Cash	1,000	To Cash	1,000

In the above entry, Vijay account is wrongly debited and salary account is not debited. Therefore, rectification entry will affect these two accounts.

#### Rectification Entry

Salary a/c	Dr. 1,000
To Vijay a/c	1,000

(Being salary paid wrongly debited to personal a/c. now rectified)

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(3)

V Correct Entry		x Wrong Entry	
Machinery a/c	Dr. 500	Wages a/c	Dr. 500
To Cash	500	To Cash	500

In the above entry, wages account is wrongly debited instead of machinery account.

### Rectification Entry

Machinery a/c.	Dr. 500
To Wages	500

(Being wages paid for installation of machinery wrongly debited to wages a/c now rectified)

(4)

V Correct Entry		x Wrong Entry	
Rent a/c To Cash	Dr. 200	Postage a/c To	Dr. 200
	200	Cash	200

In the above case, entry is correctly recorded in the cash book but while posting it into ledger, it has been wrongly debited to postage a/c instead of rent a/c.

### Rectification Entry

Rent a/c	Dr. 200
To Postage	200

(Being payment of rent wrongly debited to postage a/c now rectified)

## 11.9 SUSPENSE ACCOUNT AND RECTIFICATION

In the earlier paragraphs, we have learned to rectify one-sided and two-sided errors. After preparation of a trial balance, if there is a difference, it may be temporarily transferred to a new account called 'Suspense'. During the course of checking or audit, some one-sided errors may be found out. Now to rectify these one-sided errors, second account can be suspense account, as the difference is transferred to suspense account.

If the trial balance debit total is more, then the difference will be put to suspense account on credit side. On the other hand, if credit total is more, difference will go to suspense account on debit side. At the time of preparation of final accounts, if any balance remains in 'Suspense a/c.' then it will be shown in the balance sheet of the asset side (if difference is debit) or on the liability side (if difference is credit).

### **Illustration No. 5**

Correct the following errors found in the books of Mr. Gidwani. The trial balance as on 31 st December 1997 was out by Rs. 763 excess credit. The difference has been posted to a suspense account. Show suspense account.

1. An amount of Rs. 150 was received from Bhagatram on 31st December, 1997 but not entered in the cash book on 3rd January, 1998.

2. The total of return inward book for December has been cash short by Rs. 251.
3. A purchase of Rs. 68 had been posted to the creditor's account as Rs. 60.
4. As sale of Rs. 260 to Uday Traders was wrongly credited to their account.

**Solution**

Rectification entries are passed on 31st December, 1997.

1. This is total omission of an entry.

**Rectification Entry**

Cash a/c	Dr. 150
To Bhagatram	150

(Being omission of entry now rectified)

2. V Correct Entry Return

**V Correct Posting**

Inward Book Dr.

Return Inward Cr.

	Amount
	251
	251
	502

To Customers 502	
------------------	--

- x Wrong Entry

**Wrong Posting**

Return Inward Book Dr.

Return Inward Cr.

	Amount
	251
	251

To Customers 251	
------------------	--

As the return inward book total is undercast by Rs. 251, Return Inward account shows a less debit.

**Rectification Entry**

Sales Return a/c	Dr. 251
(Return Inward)	
To Suspense	251

(Being the Rectification of Undercasting in Return Inward Book)

3. V Correct Posting

>  
: Wrong Posting

Dr.	Creditors a/c	Cr.	Dr.	Creditors a/c	Cr.
	By Purchase	68		By Purchase	60

Creditors' account is posted less by Rs. 8

**Rectification Entry**

Suspense a/c      Dr. 8  
 To Creditors      8 (Being short credit to creditors  
 amount now rectified)

4. V Correct Posting

Wrong  
Posting

Dr.	Uday Traders	Amt.	Uday Traders	Amt.	Cr.
	To Sales	260	By Sales	260	

Uday Traders account is wrongly credited with Rs. 260 instead of debit. While rectifying this error, amount will be double of Rs. 260 (i.e. Rs. 520).

**Rectification Entry**

Uday Traders *ale*      Dr. 520  
 To Suspense      520

(Being wrong credit given to Uday Traders instead of debit now rectified) Let  
 us now post three entries to a Suspense a/c.

Dr.	Suspense Account		Cr.
To Balance b/d.	763	By Sales Return	251
To Creditors	8	By Uday Traders	520
	771		771

**Illustration No. 6**

A book keeper failed to balance his trial balance, the credit exceeding the debit side by Rs. 250. The amount was entered in a suspense account. Later the following errors were detected. Give journal entries to rectify the errors and show suspense a/c.

- Goods amounting to Rs. 620 sold to Long & Co. were correctly entered in the sales book, but posted to the account as Rs. 260.
- Goods amounting to Rs. 75 were sold to Short & Co. for cash, and correctly entered in cashbook, but the amount was wrongly credited to Short & Co.
- The total of return outward book amounting to Rs. 200 was not posted in the ledger.
- Goods worth Rs. 100 were purchased from Broad & Co. but the amount was entered in the sales book. The account of Broad & Co. was correctly credited.
- A credit balance of supplier's account Rs. 110 remained to be included in the list of sundry creditors.

**Solution**

- (a) This is a posting error affecting only account of Long & Co.

V Posting	Rs.	x Posting	Rs.
Long & Co.		Long & Co.	
To Sales	620	To Sales	260

## Rectification Entry

Long & Co. a/c                      Dr. 360  
     To Suspense    360  
 (Being less amount posted to the debit of Long & Co. corrected)

- (b) This mistake affects two accounts. Short & Co. is wrongly credited instead of Cash Sales.

## Rectification Entry

Short & Co. a/c                      Dr. 75  
     To Cash Sales    75  
 (Being wrong credit given to Short & Co. instead of cash sales now corrected.)

- (c) This is partial omission, Return Outward account is not posted.

## Rectification Entry

Suspense a/c      Dr. 200  
     To Return Outward                                      200  
 (Being amount remained to be posted to Return outward a/c now rectified)

- (d) In this case, purchase entry is recorded in sales book but Broad & Co. account is correctly credited. Thus, both effects are credit effect. Trial balance will not agree.

V posting

Dr. purchases a/c	x posting	
To Broad & Co. 100	Broad & Co.	Cr.
V Broad & Co.	By Sales	100
By Purchases 100	Sales a/c	Cr.
By Broad & Co.	100	

## Rectification Entry

Sales a/c              Dr.      100  
 Purchase a/c        Dr.      100  
     To Suspense    200

(Being purchase of goods wrongly recorded in sales book but posted correctly to supplier's a/c now corrected.)

- (e) In this case, credit balance of the supplier's account is not carried forward. This is one-sided error.

## Rectification Entry

Suspense a/c                      Dr. 100  
     To Creditor a/c    110

(Being credit balance of supplier's account remained to be carried forward now rectified).

Let us see the effect of these entries when posted to suspense a/c.

Dr.	Suspense a/c		Cr.
To Opening Balance	Rs. 250	By Long & Co.	Rs. 360
To Return outward	200	By Sales	100
To Creditors	110	By Purchases	100
	560		560

All mistakes are found out and hence, suspense account gets closed.

### **11.10 RECTIFICATION OF ERRORS WHEN BOOKS ARE CLOSED**

When the errors are detected before preparation of final accounts, necessary rectification entries are passed in the books and the accounts rectified will then show correct balances. With these corrected balances, final accounts will be prepared and correct profit or loss can be arrived at. When difference in trial balance remains even after applying various checks, it is carried forward to the balance sheet on the appropriate side, as preparation of final accounts cannot be delayed indefinitely. Personal accounts balances, i.e. those of customers and suppliers are carried forward to the next year. But nominal accounts (expenses and incomes accounts) are always closed by transferring these to trading and profit and loss account. Any difference located in nominal accounts, in the next year, cannot be adjusted to the nominal accounts, as this will affect current year's profit and loss. Therefore, a new account 'Profit and Loss Adjustment account' will be opened to rectify the errors in nominal account. The balance in this account is then directly transferred to capital account.

Let us take a comprehensive illustration and see how rectification entries are passed under different situations.

#### **Illustration No. 7**

The following errors were committed by the accountant of Geete Dye-chem.

1. Cash Rs. 350 received from Triman Chemicals posted as Rs. 530 to their account.
2. Rs. 260 paid for purchase of new office furniture charged to office expenses (ignore depreciation).
3. Purchase of stationery worth Rs. 150 remained unposted from the cashbook.
4. Credit sale of Rs. 400 to Trivedi & Co. was posted to the credit of their account.
5. Purchase of Rs. 420 from Mantri & Co. passed through sales day book as Rs. 240.

#### **How would you rectify the errors assuming that:**

- (a) they were detected before preparation of trial balance.
- (b) they were detected after preparation of trial balance but before preparing final accounts, the difference was taken to suspense account.
- (c) They were detected after preparing final accounts.  
(Narration to journal entries not required).

#### **Solution**

We have already learnt that: (1) for one-sided errors, no entries will be passed when these are detected before preparing trial balance but after preparation of trial balance entries will be passed taking suspense account as the other account and (2) no nominal accounts will be shown when entries are rectified after preparation of final accounts.



Before Trial Balance	After Trial Balance	After Final Accounts
This is a one sided Trima Chemicals account is credited in Rs		
No Entry	Triman Chemicals a/c Dr 180 -	Triman Chemical a/c Dr. 180 -
Debit Triman Chemicals with Rs.180	To Suspense - 180	To Suspense 180
In this case entry affects two accounts, viz., office furniture and office expenses.		
Office Furniture a/c Dr. 260	Office Furniture a/c Dr. 260	Office Furniture a/c Dr. 260
To Office Expenses 260	To Office Expenses - 260	To Profit & Loss Adj. -260
3. This is a one-sided error. Stationery account is not posted.		
No Entry	Stationery a/c Dr. 150 -	Profit & Loss Adj. a/c Dr. 150 -
Debit Stationery a/c 150	To Suspense 150	To Suspense 150
4. This is one-sided error. Trivedi & Co. account is credited instead of debit. Amount posted to the wrong side and therefore while rectifying the account, double the amount (i.e. Rs.800) will have to be taken.		
No Entry	Trivedi & Co. a/c Dr. 800	Trivedi & Co. a/c Dr. 800
Debit Trivedi & Co. with Rs. 800	To Suspense	To Suspense 800 <sub>300</sub>
5. Purchase of Rs. 420 is wrongly recorded through sales day book as Rs. 240		
V Correct Entry	* Wrong Entry	
Purchase a/c Dr. 420	Mantri & Co. a/c Dr. 240	
To Mantri & Co. 420	To Sales 240	
Sales a/c Dr. 240	Sales a/c Dr. 240	Profit & Loss Adj. a/c Dr. 660
Purchase a/c Dr. 420	Purchase a/c Dr. 420	
To Mantri & Co. 660	To Mantri & Co. 660	To Mantri & Co. 660

## 11.11 ADJUSTING AND CLOSING ENTRIES

### Adjusting Entries

Final accounts are the accounts which are prepared at the end of the trading year. These accounts show the final results of the business carried out. Final accounts are prepared to find out profit earned or loss sustained by a concern.

At the end of the accounting year, all ledger accounts are balanced and then a trial balance is prepared. From the trial balance, final accounts, i.e. trading, profit and loss account and balance sheet are drawn. While preparing trading and profit and loss account, all expenses and incomes for the full period are to be taken into consideration. If expenses have been incurred but not paid or income is due but not received, necessary entries are required to be passed to show the correct picture of the business. These entries are called 'Adjusting Entries'. These are discussed in module 'D' in detail.

### Closing Entries

At the end of each year, all accounts of expenses and incomes must be closed. The balances of these accounts are transferred to trading account and profit and loss account. The entries passed to transfer these balances are called 'Closing Entries'.

### 11.12 LET US SUM UP

To verify arithmetical accuracy of the transactions recorded, a trial balance is prepared. A trial balance may be drawn monthly, quarterly or yearly. If any mistakes are made in posting, totalling or balancing of accounts, trial balance will not tally. To locate the difference, various measures will be taken. If in spite of these checks, difference still remains, then it is transferred to a separate account called 'Suspense' account. Errors are of two types: (1) one-sided errors and (2) two-sided errors. One-sided errors are those which affect only one account whereas two-sided errors affect two accounts. If one sided errors are located before the trial balance is prepared, then the concerned accounts are rectified by putting a suitable note on the relevant side of the account. If these are located after preparing the trial balance and difference in the trial balance is put to suspense account, then journal entry is passed, taking suspense as another account. If one-sided errors affecting nominal accounts are located after preparation of final accounts, then these are adjusted through profit and loss adjustment account instead of nominal accounts.

### 11.13 KEYWORDS

**Compensating Error:** One error nullifies the wrong effect of another.

**Error of Commission:** A clerical error committed while posting, totalling or balancing of an account.

**Error of Omission:** An error committed which results in complete or partial omission of a transaction.

**Error of Principle:** An error arising from not observing the accounting principles.

**One-sided Error:** An error which affects only one side of an account.

**Two-sided Error:** An error affecting two accounts.

**Rectifying Entry:** An entry passed to rectify the error.

**Suspense Account:** An account opened to tally the trial balance temporarily.

### 11.14 TERMINAL QUESTIONS

- Q. 1 The trial balance of XYZ Ltd. as on 31st December 1997 shows an excess debit of Rs. 8,100 which was credited to suspense account. From the following particulars, pass the necessary entries:
1. Cash payment of Rs. 2,180 made towards stationery was wrongly debited as Rs. 2,780 though it was correctly entered in the cash book.
  2. Sales book was overcast by Rs. 100 and purchase book total was undercast by Rs. 900.
  3. Purchase of goods for Rs. 8,180 from Mr. A on credit was wrongly entered in the purchase book as Rs. 8,810 and in the account of Mr. A as Rs. 8,110.
  4. Old furniture items, written down value Rs. 500, were sold for Rs. 700 and entered wrongly in the sales register.
  5. Inventory of stock as on 31st December 1997 was overcast by Rs. 1,800 and stock on 1st January 1997 Rs. 82,300 was wrongly carried forward as Rs. 83,200.
- Q. 2 The under mentioned errors were detected in the books of Ram, Rahim & Co. for the year ended 30th June 1997. Pass journal entries to rectify the same.
- (a) Goods amounting to Rs. 3,000 which had been returned by customer were taken into stock, but no entry in this respect was made in the books.
  - (b) A purchase of goods from Murad of Rs. 6,000 was wrongly recorded through the sales book.
  - (c) A sales return from Rakesh of Rs. 280 was wrongly passed through purchase book.
  - (d) A credit sale of Rs. 1,020 to Leelaram was wrongly passed through purchase book.

- (e) Rs. 1,700 paid to Mr. Waman against our acceptance was by mistake debited to Waman Bros. account.
- (f) Rs. 250 received from Garibchand, as final dividend, whose account had been written off as 'Bad Debt' was standing to the credit of Garibchand's account. This was included in the list of creditors.

Q. 3 (A) Write the word, term or phrase which can substitute each of the following statements:

- (1) The statement showing debit or credit balances of ledger accounts at the end of the year.
- (2) Trial balance in which the debit and credit total of each ledger account are shown in the two amount columns against the name of the account.
- (3) Trial balance in which only balance of each ledger account is shown against its name.
- (4) Abstract or list showing the debit or credit balances of various accounts.
- (5) Name of the account which is opened in the trial balance to tally it.

Answers: (1) Trial balance (2) Gross trial balance (3) Net trial balance (4) Trial balance (5) Suspense account.

(B) Match the following pairs:

	Column 'A'		Column 'B'
(1)	Trial balance	(1)	Difference in trial balance
(2)	Net trial balance	(2)	Always shows debit balance
(3)	Gross trial balance	(3)	Always shows credit balance
(4)	Suspense a/c	(4)	Generally shows debit balance
(5)	Real a/c	(5)	Statement of balances of ledger accounts
		(6)	Debit or Credit Balances.
		(7)	Ledger a/c
		(8)	Debit and credit totals

Answers: (1)-(6), (2)-(5), (3)-(8), (4)-(1), (5)-(2)

(C) State 'True\* or-False':

- (1) Wrong balancing of an account will not affect the trial balance.
- (2) Trial balance does not ensure arithmetical accuracy.
- (3) Trial balance is prepared at the end of the accounting year.
- (4) Preparation of the trial balance helps in locating accounting errors.
- (5) If trial balance does not tally, there is no need to open suspense account.
- (6) Debit balance of ledger account is shown in debit column of the trial balance.
- (7) Closing stock appears in the trial balance.
- (8) Fixed deposits with bank shows debit balance.
- (9) Final accounts cannot be prepared until trial balance tallies.
- (10) Net trial balance is more popular than gross trial balance.
- (11) Trial balance is prepared on a separate sheet of paper.
- (12) In preparation of gross trial balance, ledger account balances are extracted.
- (13) Deposits given are shown on the debit side of trial balance.
- (14) Trial balance is prepared after preparation of final accounts.
- (15) Purchases are shown on the debit side of trial balance.
- (16) Bank overdraft is shown on the debit side of trial balance.

- (17) Sales is shown on the debit side of trial balance.  
 (18) Balance of ledger accounts are posted to trial balance.

**Answers:** 'True': (3), (4), (6), (8), (9), (10), (11), (13), (15), (18)

'False': (1), (2), (5), (7), (12), (14), (16), (17)

(D) Answer in one sentence only:

- (1) What is trial balance?
- (2) What is gross trial balance?
- (3) What is net trial balance?
- (4) What are the important objectives of trial balance?

**Answers:**(1) Trial balance is an extract of closing balances of various ledger accounts on a particular day.

- (2) Gross trial balance is a statement which shows a list of totals debit and totals of credit of ledger accounts as on a particular date.
- (3) Net trial balance is a trial balance in which only the balance of each ledger account is shown against its name.
- (4) The important objectives of the trial balance are, to achieve arithmetical accuracy and to provide base for preparation of final accounts.

(E) Fill in the blanks with appropriate word:

- (1) Trial balance ensures \_\_\_\_\_ accuracy.
- (2) Trial balance is prepared at the end of \_\_\_\_\_ year.
- (3) Trial balance is useful for locating \_\_\_\_\_ .
- (4) If the trial balance does not tally, difference of the trial balance is transferred to

\_\_\_\_\_ side of trial balance.

(6) Profit on sale of asset is shown on \_\_\_\_\_ side of trial balance.

(7) A statement showing debit and credit balance of ledger accounts is

(8) A trial balance is prepared as on a \_\_\_\_\_ particular \_\_\_\_\_

(9) \_\_\_\_\_ accounts.

(10) A trial balance is a list of

\_\_\_\_\_ trial balance is not commonly used.

Balance of liabilities is recorded on \_\_\_\_\_ side of the trial balance.

Balance of assets is recorded on \_\_\_\_\_ side of the trial balance.

Incomes receivable shows \_\_\_\_\_ balance. (

Credit side total of a trial balance must be \_\_\_\_\_

Trial balance is a \_\_\_\_\_ showing a list of \_\_\_\_\_ to debit side total,

12) (13) (14) (15) \_\_\_\_\_ and \_\_\_\_\_ balance of

ledger accounts on a particular date.

(16) If the debit side of the trial balance is cast short, then the difference is put to \_\_\_\_\_ side of the suspense account.

(17) All types of assets should be recorded in \_\_\_\_\_ column of the trial balance.

(18) If the credit side of the trial balance is cast short, then the difference is put to \_\_\_\_\_ side of the suspense account.

(19) If the trial balance does not \_\_\_\_\_ it indicates that \_\_\_\_\_ column of the trial balance. some have been committed.

(20) All types of incomes should be recorded in

**Answers:** (1) arithmetical (2) accounting (3) errors (4) suspense a/c (5) debit (6) credit (7) trial balance (8) date/day (9) ledger (10) gross (11) credit (12) debit (13) debit (14) equal (15) statement, debit, credit (16) debit (17) debit (18) credit (19) tally, mistakes/errors (20) credit

Q.4 (A) Write the word, term or phrase which can substitute each the following statements:

- (1) Errors which are rectified without passing journal entries.
- (2) Errors which are rectified by passing journal entries.
- (3) An account to which difference in trial balance is temporarily transferred.
- (4) An error on debit side compensated by another error of same amount on credit side.
- (5) An error in which accounting transaction is not recorded in the books of account.
- (6) Errors in which accounting principles are not followed.

**Answers:** (1) One-sided errors (2) two-sided errors (3) suspense a/c (4) compensating error (5) error of omission (6) error of principle

(B) Match the following pairs:

	Column 'A'		Column 'B'
(1)	Error of omission	(1)	Debit balance
(2)	Suspense <i>ale</i>	(2)	Disclosed by trial balance
(3)	Error of principle	(3)	Rectified by passing journal entries
(4)	Two sided errors	(4)	Debit or credit balance
(5)	Posting on wrong side	(5)	Accounting rules not followed
		(6)	Not disclosed by trial balance
		(7)	Accounting rules followed
		(8)	Credit balance

**Answers:** (1)-(6), (2)-(4), (3)-(5), (4)-(3), (5)-(2)

(C) State 'True' or 'False':

- (1) When transaction is not recorded according to principles of bookkeeping, the error is said to be an error of principle.
- (2) Trial balance can disclose error of complete omission.
- (3) Suspense account is the balancing figure in trial balance.
- (4) Trial balance cannot disclose error of principle.
- (5) Suspense account should not have any balance after passing of all rectification entries.
- (6) Repairs to building is an expenditure to be debited to building account.
- (7) Suspense account needs to be opened when trial balance agrees.
- (8) All entries are rectified by passing journal entries.
- (9) Agreement of trial balance means no errors in the books of account.
- (10) Compensating errors affect the agreement of trial balance.
- (11) Errors of principle are not detected by the trial balance.
- (12) Payment of wages for erection of machinery should be debited to machinery account.
- (13) Wrong totalling of subsidiary books affects agreement of trial balance.
- (14) Payment of general expenses debited to legal fees can be rectified by passing journal entry.
- (15) All rectification must be effected before preparing final accounts.

**Answers:** True: (1), (3), (4), (5), (7), (11), (12), (13), (14), (15)

False: (2), (6), (8), (9), (10)

(D) Answer in ONE sentence:

- (1) What is rectification entry?

- (2) How to rectify one-sided errors?
- (3) How to rectify two-sided errors?
- (4) What are one-sided errors?
- (5) What are two-sided errors?
- (6) What is suspense account?
- (7) What are errors of omission?
- (8) What are the accounting errors?
- (9) What are compensating errors?
- (10) What are the errors of principle?

Answers: (1) An entry passed for rectification of error is known as rectification entry.

- (2) One-sided errors are rectified without passing journal entries.
  - (3) Two-sided errors are rectified by passing journal entries.
  - (4) One-sided errors are those errors which are neither affecting debit nor credit aspect of a transaction.
  - (5) Two-sided errors are those errors which are affecting both debit and credit aspects of a transaction equally.
  - (6) Suspense account is opened to transfer the difference between two sides of trial balance.
  - (7) Errors of omission are those errors which are caused by failure to record the transaction.
  - (8) Mistakes or errors committed while writing the books of accounts are known as accounting errors.
  - (9) Compensating errors are those errors which are compensated by each other on debit and credit side.
  - (10) Errors of principle are those errors which are committed when accounting principles are not followed while writing books of account.
- (E) Fill in the blanks with appropriate word:
- (1) If the trial balance shows short debit, the suspense account will have a \_\_\_\_\_ balance.
  - (2) Errors which cancel out the effect of one another are called \_\_\_\_\_ errors.
  - (3) Mistakes involving wrong recording or posting are called errors of \_\_\_\_\_.
  - (4) Wages paid for installation of machinery is \_\_\_\_\_ expense.
  - (5) Wages paid for installation of machinery is debited to \_\_\_\_\_ account.
  - (6) Difference in trial balance is transferred to \_\_\_\_\_ account.
  - (7) In an error of commission, the debit and credit are \_\_\_\_\_.
  - (8) When an error affects only debit or credit side, it is called \_\_\_\_\_ error.
  - (9) When a transaction is not recorded it is an error of \_\_\_\_\_.
  - (10) Two-sided errors originate in the \_\_\_\_\_ error.

\_\_\_\_\_ books.

**Answers:** (1) Debit (2) Compensating (3) Commission (4) Capital (5) Machinery (6) Suspense (7) Equal (8) One-sided (9) Omission (10) Primary

# UNIT 12

## CAPITAL AND REVENUE EXPENDITURE

### STRUCTURE

- 12.0 Objectives
- 12.1 Introduction
- 12.2 Expenditure
- 12.3 Distinction Between Capital and Revenue Expenditure
- 12.4 Deferred Revenue Expenditure
- 12.5 Receipts
- 12.6 General Illustration
- 12.7 Let Us Sum up
- 12.8 Terminal Questions

## **12.0 OBJECTIVES**

After going through this unit, you will be able to know about :

- capital and revenue expenditure
- capital and revenue receipts
- deferred revenue expenditure

## **12.1 INTRODUCTION**

At the end of the year, a trial balance is prepared and from trial balance final accounts, i.e. trading and profit and loss account and balance sheet are prepared. Trial balance shows the debit and credit balances taken out from the ledger. These balances, then, are carried forward to the trading, profit and loss A/c and the balance sheet. All expenses and receipts of revenue nature are shown in the trading and profit and loss account and all expenses and receipts of a capital nature are taken to the balance sheet. It is, therefore, necessary to know, what is meant by revenue and capital expenses and revenue and capital receipts and their importance in preparation of final accounts.

## **12.2 EXPENDITURE**

An expenditure is decided 'capital' or 'revenue' depending upon a number of factors, such as -

- (1) Nature of the expense
- (2) Effect on revenue earning capacity
- (3) Benefit from the expenditure

### **(1) Nature**

This is one of the common tests to decide whether an expense incurred is capital or revenue. Certain expenses are recurring. Recurring refers to frequency with which a transaction occurs in a business. A recurring expenditure is one which occurs frequently, for example, purchase of raw materials, payment of salary, rent, telephone charges, etc. these are revenue expenses.

A non-recurring expenditure is always capital in nature, unless materiality concept emphasises the importance of recognising it as revenue expenditure. Purchase of a wall clock for Rs. 500 is a non-recurring expenditure, but on materiality concept, it may be treated as a revenue expense. Purchase of motor car, plant, and building are some of the examples of capital expenditure.

### **(2) Effect on Revenue Earning Capacity**

The expenses which help to generate income/revenue in the current year are revenue in nature and should be matched against the revenue earned in the current period. On the other hand, if expenditure helps to generate revenue over more than one accounting period, it is, generally, called 'Capital Expenditure', e.g. purchase of plant.

### **(3) Benefit from Expenditure**

If the benefit from an expenditure incurred is of short duration, it is considered as revenue expenditure. As against this, if benefit is of long duration, it is treated as a capital expenditure. The main purpose of incurring such expenditure is to earn income over a period of years, or increase the earning capacity of the business.



### 12.2.1 Capital Expenditure

Capital expenditure is that expenditure the benefit of which is enjoyed or consumed not in one year only but over many years. It is the expenditure incurred which results in the purchase or acquisition of assets and properties which may be used for many years. The main purpose of incurring such expenditure is to earn income over a period of years or increase the earning capacity of the business concern with the aid of such expenditure. For example, purchase of plant and machinery, building and motor car, etc.

### 12.3 DISTINCTION BETWEEN CAPITAL AND REVENUE EXPENDITURE

Capital expenditure	Revenue expenditure
(1) Amount spent is usually large.	(1) Amount spent is relatively small.
(2) The purpose is to improve or enhance business or productive or earning capacity.	(2) The purpose is to maintain the fixed assets in good working condition.
(3) The benefit is of long duration.	(3) The benefit is of short duration.
(4) It is non-recurring.	(4) It is recurring
(5) It is shown in balance sheet.	(5) It is shown in profit and loss account.

### 12.4 DEFERRED REVENUE EXPENDITURE

All nominal accounts (i.e. Expenses and Income) are closed, at the end of the year, by transferring these balances to the trading or profit and loss account, as these are expenses or incomes for the current year only. Sometimes, heavy revenue expenditure may be incurred in one year but the benefit of it may arise or accrue not in one year but in following two or more years. According to the Guidance Note issued by the Indian Institute of Chartered Accountants of India, 'Deferred Revenue Expenditure' is that expenditure for which payment has been made or a liability incurred but which is carried forward on the presumption that it will be of benefit over a subsequent period or periods. These are of a 'Quasi Capital' nature. Consider advertising. Normal annual advertising expenditure is written off to the profit and loss account annually. But heavy expenses of an abnormal nature incurred on an advertising campaign to launch a new product, the benefit of which may accrue during the next two/three years, is in the nature of capital expenditure. Then, so much of such expenditure, as benefits the current year, may be considered as revenue and written off to the profit and loss account, carrying forward the balance as 'Deferred Revenue Expenditure', i.e. a revenue expenditure which is deferred or postponed.

Thus, deferred revenue expenditure is one which is basically revenue expenditure but charging off the expenditure to the profit and loss account is deferred as the benefit of such expenditure is likely to benefit the organisation for more than one year. The examples of deferred revenue expenditure are

- (a) Heavy advertising expenditure for launching a new product
- (b) Expenditure for the issue or raising loan or capital (underwriting commission)
- (c) Expenditure for the formation or registration of a company (preliminary expenses)

### 12.5 RECEIPTS

In the case of receipts, classification is on a very thin line of distinction. If the receipt is against a supply of goods or services or is related to the period under review, the receipt is a revenue receipt. This is to be shown in the income account. In other cases, it is a capital receipt, to be shown as a liability or

reduced from the assets appearing in the balance sheet. Sometimes, a part of a single receipt may be capital and part may be revenue, e.g. the proceeds on sale of asset;

- (a) If the sale proceeds is less than book value of asset, the receipt is capital receipt, to be reduced from asset.
- (b) If the sale proceeds is more than book value but less than cost the receipt is to be segregated as
  - (i) equal to book value of asset is capital receipt to be reduced from asset
  - (ii) excess is revenue receipt.
- (c) If the sale proceeds are more than the cost, the receipt is analysed;
  - (i) equal to book value - capital receipt, to be reduced from asset (ii) between book value and cost - revenue receipt (iii) excess over cost, giving rise to capital receipt.

### 12.5.1 Capital Receipt

Capital receipts are those receipts which do not recur. They are of an unusual nature not arising through normal activities of the business. For example, amount received on account of issue of fresh capital, debentures, amount of loans raised, premium on shares, etc.

### 12.5.2 Revenue Receipt

Revenue receipts are those items of income which are received or accrued in the ordinary course of business. For example, sale of goods, discount received, commission received, interest received, etc.

## 12.6 GENERAL ILLUSTRATION

### Illustration No. 1

State whether the following expenditure is capital, revenue or deferred revenue expenditure. Give reasons.

- (1) Legal expenses incurred in connection with issue of equity shares of the company.
- (2) Cost of replacement of defective part of the machinery.
- (3) Expenditure incurred in preparing a project report.
- (4) Expenditure for training employees for better running of the machinery.
- (5) Purchase of machinery for sale.
- (6) Daily wages paid to an office peon.
- (7) Professional fees paid in connection with acquisition of leasehold premises.
- (8) Cost of Rs. 30,000 for dismantling, removing and reinstalling plant by a sugar mill incurred in connection with the removal of works to a more suitable locality.
- (9) Travelling expenses of directors for a trip abroad for purchasing capital goods.
- (10) A petrol driven engine of a passenger bus was replaced by a diesel engine.

### Solution

- (1) Legal expenses incurred in connection with issue of equity shares are deferred revenue expenses, as the benefit of these expenses is not exhausted within one year.
- (2) Revenue expenditure as it is an expenditure on maintenance of machinery.
- (3) Deferred revenue expenditure as the benefit of this expenditure will be for more than one

accounting year. As per Accounting Standard 10, expenses till commencement of the project are capitalised.

- (4) Revenue expenditure, as the purpose is to maintain machines in goods working condition.
- (5) Revenue expenses, as the machinery is purchased not for use in the factory but for sale.
- (6) Revenue expenditure as they are recurring in nature.
- (7) Capital expenditure, as it is incidental of acquiring an asset.
- (8) Deferred revenue expenditure, as such expenditure has not resulted into acquiring of an asset nor improved the earning capacity.
- (9) Capital expenditure, as it has resulted into acquiring of an asset.
- (10) Capital expenditure, because the replacement of petrol driven engine by a diesel engine would lower expense of the firm for a long period.

### **12.7 LET US SUM UP**

Of the total expenditure incurred in a given period in a business, some are of a capital nature while others are of a revenue nature. The revenue expenses relate to the operations of the business of an accounting period or to the revenue earned during the period or the items of expenditure, benefits of which do not extend beyond the period. Capital expenditure, on the other hand, generates enduring benefits and helps in revenue generation over more than one accounting period. There are certain revenue expenses, benefit of which go beyond one year and hence are treated as 'Deferred Expenses'. Receipts arising in the ordinary course of business are revenue receipts whereas receipts of unusual nature are capital receipts.

### **12.8 TERMINAL QUESTIONS**

- Q.1 Out of the following expenditures, which is (1) capital expenditure (2) revenue expenditure and (3) deferred revenue expenditure? Give reasons.
- (1) Freight paid on a machine for bringing it to factory.
  - (2) The removal of stock from old works to new site.
  - (3) The overhauling expenses of machines.
  - (4) Legal expenses incurred in connection with raising of debenture loans.
  - (5) Purchase of machinery.
  - (6) Labour welfare expenses.

Answers: (1) Capital (2) Revenue (3) Revenue (4) Deferred Revenue Expenses (5) Capital (6) Revenue

Q.2 Select the correct option:

- (1) Payment for purchase of goods, Rs. 20,000 - Revenue expenditure as
  - (a) It is recurring
  - (b) Amount involved is small
- (2) Payment for purchase of car, Rs. 4,00,000 - Capital expenditure as
  - (a) It is non-recurring
  - (b) Benefit is of long duration
  - (c) Increases earning capital
- (3) Loss of goods due to fire, Rs. 25,000 - Revenue expenditure as
  - (a) It is recurring
  - (b) Amount involved is small
  - (c) It is revenue loss arising out of business operation

- (a) It is non-recurring                      (b) Benefit is not exhausted in one year  
(c) Increases earning capacity of the business. (5) Wages paid for  
installation of machinery Rs. 500 - Capital expenditure as  
(a) It is non-recurring                      (b) It is necessary to put the asset in working condition  
(c) It is incidental of acquiring a new asset.

**Answers:** (1) a, (2) b, (3) c, (4) b, (5) b. Q.3 State with reasons,

whether following statements are true or false:

- (1) A Revenue expenditure of one party may be capital receipt of the other party.
- (2) Receipts from sale of machinery is revenue receipt.
- (3) The distinction between capital and revenue cannot be definite - it depends upon the facts and circumstances of each case.
- (4) Legal charges paid for purchase of land are capital expenditure but legal charges paid in the ordinary course of business are revenue expenditure.
- (5) Wages paid in the ordinary course of business are revenue expenditure but wages paid for erection of machinery are capital expenditure.
- (6) Debenture receipts are revenue receipts.

**Answers:** (1) True; (2) False; (3) True; (4) True; (5) True; (6) False

# UNIT 13

## INVENTORY VALUATION

### STRUCTURE

- 13.0 Objectives
- 13.1 Introduction
- 13.2 Meaning
- 13.3 Valuation Methods
- 13.4 Methods of Taking Inventories
- 13.5 Implications of Fifo and Lifo Methods in a Rising Market and a Falling Market
- 13.6 Requirement of Schedule VI
- 13.7 Let Us Sum up
- 13.8 Keywords
- 13.9 Terminal Questions

### **13.0 OBJECTIVES**

After studying this chapter you will know:

- meaning of Inventories
- importance of valuation of Inventories
- different methods of Inventory Valuation
- methods of stock taking

### **13.1 INTRODUCTION**

A major objective of accounting for inventories is the proper determination of income through the process of matching appropriate costs against revenues. Gross profit is arrived at after reducing the cost of goods sold from the sales. Cost of goods sold is worked out as follows :

Opening stock + Purchase - Closing stock = Cost of goods

Therefore, closing stock must be valued and brought into account. This is done by crediting Trading account and debiting Closing Stock account.

The closing stock becomes opening stock for next period and is debited to trading account along with purchases. Over-valuation of closing stock leads to inflation of the current profits and deflation of the profits of the succeeding period. Likewise, under-valuation leads to deflation of the current year's profits and inflation of the profit of the succeeding period.

Therefore, valuation of inventory must be done carefully. **13.2**

### **MEANING**

According to Accounting Standard 2 , inventories mean tangible property held :

- (a) for sale in the ordinary course of business
- (b) in the process of production for such sale
- (c) for production of goods or services for sale, including maintenance supplies and consumables other than machinery and spares.

These three types represent the three components of inventory and are usually referred to as

- (a) finished goods
- (b) work-in-process, and
- (c) raw materials and components.

### **13.3 VALUATION METHODS**

Usually, closing stock is valued at the lower of historical cost and net realisable value. Historical cost means cost of purchase, cost of conversion and other costs incurred in the normal course of business in bringing the inventories up to their present location and condition.

There are a number of methods used in valuation of stock, these are

- (a) First in first out (FIFO)
- (b) Last in first out (LIFO)

- (c) Average cost
- (d) Base stock
- (e) Adjusting selling price

### 13.3.1 First In First Out (FIFO)

Under this method, goods issued to production/sale are usually the earliest lot on hand. The stock of goods on hand, therefore, consists of the latest consignments. The closing stock is valued at the price paid for such consignments.

### 13.3.2 Last In First Out (LIFO)

Though actual sales are made out of the earliest lot on hand, to prevent unnecessary deterioration in value, it is sometimes assumed that the goods issued for production/sale are valued according to the price paid for the latest consignments on hand. The closing stock then is assumed to consist of earlier consignments and its value is then calculated according to such consignments. This method of valuing stock is known as LIFO.

### 13.3.3 Average Cost

All the different prices are added together and then divided by the number of prices. The closing stock is then valued according to the price ascertained. Suppose, there are five lots purchased at Rs. 5, 6, 7, 8 and 9 respectively. The average stock cost will be

$$\frac{5 + 6 + 7 + 8 + 9}{5} = \frac{35}{5} \text{ or Rs. } 7$$

Closing stock will be valued at Rs. 7.

Normally, weighted average rate is calculated instead of simple average. This is worked out by dividing total price paid by total quantity received.

The above three methods can be understood better by the following illustration.

### Illustration

The following is the record of receipts and sales of certain goods during the first week of April 2003.

Date	Receipts	L.F.	Units	Rate (Rs.)	Sales	L.F.	Units
1/4/03	Opening Stock	-	500	8.00 per unit	3/4/03	-	300
2/4/03	Purchases	-	600	10.00 per unit	5/4/03	-	400
4/4/03	Purchases	-	100	10.20 per unit	7/4/03	-	400
6/4/03	Purchases	-	200	10.50 per unit			

Stock verification on 3rd April, revealed a loss of 10 units.

Show the cost of goods sold and valuation of stock on 7th April, 2003.

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### Solution

#### (1) FIFO Method

Date	Receipts	Issue	Balance
1/04/03	—	—	500 - 8 - 4000
2/04/03	600-10-6000		500 - 8 - 4000 600-10-6000
3/04/03		300 - 8 - 2400 10 (Loss) 8-80	190-8-1520 600-10-6000
4/04/03	100-10.20-1020		190-8-1520 600-10-6000 100-10.2-1020
5/04/03		400 units 190-8-1520 210-10-2100	390-10-3900 100-10.2-1020
6/04/03	200-10.50-2100		390-10-3900 100-10.2-1020 200-10.5-2100
7/04/03		400 units 390-10-3900 10-10.2-102	90-10.2-918 200-10.5-2100

Closing Stock under FIFO Method 290 units - Rs. 3,018

Cost of goods sold, 1100 units - Rs. 10,022

Loss of units, 10 units - Rs. 80

#### (2) LIFO Method

Date	Receipts	Issue	Balance
1/04/03	—	—	500 - 8 - 4000
2/04/03	600-10-6000		500 - 8 - 4000 600-10-6000
3/04/03		300 10 loss 310- 10-3100	500 - 8 - 4000 290 - 10 - 2900



4/04/03	100- 10.2 - 1,020		500-8- 4,000 290-10- -2,900 100-10.2 - 1,020
5/04/03		400 units 100-10.2-1,020 290-10-2,900 10-8-80	490 - 8 - 3,929
6/04/03	200- 10.5 -2,100		490 - 8 - 3,920 200-10.5 -2,100
7/04/03		400 units 200-10.5-2,100 200-8-1,600 10,800	290 - 8 - 2,320

Closing under LIFO 290 Units - Rs 2,320  
 Cost of sold 1,100 Units - Rs 10,70  
 Loss of Units 10 Units Rs 100

### (3) Average (Weighted) Method

Date	Receipts	Issue	Balance
1/04/03	600 -10-6,000	-	500 - 8 - 4,000
2/04/03			1100-9.09-10,000
3/04/03		310- 300 10 loss 9.09-2,819	790-9.09-7,181
4/04/03	100- 10.20-1,020		890-9.21-8,201
5/04/03		400- 9.21-3,688	490-9.21-4,513
6/04/03	200- 10.50-2,100		690-9.58-6,613
7/04/03		400- 9.58 -3.835	290 - 9.58 - 2,778
		10,342	

Closing Stock under Weighted Average

290 Units - 9.58 - Rs. 2,778

Cost of Goods sold - 1,100 Units- Rs. 10,251

Loss of Units - 10 Units - Rs. 91

#### 13.3.4 Base Stock Method

This method is based on the assumption that a minimum quantity of inventory (base stock) must be held at all times in order to carry on business. Inventories in excess of base stock are dealt with on some other basis. The base stock formula requires a clear existence of the circumstance that a minimum level of inventory must be held at all times and therefore, has a limited application.

### 13.3.5 Adjusted Selling Price

Adjusted selling price is used widely in retail businesses or businesses where the inventory comprises items, the individual costs of which are not readily ascertainable. The historical costs of inventory is estimated by calculating it, at the first instance at the selling price and then deducting an amount equal to the estimated gross margin of profit on such stocks.

## **13.4 METHODS OF TAKING INVENTORIES**

The value of stock is ascertained in two ways;

- (1) Periodic Inventory
- (2) Perpetual Inventory

### Periodic Inventory

Under this method, value of stock is ascertained by physically counting the stock at the end of the year and as on the accounting date. In many enterprises, because of the large volume of stock, annual stock taking may even take a week and in order to finalise stock figure, purchases and sales will have to be suspended.

### Perpetual Inventory

Under this method, stock register is maintained which give the inventory balances at any time desired. Stores ledger will give the balance of raw materials, work in progress ledger will give the value of the work in progress and the finished goods ledger will give the value of finished goods on hand. This system provides a running record of inventories on hand. Because of this, it is possible for the management to provide for continuous stock taking, so that by comparing the physical balance with book balance, it is possible to readily ascertain any discrepancies.

## **13.5 IMPLICATIONS OF FIFO AND LIFO METHODS IN A RISING MARKET AND A FALLING MARKET**

Both the methods of pricing inventories do correspond to actual costs and hence, both reflect equally realistic costs.

In periods of rising prices, the FIFO method will result in costing issue of materials (from the godown, for production/sales) at the lowest material cost, while LIFO method will result in charging issues at the highest material cost. Therefore, the desirability of pricing issues to match the current materials costs is better achieved under the LIFO method than under the FIFO method.

In falling market, if the material cost is to be charged by the LIFO method, the cost of the issues will tend to be low with reference to the overall cost of inventory. Thus, profit will be inflated and more liability for payment of taxes will occur. In addition, the ending inventory will consist of higher priced material. This will involve locking up of a large amount of working capital. Moreover, substantial write off may be required to reduce the value of closing inventory as the current market value is lower than the cost. In a falling market, the closing inventory will be valued higher under LIFO method than under FIFO method. Valuation, even under FIFO method, will be higher than the current market valuation, in view of the falling prices.

In a rising market, the FIFO method, just like the LIFO method in a falling market, will reflect the lowest cost of issues and, therefore, will inflate the profits. In a rising market, the closing inventory will

be valued higher under FIFO method than under LIFO method, though the valuation will still be lower than the current market price, in view of the rising prices.

### **13.6 REQUIREMENT OF SCHEDULE VI**

As per the requirements of Schedule VI of the Companies Act, inventories are shown under current assets and are classified as shown below

- (a) Stores and spare parts
- (b) Loose tools
- (c) Stock in trade
- (d) Work-in-progress

In respect of each item, the mode of valuation has to be stated.

The requirements of profit and loss account require the disclosure of physical quantities of items of raw materials consumed and the opening and closing stock of finished goods produced in the case of manufacturing concerns. In case of trading concerns, the purchases made and, the opening and closing stocks, giving the break up in respect of each class of goods traded in by the company, and indicating quantities thereof, need to be disclosed.

### **13.7 LET US SUM UP**

The most common methods of stock valuation are the FIFO, LIFO and Average Cost. FIFO method of stock valuation assumes that the closing inventory consists of the goods which entered the godown last and values them at their purchase cost. The LIFO method considers the purchase cost of materials which entered first in the godown. In the average price method, closing stock is valued either at simple average or a weighted average of various purchase costs of material lying in the godown.

Accounting Standard 2 (Revised) has curtailed the methods available for valuation. The earlier Accounting Standard 2 permitted a variety of cost formula to be adopted for inventory valuation. These included the FIFO, LIFO, Average Base Stock, and Adjusted Selling Price.

With a view to bringing about uniformity in inventory valuation practices, the Revised Standard drastically reduces the alternative choices. The revised standard permits the use of only FIFO or the weighted average cost formula for determining the cost of inventories. The revised standard also dispenses with the direct costing method and permits only the absorption costing method for arriving at the cost of finished goods.

### **13.8 KEYWORDS**

**Finished Goods:** Goods ready for sale

**Work in Process:** Goods on which some work is done after purchase but which are not yet ready for sale.

**Raw Materials:** Goods procured, including consumables, which are intended to be converted into the Finished Goods.

**Valuation:** Value of closing stocks affects the P & L A/c and, therefore, correct valuation is important.

**Methods of Valuation:** Main methods are; FIFO, LIFO and Average Cost.

**FIFO:** Issue of any material from godown is assumed to be of the goods that came in the godown first.

**LIFO:** Issue of any material from godown is assumed to be of the goods that came in the godown last.

### 13.9 TERMINAL QUESTIONS

Q.1 Following detail is taken from a factory, for the month of January 2004. You are required to find out the cost of goods issued and closing stock on 31st January 2004 under FIFO, LIFO and the weighted average method.

January	1	-	Opening Stock	100 units	@Rs. 5 per
	3	-	Purchases	200 units	@Rs. 5.50
	9	-	Issues	100 units	
	15	-	Purchases	140 units	@Rs. 6.00
	17	-	Issues	100 units	
	21	-	Purchases	800 units	@Rs. 6.50
	23	-	Issues	100 units	

Q.2 Fill in the blanks

- (1) The inventory valuation is subjective because it depends on the \_\_\_\_\_ followed by the accountant.
- (2) Historical cost is reduced to net realisable value due to the accounting convention of \_\_\_\_\_.
- (3) Net realisable value is the estimated selling price in the ordinary course of business less costs of \_\_\_\_\_ and less costs necessary to incur in order to make the \_\_\_\_\_.
- (4) The ascertainment of stock at the end of the year by physically counting the stock is known as \_\_\_\_\_.
- (5) The basis of inventory valuation adopted should not be changed frequently because it violates the accounting principle of \_\_\_\_\_.

**Answers:** (1) Accounting policies (2) Conservatism (3) Completion, Sale (4) Periodic inventory (5) Consistency Q.3

Indicate the correct answer.

- (1) The test of 'objectivity' and 'verifiability' is satisfied by valuing stock at -  
 (a) historical cost (b) current replacement price  
 (c) net realisable value
- (2) The ascertainment of value of stock from accounting record is known as -  
 (a) continuous stock taking (b) periodic inventory  
 (c) perpetual inventory
- (3) Historical cost concepts are reduced to net realisable value because of the accounting principle of -  
 (a) consistency (b) conservatism (c) realisation
- (4) The cost formulae recommended by Accounting Standard 2 for valuation of inventories are -  
 (a) FIFO or weighted average (b) Standard cost  
 (c) LIFO or latest purchase price
- (5) In retail business, widely followed method of inventory valuation is  
 (a) FIFO (b) weighted average (c) adjusted selling price

**Answers:** (1) - (a), (2) - (c), (3) - (b), (4) - (a), (5) - (c).

**UNIT  
14**

# **BILLS OF EXCHANGE**

## **STRUCTURE**

- 14.0 Objectives
- 14.1 Introduction
- 14.2 Types of Instruments of Credit
- 14.3 Term and Due Date of a Bill
- 14.4 Certain Important Terms
- 14.5 Accounting Entries to be Passed
- 14.6 Accommodation Bill
- 14.7 Bill Books
- 14.8 Let Us Sum Up
- 14.9 Keywords
- 14.10 Terminal Questions

**14.0 OBJECTIVES**

After studying this unit, you will be able to:

- Identify various instruments of credit.
- Define a bill of exchange.
- Define the promissory note.
- Distinguish between a bill of exchange and a promissory note.
- Pass entries relating to bill transactions in the books.
- Prepare a bills receivable journal and bills payable journal.

**14.1 INTRODUCTION**

The main journal is sub-divided into a number of journals. This list includes; bills receivable journal and bills payable journal. When transactions of a similar nature are many, a separate journal will be maintained. Let us first learn the basic entries for bill transactions and then we will learn to record these in separate journal, i.e. bills receivable and bills payable journals.

**14.2 TYPES OF INSTRUMENTS OF CREDIT**

In a business, credit transactions play very important role. For manufacturing goods, a manufacturer purchases raw materials, the majority of which will be on credit. Once the goods are manufactured, these will be sold to wholesalers and retailers. Here also the manufacturer will give credit to his wholesaler or regular customers. Thus, credit passes on from the manufacturer to the wholesaler and from the wholesalers to retailers and from the retailer to the ultimate consumers. Credit may also be granted by a moneylender, a banker or a financial institution. Credit is, generally, provided by obtaining, a written document called 'Instrument of Credit'. This serves as a proof of existence of credit. The most commonly used instruments of credit are:

1. Bills of Exchange
2. Promissory Notes

**1. Bills of Exchange**

Bill of Exchange is defined as

- an instrument in writing
- signed by the maker
- containing an unconditional order
- to pay a certain sum of money and money only
- to a person, named in the instrument or, to his order to the bearer
- on a certain fixed future date or on demand (Section 5 of Negotiable Instruments Act).

From the above definition, you will observe that there are three parties to a bill of exchange. They are:

1. Drawer: a person who draws the bill
2. Drawee: a person on whom the bill is drawn, and
3. Payee: a person who is going to receive money.

Many a time, the drawer and the payee may be the same person.

Let us suppose, A sells goods to B on credit for Rs. 10,000. A draws a bill on B. B accepts the same.

In the above case, A the seller (creditor) draws a bill on B, the purchaser (debtor) and it is payable to A. Thus, 'A' is the drawer of the bill and also the payee. Hence, it can be seen that a creditor draws a bill on a debtor. Let us now see the actual format of a bill of exchange from the following particulars:

Drawer	-	Mr. Suresh, 20, D.N. Road, Mumbai
Drawee		Mr. Mehta, 12, Shukrawar Peth, Pune
Amount	-	Rs. 10,000 10th March, 98 15th
Date of Bill		March, 98 2 Months
Date of Acceptance	-	
Period	-	

	Stamp	
		G20, D. N. Road Mumbai 10th March, 98
<b>Two months after date, pay me or my order, a sum of Rupees Ten Thousand only, for value received.</b>		
Rs. 10,000/-To, Mr. Mehta 121, Shukrawar Pune	Accepted Peth Mehta 15/3/98	Suresh Signature

## 2. Promissory Notes

A written undertaking by the buyer to make a payment on a specified date can take the form of a bill of exchange or a promissory note. We have seen earlier that a bill of exchange is drawn by the creditor and accepted by the debtor. A promissory note, on the other hand, is written by the debtor (buyer) promising the creditor (seller) to pay a specified sum after a specified period. Thus, it can be defined as:

- an instrument in writing containing an unconditional undertaking
- signed by the maker to pay a certain sum of money
- to or to the order of a certain person or to the bearer of the instrument (Section 4 of the Negotiable Instruments Act)

In a case of promissory note, there are only two parties. They are:

1. Maker: A person who makes the note and promises to make the payment.
2. Payee: A person who is to receive money.

Using the same data given in an earlier form of a bill of exchange, promissory note will appear as under:

Stamp	121, Shukrawar Peth Pune 15th March, 98
<b>Two months after date, I promise to pay Mr. Suresh or his order, a sum of Rs. Ten Thousand only, for value received.</b>	
Rs. 10,000/- To, Mr. Suresh 10, D.N. Road Mumbai	Mehta Signature

Distinction between a Bill of Exchange and a Promissory Note.

The following are points of distinction between a bill of exchange and a promissory note.

Bills of Exchange	Promissory Note
1. It is an unconditional order to pay.	1. It is an unconditional promise to pay.
2. It is made by a creditor.	2. It is made by a debtor.
3. Acceptance by debtor is necessary.	3. No acceptance is required.
4. There are three parties to a bill of exchange.	4. There are two parties to a Promissory note.
5. On dishonour of a bill, it is usually noted by the notary public.	5. Noting is not necessary.

For a person (drawer) who is going to receive money against the bill, the said bill will be bills receivable whereas the person who has to pay against this bill, it will be bills payable. Bills receivable is an asset and bills payable is a liability. For accounting purpose, no distinction is made between bills of exchange and promissory note.

According to Section 6 of the Negotiable Instruments Act, a cheque is a bill of exchange drawn upon a specified banker and payable on demand.

#### Essential Features of Cheque

A Cheque has the following features:

- (a) A cheque must have to fulfil all the essential elements of a bill of exchange.
- (b) It must be payable to bearer or to order but in either case, it must be payable on demand.
- (c) The banker named pays it when it is presented for payment.
- (d) The signature must tally with the specimen signature of the drawer kept in the bank.
- (e) A cheque must be dated.
- (f) A cheque drawn with a future date is valid but the same is payable on or after such specified period.



## Distinction between Bill of Exchange and a Cheque

Bills of Exchange	Cheque
1. A bill of exchange can be drawn upon any person including a bank. 2. A bill of exchange requires acceptance. 3. The acceptor of a bill of exchange is allowed three days of grace after the date of maturity of the bill. 4. A bill of exchange must be stamped. 5. Notice of dishonour is necessary.	1. A cheque can be drawn only upon a bank. 2. A cheque does not require any acceptance. 3. A cheque is always payable on demand. 4. A cheque does not require any stamp. 5. Notice of dishonour is not necessary.

**14.3 TERM AND DUE DATE OF A BILL**

Every bill is payable after a fixed future date. This period of a bill is called 'Term' or 'Tenor' of the bill. The date on which the bill is payable is called its due date. This is calculated after adding three days of grace to the actual period of the bill. Let us suppose, a bill is drawn on 1st March for a period of one month, then, its due date will be 1st April plus three days of grace, i.e. 4th April. If the due date falls on a public holiday say 26th January, then it becomes due on the previous working day, i.e. 25th January.

**14.4 CERTAIN IMPORTANT TERMS**

Before proceeding further, let us try to understand the meaning of certain important terms.

Holder	He is the person who is legally entitled to receive money on due date.
Holder in due course	The holder of a negotiable instrument is called holder in due course if he satisfies the following conditions: (a) He obtained the instrument for valuable consideration. (b) He became holder of the instrument before its maturity. (c) He had no cause to believe that any defect existed in the title of the person from whom he derived his title.
Bill sent to bank for collection	The bill is sent to bank for collection of the amount on behalf of the holder of the bill.
Honouring of bill Dishonour of bill	When the drawee pays the amount of the bill on due date, the bill is said to be 'honoured' or 'met'.
Discounting of bill	When the drawee of the bill is unable or refuses to make payment on due date, the bill is said to be dishonoured.
Endorsement of bill	Before the due date of the bill, the holder may endorse the bill in favour of his banker and gets immediate cash from the banker. This is called discounting of a bill.
Retirement of bill	Transfer of bill to some other person by the holder. When a drawee pays the bill before its due date, it is called retirement of bill.

Renewal of bill	When a drawee is unable to meet the bill on due date, he requests the drawer to accept a part of the bill amount in cash and for the balance to draw on him a fresh bill together with interest.
Accommodation of bill	When one party accepts the bill drawn on him by another, without any consideration, for the purpose of mutual help, the bill is said to be accommodation bill.
Notary Public	He is an officer appointed by the Government to exercise the powers and functions relating to a protesting of negotiable instruments for dishonour.
Noting	On dishonour of a bill, the holder in due course presents the bill to a notary public to make necessary entries on the bill or on a separate paper attached to the bill. This is called 'Noting'.
Protest	When a promissory note or bill of exchange has been dishonoured for non-acceptance or non-payment, the holder may, within a reasonable period, cause such dishonour to be noted and certified by a notary public; such a certificate is called 'Protest'.
Noting charges	Amount paid to Notary Public for recording the fact of dishonour is called 'Noting Charges'.
Rebate	When a bill is paid by drawee before due date, some allowance is given to him. This allowance is called 'Rebate'.

#### **14.5 ACCOUNTING ENTRIES TO BE PASSED**

When a bill of exchange is drawn by one party on another, it must be accepted by that person. Once it is accepted, it becomes a legal document and then entries are passed in the books of the drawer and drawee. Let us learn these entries with a simple illustration.

##### **Illustration 1**

Mr. A draws a bill on B for Rs. 10,000. It is accepted by B and returned to A. Show the entries to be passed in the books of A and B under the following circumstances:

- if A retains the bill;
- if A discounts the bill before due date for Rs. 9,800;
- if A sends the bill to his bank for collection;
- if A endorses the bill to 'C, his creditor.

In the above problem, 'A' is the drawer and this bill is 'Bill Receivable' to him; whereas 'B' is the drawee and therefore, it is 'Bill Payable' to him. Both bill receivable and bill payable are real accounts.

Entries in the Books of A (Drawer)

(a) <b>On receipt of bill and if the bill is retained</b>	Rs.	Rs.
Bills Receivable a/c	Dr. 10,000	
ToB (Being receipt of bill duly accepted by B)		10,000

---

**(b) When bill is discounted**

Cash a/c	Dr.	9,800 200	
Discount a/c	Dr.		
To Bills Receivable (Being bill discounted with the bank)			10,000

---

**(c) When bill is sent to the bank for collection**

Bank for Bill Collection a/c	Dr.	10,000	
To Bills Receivable (Being bill sent for collection)			10,000

---

**(d) When bill is endorsed to 'C**

C'sa/c	Dr.	10,000	
To Bills Receivable (Being endorsement of bill of C)			10,000

---

**In the Books of 'B' (Drawee)****(a) On issue of bill to A —**

A's a/c	Dr.	10,000	
To Bills Payable (Being acceptance of bill in favour of A.)			10,000

No entry will be passed in the books for -

(b) discounting of bill, (c) sending the bill to bank for collection, and (d) on endorsement. B is acceptor and he has to pay against the bill on due date to whoever comes to him.

**Illustration 2**

Show the entries to be passed in the books of A and B if on due date bill is met by the drawee, under the various circumstances mentioned in Illustration No. 1.

**In the Books of A****(A) When the retained bill is met**

Cash a/c	Dr.	10,000	
To Bills Receivable (Being the bill is met on due date.)			10,000

---

**(B) When discounted bill is met**

(as bank will receive money) No Entry

---

**(C) When bill is sent to Bank for collection**

In this case, bank will collect money from the Drawee and remit it to A: Cash or Bank a/c

To Bank for Bill Collection (Being bill sent for collection).	Dr.	10,000	
			10,000

---

- (D) When endorsed bill is met No Entry  
 (As endorsee will receive money)

In the Books of B

In all the above cases, 'B' will pass only one entry:	Rs.	Rs.
Bills Payable a/c	Dr. 10,000	
To Cash/Bank		10,000
(Being payment made against our acceptance)		

**Dishonouring of a Bill**

When a bill of exchange is dishonoured, the holder can get such fact noted on the bill by a notary public. The advantage of noting is that the evidence of dishonour is secured. The noting is done by recording the fact of dishonour, the date of dishonour, the reason, if any, or if the instrument has not been expressly dishonoured, then reasons why the holder wants to treat it as dishonoured. Assume that noting charges amounted to Rs. 100.

Entries in the Books of A (Drawer)

(A) When retained bill is dishonoured	Rs.	Rs.
B'sa/c	Dr. 10,100	
To Bills receivable		10,000
To Cash		100
(Being dishonoured bill returned to the drawee)		
- noting charges paid in cash Rs. 100		

- (B) Discounted bill dishonoured

In this case, bank will pay noting charges and 'A' will have to pay entire amount (Bill amount + noting charges) to the bank

	Rs.	Rs.
(i) Bills Receivable a/c	Dr. 10,000	
To Cash (Being cash paid to bank, including noting charges on dishonour of bill)	Dr. 100	10,100
(ii) B'sa/c	Dr. 10,100	
To Bills Receivable To Noting Charges (Being discounted bill dishonoured and returned to the acceptor 'A')		10,000 100

- (C) Bill sent to bank for Collection, dishonoured

In this case, banker will pay noting charges and A will have to pay the same to the bank.

	Rs.	Rs.
(i) Bills Receivable a/c	Dr. 10,000	
Noting Charges a/c	Dr. 100	

To Cash		100
To Bank for Bill Collection		10,000
(Being dishonour of bill sent to bank for collection and noting charges paid by them)		
(ii) B'sa/c	Dr. 10,100	
To Bill Receivable		10,000
To Noting Charges		100
(Being 'return of bill to B', on dishonour of the same)		

**(D) When endorsed bill is dishonoured**

In this case, the endorsee, C will pay the noting charges.

(i) Bill Receivable a/c	Dr. 10,000	
Noting Charges a/c	Dr. 100	
To C		10,100
(Being receipt of bill from C on dishonour of the same)		
(ii) B'sa/c	Dr. 10,100	
To Bills Receivable		10,000
To Noting Charges		100
(Being endorsed bill dishonoured and returned to B)		

**In the Books of B (Drawee)**

In all the above cases, B will receive the bill from the drawer A and the entry, given below, will be passed in his books.

		Rs.	Rs.
Bill Payable a/c	Noting Charges a/c	Dr. 10,000	
To A		Dr. 100	10,100
(Being our acceptance received back from A on dishonour		of the same)	

**Retirement and Renewal of Bill****Illustration 4**

Suresh accepted a bill for Rs. 10,000 drawn on him by Ramesh. Show what entries will be passed, under the following circumstances, in the books of Suresh and Ramesh.

- (A) Suresh retired the bill by paying Rs. 9,500 and  
 (B) Suresh requested Ramesh to renew and the bill on immediate cash payment of Rs. 4,000 and accepting a new bill for the balance for three months with interest @ 10 per cent.

**In the books of Ramesh (Drawer)****(A) On Retirement of a bill**

		Rs.	Rs.
Cash a/c		Dr. 9,500	
Rebate a/c		Dr. 500	

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To Bills Receivable (Being retirement of bill by Suresh under rebate of Rs. 500) 10,000

### (B) On Renewal of a bill

We must remember that on renewal of a bill, first the old bill is to be cancelled in the books of both the parties.

#### (a) Cancellation of old bill

	Rs.	
Suresh a/c	Dr. 10,000	Rs. 10,000

To Bills Receivable (Being cancellation of the said bill) (ii)

#### Renewal of bill

Here Suresh pays cash Rs. 4,000 and accepts the bill for balance with interest.

	Rs.	
Total amount of the bill: Less: Amount received	10,000	
amount	0	
Add: Interest on Rs. 6,000 for 3 months @ 10 per cent	4,000	
Amount of new bill <b>Interest is income for 'A'</b>	6,000	

	Rs.	
Cash a/c	Dr. 4,000	
Bills Receivable a/c	6,150	Rs. 150
To Interest		10,000
To Suresh		

(Being receipt of cash Rs. 4,000 and a new bill drawn for the balance with interest)

**In the books of Suresh (Drawee)**

	Rs.	
	10,000	Rs. 9,500
	Dr.	500

#### (A) On retirement of a bill

Bills Payable a/c.

To Cash

To Rebate (Being retirement of our acceptance)

#### (B) On Renewal of bill

(i) Cancellation of old bill Bills Payable a/c.

To Ramesh (Being cancellation of our acceptance)

	Rs.	
	Dr. 10,000	

10,000

(ii) Ramesh a/c	Dr.	10,000	
Interest a/c	Dr.	150	
To Cash			4,000
To Bills Payable			6,150

(Being renewal of our acceptance with cash payment of Rs. 4,000 and acceptance of new bill with interest)

In Illustrations 1 to 4, we have learned the basic entries to be passed, under various circumstances, in the books of drawer and drawee: Let us now consider a few comprehensive illustrations.

### Illustration 5

On 1st June 1997, Bimal drew on Chetan three bills of exchange in full settlement of claims, the first for Rs. 14,000 at one month, the second for Rs. 16,000 at two months and third for Rs. 18,000 at three months. All the bills were duly accepted by Chetan. The first bill was endorsed by Bimal to his creditor Tarun on 3rd June 1997. The second bill was discounted on 15th June 1997 for Rs. 15,900 and the first bill was sent to bank for collection on 4th July 1997.

All the bills were duly met on maturity except the second bill which was dishonoured. Noting charges being Rs. 240. Bimal charged Chetan Rs. 300 for interest and drew on him a fourth bill for two months for the amount due. The fourth bill was duly met on maturity.

Pass journal entries (including narration) in the books of Bimal.

### Solution

#### Entries in the Books of Bimal

Date 1997	Particulars	L.F.	Debit (Rs.)	Credit (Rs.)
1st June	Bills Receivable No. 1 a/c Dr. Bills Receivable No. 2 a/c Dr. Bills Receivable No. 3 a/c Dr. To Chetan (Being receipt of three bills duly accepted by Chetan)		14,000 16,000 18,000	48,000
3rd June	Tarun a/c Dr. To Bills Receivable No. 1 (Being endorsement of 1st bill to Tarun)		14,000	14,000
15th June	Cash a/c Dr. Discount a/c Dr. To Bills Receivable No. 2 (Being discounting of 2nd bill with the bank)		15,900 100	16,000
4th July	Bank for Bill Collection a/c Dr. To Bills Receivable No. 3 (Being 3rd bill sent to bank for collection)		18,000	18,000

Date 1997	Particulars	L.F.	Debit (Rs.)	Credit (Rs.)
4th Aug.	Bills Receivable No. 2 a/c Dr. Noting Charges a/c To Cash/Bank (Being payment made to the bank on dishonour of 2nd bill)		16,000 240	16,240
4th Aug.	Chetan a/c Dr. To Bills Receivable No. 2 To Noting Charges (Being dishonoured bill returned to Chetan)		16,240	16,000 240
4th Aug.	Chetan a/c Dr. To Interest (Being interest charged to Chetan)		300	300
4th Aug.	Bills Receivable No. 4 a/c Dr. To Chetan (Being receipt of new bill from Chetan for balance due)		16,540	16,540 /
4th Sept.	Cash/Bank a/c Dr. To Bank for Bill Collection (Being amount received against our 3rd bill from the bank)		18,000	18,000
7th Oct.	Cash/Bank a/c Dr. To Bills Receivable No. 4 (Being amount received from Chetan against our 4th bill)		16,540	16,540

**Illustration No. 6**

On 1st July, 1997 Deepal owes Sheetal Rs. 15,000 and immediately accepts three bills of Rs. 5,000 each due respectively in one, two and four months. The first bill is retained by Sheetal and is met in due course. The second bill is discounted (discounting charges Rs. 50) and is met in due course. The third bill is endorsed to Tinku, but dishonoured on due date, the noting charges being Rs. 100. Under the new arrangements made, Deepal pays cash Rs. 2,000 and accepts and new bill for balance amount due in two months, with interest Rs. 200. The bill is retained by Sheetal till due date. On presentation, the bill is dishonoured, the noting charges being Rs. 200. A week later Deepal became bankrupt, her estate paying dividend of 50 paise in a rupee in full and final settlement.

Pass journal entries in the books of Sheetal and Deepal.



**Solution**

(Rs.)

## Journal Entries in the Books of Sheetal

Date	Particulars	L.F.	Debit (Rs.)	Credit (Rs.)
1997	Bills Receivable No. 1 a/c Dr.		5,000	
1st July	Bills Receivable No. 2 a/c Dr.		5,000	
	Bills Receivable No. 3 a/c Dr.		5,000	
	To Deepal			15,000
	(Being receipt of three bills duly accepted by Deepal)			•
1997	Cash a/c Dr.		4,950	
1st July	Discount a/c Dr.		50	
	To Bills Receivable No. 2			5,000
	(Being 2nd bill discounted with the bank)			
1997	Tinku a/c Dr.		5,000	
1st July	To Bills Receivable No. 3			5,000
	(Being endorsement of 3rd bill to Tinku)			
4th Aug.	Cash a/c Dr.		5,000	
	To Bills Receivable No. 1			5,000
	(Being 1st bill met on due date)			
4th Nov.	Bills Receivable No. 3 a/c Dr.		5,000	
	Noting charges a/c Dr.		100	
	To Tinku			5,100
	(Being the 3rd bill dishonoured - Noting charges amounted to Rs. 100)			
4th Nov.	Deepal a/c Dr.		5,100	
	To Bills Receivable No. 3			5,000
	To Noting Charges			100
	(Being dishonoured bill returned to Deepal)			
4th Nov.	New Bill amount = amount receivable		5,100	
	Less: Cash received		2000	
	Balance		3,100	
	Add: Interest		200	
	Amount of new bill			3,300

4th Nov.	Cash a/c Bills Receivable No. 4 a/c To Interest To Deepal (Being cash and new bill received from Deepal in settlement of balance)	Dr.		2,000 3,300	200 5,100
1998 7th Jan.	Deepal a/c To Bills Receivable No. 4 a/c To Cash (Being dishonoured of 4th bill - Noting charges paid in cash Rs. 200)	Dr.		3,500 3,300	200
14th Jan.	Cash a/c Bad Debts a/c To Deepal (Being 50% of the amount due received from the estate of Deepal)	Dr. Dr.		1,750 1,750	3,500

## Journal Entries in the Books of Deepal

Date 1972	Particulars	L.F.		Debit (Rs.)	Credit (Rs.)
1st July	Sheetal a/c To Bills Payable No. 1 To Bills Payable No. 2 To Bills Payable No. 3 (Being acceptance of three bills in favour of Deepal)	Dr.		15,000	5,000 5,000 5,000
4th Aug.	Bills Payable No. 1 a/c Cash (Being payment made against our acceptance)	Dr. To		5,000	5,000
4th Sept.	Bills Payable No. 2 a/c Cash (Being payment made against 3rd acceptance)	Dr. To		5,000	5,000
4th Nov.	Bills Payable No. 3 a/c Noting Charges To Sheetal (Being dishonour of our 2nd acceptance)	Dr.		5,000 100	5,100

4th Nov.	Sheetal a/c Interest a/c To Cash To Bills Payable No. 4 (Being payment of cash of Rs. 2,000 and acceptance of new bill for balance plus interest)	Dr. Dr.		5,100 200	2,000 3,300
1998 7th Jan.	Bills Payable a/c Noting Charges a/c To Sheetal (Being dishonour of our 4th acceptance)	Dr. Dr.		3,300 200	3,500
16th Jan.	Sheetal a/c To Cash To Deficiency (Being full and final payment made to Sheetal from our estate)	Dr.		3,500	1,750 1,750

#### **14.6 ACCOMMODATION BILL**

Bills of exchange are meant for financing actual transactions in goods. Bills are drawn by seller (creditor) on debtor (buyer) to recover his dues. Thus, there is some consideration for drawing bills. In accommodation bills, there is no debtor-creditor relationship between the parties concerned. Bills are drawn by one party on another to accommodate financial needs. When such a bill is drawn, the drawer discounts the bill with the bank and the money so raised, is either fully utilised by him or shared with the drawee. Before the due date, the drawer remits the amount utilised by him to the drawee and drawee then meets the bill, by making full payment to the bank. The parties can also draw separate bills on each other. In this case, each one discounts his own bill with the bank and utilises the amount. When the bills became due for payment, they meet their acceptance and settle their accounts. The accounting treatment of accommodation bills is similar to normal trade bills. One thing to remember here is that the discount loss must be shared by both the parties in the same proportion in which they share the proceeds of the bill.

#### **Illustration 7**

Mr. X drew on Y a bill for 10,000 on 1 st March 1998 for two months. X discounted it with his bank for Rs. 9,600 and remitted half the proceeds to Y. Mr. Y drew a bill on X for Rs. 9,000 and the same date for similar period. Y discounted it with his banker for Rs. 8,700 and remitted *one-thini* of the proceeds to X. On 30 April, Y became insolvent and only 50 per cent was received from his estate on 4th May. Pass journal entries in the books of X and Y.

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### Solution

#### Journal Entries in the Books of X

Date 1972	Particulars	L.F.	Debit (Rs.)	Credit (Rs.)
1st Mar.	Bill Receivable a/c Dr. To Y (Being receipt of bill from Y)		10,000	10,000
1st Mar.	Cash a/c Dr. Discount a/c Dr. To Bills Receivable (Being discounting of bill with the Bank)		9,600 400	10,000
1st Mar.	Y's a/c Dr. To Cash To Discount (Being 50% of the proceeds sent to Y)		5,000	4,800 200
1st Mar.	Y's a/c Dr. To Bill Payable (Being accepted a bill in favour of Y)		9,000	9,000
1st Mar.	Cash a/c Dr. Discount a/c Dr. To Y (Being 1/3rd proceeds received from Y)		2,900 100	3,000
30th Apr.	V's a/c Dr. To Bank (Being full payment made to bank against Y's bill as he is insolvent)		10,000	10,000

Y became insolvent. Therefore, we will have to find out the amount receivable from Y by opening his account.

#### Y's A/c

Dr.

Cr.

1998			1998		
1st March	To Cash	4,800	1st March	By Bill Receivable	10,000
1st March	To Discount	200	1st March	By Cash	2,900
1st March	To Bills Payable	9,000	1st March	By Discount	100
30th April	To Bank	10,000	4th May	By Cash	5,500
			4th May	By Bad Debts	5,500
		24,000			24,000

Date 1998	Particulars	L.F.	Debit (Rs.)	Credit (Rs.)
4th May	Cash a/c Dr. Bad Debts a/c Dr. To Y (Being 50% of the amount due received from Y's estate)		5,500 5,500	11,000
4th May	Bills Payable a/c Dr. To Cash (Being payment made against our acceptance)		9,000	9,000

## Journal Entries in the Books of Y'

Date 1998	Particulars	L.F.	Debit (Rs.)	Credit (Rs.)
1st Mar.	X's a/c Dr. To Bills Payable (Being bill accepted in favour of X)		10,000	10,000
1st Mar.	Cash a/c Dr. Discount a/c Dr. To X (Being amount received from X)		4,800 200	5,000
1st Mar.	Bills Receivable a/c Dr. To X (Being receipt of bill duly accepted by X)		9,000	9,000
1st Mar.	Cash a/c Dr. Discount a/c Dr. To Bills Receivable (Being discounting of bill)		8,700 300	9,000
1st Mar.	X's a/c Dr. To Cash To Discount (Being amount paid to X)		3,000	2,900 100
30th Apr.	Bills Payable a/c Dr. To X (Being our acceptance paid by X)		10,000	10,000

X's A/c

Dr.			Cr.		
Date 1998			Date 1998		
1 st March	To Bills Payable	10,000	1st March	By Cash	4,800
1st March	To Cash	2,900	1 st March	By Discount	200
1st March	To Discount	100	30th April	By Bills Receivable	9,000
4st May	To Cash	5,500	4th May	By Bills Payable	10,000
	To Deficiency	5,500			
		24,000			24,000

Date 1998	Particulars	L.F.	Debit (Rs.)	Credit (Rs.)
4th May	X's a/c Dr. To Cash To Deficiency (Being 50% amount paid in full and final settlement to X)		11,000	5,500 5,500

### **14.7 BILL BOOKS**

#### **Bills Receivable Book**

Bills receivable book is a book where all the bills, which are received, are recorded and, posted directly to the credit of respective customer's account from there. The total amount of bills so received during the period, either at the end of the week or month, is to be posted to, in one lump sum, to the debit of the bills receivable account. The usual form of bills receivable book, with imaginary figures, is shown below.

Bills Receivable Book

No.	Date of Receipt	From Whom	Acceptor	Date of Bill	Term	Due Date	Where Payable	Amt. (Rs.)	L.F.	How Disposed off	Remarks
1.	1/3/98	A	A	1/3/98	1 month 2	4/4/98	Mumbai	5,000	-	-	-
2.	1/4/98	B	B	1/4/98	months 0	4/6/98		6,000			
3.	1/5/98	C	C	1/5/98	days	3/6/98		8,000			
								19,000			

#### **Bills Payable Book**

This is a book where all particulars relating to the bills accepted are recorded and, posted from there, directly to the debit of the respective creditor's account. The total amount of the bills so accepted during the period, either at end of the week or month, is to be posted in one lump sum to the credit of bills payable account. The usual form of 'Bills Payable' book, with imaginary figures, is as follows:

**Bills Payable Book**

No.	Date of Receipt	Drawn by	Payee	Date of Bill	Term	Due Date	Where Payable	Amt. (Rs.)	L.F.	How Disposed of	Remarks
1.	1/1/98	A	A	1/1/98	1 month	4/2/98	Mumbai	5,000	-	-	-
2.	4/21/98	X	X	4/21/98	1 months	7/3/98		5,000	-	-	-
3.	10/21/98	Y	Y	10/21/98	2 Months	13/4/98		2,000	-	-	-
4.	1/3/98	Z	Z	1/3/98	1 Month	4/4/98		8,000	-	-	-
								20,000			

### 14.8 LET US SUM UP

Credit transactions are very common in business. The creditor draws a bill on debtor. Bill must be accepted by the debtor. A promissory note is written by a debtor in favour of its creditor. A 'Bill' is bills receivable for drawer and a bills payable for drawee. For accounting purpose, there is no distinction made between a bill of exchange and a promissory note. The date on which bill is payable is called 'Due Date'. Three days are added as grace days to the due date. When the due date falls on a public holiday, it is payable on the earlier working day. A drawer, before the due date of a bill, can endorse it to a creditor, discount it with his bank or, send to his bank for collection. When a creditor draws a bill on debtor, it is called a 'trade bill'. Accommodation bill, which does not represent any financing transactions in goods, is drawn to accommodate financial needs of the parties. If the number of bill transactions is large, then the 'Bill Receivable Book' and 'Bills Payable Book' are used.

### 14.9 KEYWORDS

**Drawer** : One who draws the bill. **Drawee**: One who accepts the bill. **Payee**: One who is going to receive money. **Date of Maturity**: Date on which bill is due for payment. **Endorsee**: A person in whose favour bill is endorsed. **Hundi**: It is a Indian name for the bill of exchange. **Tenor**: The period for which the bill is drawn. **Retirement**: Payment of bill before due date.

### 14.10 TERMINAL QUESTIONS

- Q.1 On 1st January 1998, Mr. A drew a bill on Mr. B for Rs. 10,000 due for payment on 31st March 1998. This was accepted by B on 4th January 1998. A discounted the bill with his bank and realised a sum of Rs. 9,500. He remitted half the amount to B by cheque. On 1st March, Mr. B drew a bill on Mr. A for Rs. 12,000 due on 1st April 98. Mr. A accepted the same. On 2nd March, B discounted the bill with his banker for Rs. 11,500 and remitted half the proceeds to A. Mr. B failed to honour the bill drawn on him on the due date. A dividend of 50 paise in a rupee is received from B's estate. Show necessary entries in the books of A and B.
- Q.2 R owed Rs. 2,000 to S on 1st October 1997. R accepted a bill drawn on him by S for the amount at three months. S got the bill discounted with his bank for Rs. 1,900. Before due date R approached S for renewal of the bill. S agreed on the condition that Rs. 1,000 is paid immediately together

with interest on the remaining amount @ 12 per cent p.a. for three months and for the balance Rs. should accept a new bill at three months. These arrangements were carried out. But afterward R became insolvent and 40 per cent of the amount could be recovered for his estate. Pass journal entries in the books of S and R.

- Q. 3 Pass necessary journal entries that would appear in the books of X for the following transactions.  
 5/5/97 - X drew three bills on Y for Rs. 500, Rs. 400 and Rs. 300 payable at 4, 3 and 2 months respectively. Y accepted the bills and returned them to X. 12/5/97 - X endorsed the first bill to his creditor Cat Rs. 475. 19/5/97 - X discounted the second bill with his bank at 12 per cent p.a. 26/5/97 - Y paid the proceeds of the third bill at a rebate of 5 per cent p.a.

On the due date 1st and 2nd bills were honoured.

- O- 4 On 1st April 97, Amar accepts a three months bill drawn on him by Bijay for Rs. 10,000.

On 5th May, Bijay discounts it with his bank for Rs. 9,800. Amar being unable to meet the bill on maturity, requests Bijay to accept Rs. 4,000 in cash and to draw another bill for three months for the balance plus interest @ 12 per cent p.a. Bijay agrees. But before the second bill matures, Amar becomes insolvent and is unable to pay any amount whatsoever.

Show entries in the books of both the parties.

**State whether the following statements are True or False.**

1. A bill of exchange is a negotiable instrument.
2. A bill of exchange need not be dated.
3. A bill of exchange must be accepted by the drawee.
4. Drawee is a person to whom the bill is endorsed.
5. Amount of the bill is paid to the payee.
6. Drawee after acceptance becomes acceptor.
7. A bill of exchange must be in writing.
8. A bill of exchange may be drawn for payment in kind.
9. Drawee has the right to discount the bill.
10. There are three parties to a bill of exchange.
11. There are two parties to a promissory note.
12. Drawee is the maker of a bill of exchange.
13. Debtor is the maker of a promissory note.
14. A bill of exchange is a conditional order.
15. A bill of exchange must be properly stamped.
16. The maker of a promissory note must sign it.
17. Mere acknowledgement of debt is not a promise.
18. A bill of exchange which arises out of trading relationship of two persons is called as a trade bill.
19. Acceptance is voluntary for a bill of exchange.
20. In general acceptance, the drawee agrees with some of the conditions of the bill.

Answers: (1) True; (2) False; (3) True; (4) False; (5) True; (6) True; (7) True; (8) False; (9) False; (10) True; (11) True; (12) False; (13) True; (14) False; (15) True; (16) True; (17) True; (18) True; (19) False; (20) False.



**Fill in the Blanks with suitable word or words.**

1. When goods are sold on credit seller becomes a \_\_\_\_\_ and buyer becomes a \_\_\_\_\_.
2. Negotiable instruments can be \_\_\_\_\_ from one person to another.
3. \_\_\_\_\_ draws a bill on \_\_\_\_\_.
4. A bill of exchange must be signed by the \_\_\_\_\_.
5. A bill of exchange must be properly \_\_\_\_\_.
6. A bill of exchange must be \_\_\_\_\_ by the drawee.
7. A bill of exchange must be in \_\_\_\_\_.
8. A bill of exchange can be discounted with the \_\_\_\_\_ to bank and an \_\_\_\_\_ to the drawer.
9. Discount on bill discounted is an \_\_\_\_\_.
10. There are \_\_\_\_\_ parties to a bill of exchange.
11. There are \_\_\_\_\_ parties to a \_\_\_\_\_ promissory note. \_\_\_\_\_ order.
13. \_ 12. A bill of exchange contains a \_\_\_\_\_.
14. \_ is a person who draws a bill,
15. \_ is a person on whom a bill is drawn,
16. \_ is a person who is entitled to receive the amount of the bill,
17. \_ is a person who gives a promise,
18. A \_\_\_\_\_ is a person in whose favour a promise is given. \_\_\_\_\_ gives promise to a \_\_\_\_\_.
19. A bill of exchange contains an order for payment of a certain sum of \_\_\_\_\_ only.
20. In \_\_\_\_\_ acceptance the drawee puts his signature across the face of the bill with or without the word "Accepted".

Answers: (1) creditor, debtor; (2) transferred; (3) creditor, debtor; (4) drawer; (5) stamped, (6) accepted, (7) writing, (8) bank, (9) income, expenses, (10) three, (11) two, (12) unconditional, (13) Drawer, (14) Drawee, (15) Holder in due course, (16) Promisor, (17) Promisee, (18) debtor, creditor (19) money, (20) general.

**State whether the following statements are True or False.**

1. There is no difference in appearance between trade bill and accommodation bill.
2. The purpose of accommodation bill is to provide temporary finance.
3. An accommodation bill must be supported by R/R.
4. Both the parties must accept an accommodation bill.
5. Days of grace are not allowed in case of accommodation bill.
6. An accommodation bill must have consideration.
7. There must be debtor-creditor relationship between the drawer and the drawee of an accommodation bill.
8. Proceeds of accommodation bill are always shared equally by the drawer and the drawee.
9. The drawer has to bear the amount of discount on accommodation bill.
10. The drawer can take legal action against the drawee in case of dishonour of the accommodation bill.

11. Accommodation bill is drawn and accepted without any consideration.
12. Both the parties must accept an Accommodation Bill.

Answers: (1) True; (2) True; (3) False; (4) False; (5) True; (6) False; (7) False; (8) False; (9) False; (10) False; (11) True; (12) False.

**Fill in the blanks.**

1. The purpose of accommodation bill is to satisfy \_\_\_\_\_ need of funds.
2. An accommodation bill is \_\_\_\_\_ immediately after its acceptance.
3. Proceeds of accommodation bill are shared by the parties in \_\_\_\_\_ in ratio.
4. Discount in respect of accommodation bill is shared by the parties in \_\_\_\_\_ ratio.
5. Drawer of an accommodation bill is not a \_\_\_\_\_
6. Accommodation bill is drawn without any \_\_\_\_\_
7. A bill drawn and accepted for mutual help is called \_\_\_\_\_ and drawee is not a \_\_\_\_\_

**bill.**

Answers: (1) mutual; (2) discounted; (3) agreed; (4) sharing; (5) creditor, debtor; (6) consideration; (7) accommodation.

**Write the word/phrase which can substitute each of the following.**

1. A bill which is drawn for mutual accommodation of each other.
2. A bill which has no consideration.
3. Inability to pay the bills on due date.
4. The amount received from the insolvent person's private estate.
5. The amount irrecoverable from the insolvent.

Answers: (1) Accommodation Bill; (2) Accommodation Bill; (3) Insolvency; (4) Dividend; (5) Bad Debt.

**Match the following pairs.**

**Group A**

- 1 Accommodation bill
- 2 Trade bill
- 3 Insolvent
- 4 Bad debt
- 5 Dividend

**Group B**

- (a) Real
- (b) Imaginary
- (c) Irrecoverable debt
- (d) Liabilities more than assets
- (e) Amount received from the private estate of the insolvent
- (f) Noting
- (g) Dishonour

Answers: 1 (b); 2 (a); 3 (d); 4 (c); 5 (e)



# CONSIGNMENT ACCOUNT

## STRUCTURE

- 15.0 Objectives
- 15.1 Meaning
- 15.2 Difference between Consignment and Sale
- 15.3 Proforma Invoice
- 15.4 Account Sale
- 15.5 Accounting Treatment
- 15.6 Valuation of Closing Stock
- 15.7 Consigning goods at a higher price
- 15.8 Commission payable to Consignee
- 15.9 Normal Loss
- 15.10 Abnormal Loss
- 15.11 Entries to be passed in the books of Consignor
- 15.12 Illustration
- 15.13 Let Us Sum Up
- 15.14 Keywords
- 15.15 Terminal Question

LEARNING OBJECTIVES

After studying this chapter you will be able to know:

- meaning of consignment
- difference between consignment and sale
- meaning of Pro forma Invoice and Account Sale
- normal and abnormal loss
- accounting treatment.

15.1 MEANING

A consignment is the despatch of goods by its owner to his agent for the purpose of selling. The former is called the 'Principal' or 'Consignor' and the latter is called 'Agent' or 'Consignee'. The goods so despatched or sent by the consignor is regarded as 'Consignment Outward' in the books of consignor, whereas the goods so received by the consignee is treated as 'Consignment Inward' in his books.

15.2 DIFFERENCE BETWEEN CONSIGNMENT AND SALE

The following points may be noted.

- (a) According to Sale of Goods Act, where the property in the goods is transferred from the seller to the buyer, the contract is called a 'sale'. But in consignment, the ownership of the goods is not transferred to the consignee.
- (b) In actual sale, the purchaser can dispose off the goods according to his own choice and desire since he is the owner of such goods. But in a consignment, the consignee cannot do so since he is not the owner of the goods and at the same time, he is bound to sell the same as prescribed by the consignor.
- (c) In case of sale, risk is transferred from the seller to the buyer as soon as the transaction takes place. Therefore, any loss, if incurred, is to be borne by the purchaser. But in case of consignment loss is to be borne by the consignor and not by the consignee since he is only the agent.
- (d) In a contract of sale, the purchaser cannot return the goods to the seller, but in consignment, the consignee can do so if he thinks that the goods are not marketable.

15.3 PROFORMA INVOICE

It is an invoice sent by consignor to the consignee stating full details of the goods consigned, such as quantity, grade, value, etc. Since transfer of goods to consignee is not a sale, the invoice is called 'Pro forma Invoice'.

15.4 ACCOUNT SALE

Consignor, who is a manufacturer or wholesaler, sends the consignment to his agent, consignee, for selling the goods on his behalf at the best available price. The consignor, reimburses all legitimate expenses incurred by the consignee for selling these goods. Such expenses include rental of shop, salary and commission to salesmen, etc. The consignee is given a fixed rate of commission over and above the reimbursement of expenses. The consignee is required to submit to the consignor a statement, showing details of goods sold, expenses incurred, commission due to him and how the balance payable to consignor is settled. This statement is called 'Account Sale'.

### **15.5 ACCOUNTING TREATMENT**

The consignor, draws following accounts in his books.

- (1) Consignment,
- (2) Consignee, and
- (3) Goods sent on consignment.

Consignment account is a nominal account showing on debit side all expenses incurred and on the credit sale by the consignee and the closing stock. The net result will represent the profit or loss made on the particular consignment which will be transferred to general profit and loss Account.

### **15.6 VALUATION OF CLOSING STOCK**

Unsold stock of goods with the consignee must be valued properly. The stock is valued at cost plus the proportionate expenses incurred by the consignor and the consignee. In case of the consignor, all expenses incurred for sending goods to the consignee are to be considered. But in case of consignee, only non-recurring or direct expenses, incurred by him are taken into account.

### **15.7 CONSIGNING GOODS AT A HIGHER PRICE**

When the consignor thinks that the consignee should have no knowledge of the cost of goods consigned, he prepares a pro forma invoice at a higher price. Another object of preparing the pro forma invoice at a higher price is to keep the consignee in the dark about the actual amount of profit earned. The excess amount, over the cost price, is called 'Loading'. When goods are consigned at the 'Invoice Price' (Loaded Price), the consignment account is debited with the loaded price and immediately the excess over the cost is credited to consignment account so that the element of the unrealised profit is removed. Similarly, while valuing closing stocks, goods are valued first at the invoice price and the excess included in the stocks is transferred to consignment stock revenue by debiting consignment account.

### **15.8 COMMISSION PAYABLE TO CONSIGNEE**

Over and above the reimbursement of expenses incurred by the consignee, he is paid a commission at a fixed rate on the sales by him. Commission payable to the consignee is of two types, i.e.

- (1) Ordinary and
- (2) Del Credere.

Ordinary commission is paid at a fixed rate on all sales made by him, cash as well as credit. Collection charges, loss due to bad debts must be borne by the consignor.

Del Credere commission is an extra commission, over and above the normal, paid to the consignee for selling goods on credit. Under these circumstances, all losses due to bad debts, collection charges and discount must be borne by the consignee. This is calculated on total sales.

### **15.9 NORMAL LOSS**

If some loss is unavoidable (e.g. leakage) it would be spread over the entire consignment while valuing stock. The total cost plus expenses incurred should be divided by the quantity available after the normal loss to ascertain the cost per unit.

**15.10 ABNORMAL LOSS**

If any accidental or unnecessary loss occurs then such loss is ascertained and transferred to the profit and loss account.

**15.11 ENTRIES TO BE PASSED IN THE BOOKS OF CONSIGNOR**

- |     |  |     |   |
|-----|--|-----|---|
| (1) | For goods sent to consignment -<br>Consignment a/c   | Dr. |   |
|     | To goods sent on consignment<br>(at cost price or invoice price)   |     |   |
| (2) | For adjusting loading (Excess over cost) -<br>Goods sent on consignment a/c  | Dr. |   |
|     | To consignment (with the<br>loading amount)  |     |   |
| (3) | For expenses incurred by the consignor -<br>Consignment a/c  | Dr. |   |
|     | To bank  |     |   |
| (4) | For expenses incurred and commission payable to consignee -<br>Consignment a/c   | Dr. |   |
|     | To consignee   |     |   |
| (5) | For sale of goods by consignee -<br>Consignee a/c  | Dr. |   |
|     | To consignment   |     |   |
| (6) | For bad debts - Discount allowed or collection charges -<br>(when no Del Credere commission is given)<br>Consignment a/c | Dr. | — |
|     | To consignee   |     |   |
| (7) | For Goods taken over by Consignee -<br>Consignee a/c   | Dr. |   |
|     | To consignment   |     |   |
| (8) | For closing stock -<br>Consignment stock a/c   | Dr. |   |
|     | To consignment   |     |   |
| (9) | For profit/loss on consignment -<br>For profit -<br>Consignment a/c  | Dr. |   |
|     | To profit & loss A/c   |     |   |
|     | For loss -<br>Profit & loss A/c  | Dr. |   |
|     | To consignment   |     |   |

**15.12 ILLUSTRATION**

Jyotimal of Calcutta consigned 50 cases of Cotton Goods costing Rs. 2,000 each to Ziauddin of Dacca. Jyotimal paid following expenses:

Carriage Rs. 2,500; Freight Rs. 19,000 and Loading charges Rs. 3,500.

Ziauddin sales 30 cases at Rs. 3,500 each and incurs following expenses

Landing Charges Rs. 3,000; Warehousing and storage Rs. 5,000 and Packing and selling Rs. 4,000. It is found that two cases have been lost in transit and three cases are still in transit. Ziauddin is entitled to a commission of 10 per cent on the gross sales. Draw the necessary ledger accounts in the books of Jyotimal.

Solution

Consignment Account

Dr.			Cr.
To Goods sent on Consignment (50 x 2000)		1,00,000	By Ziauddin (Sales) (30 x 3,500) 1,05,000
To Bank -			By Goods lost in transit (1) 5,000
Carriage 2,500			By Goods in transit (2) 7,500
Freight 19,000			By Closing Stock (3) 38,500
Loading Charges 3,500	25,000		
To Ziauddin -			
Landing Charges 3,000			
Warehousing & Storage 5,000			
Packing & Selling 4,000	12,000		
To Ziauddin -			
Commission 10,500			
To Profit & loss A/c 8,500			
		1,56,000	1,56,000

Ziauddin Account

Dr.			Cr.
To Consignment (Sales) 1,05,000		By Consignment - Expenses 12,000	
		By Consignment - Commission 10,500	
		By Bank 82,500	
	1,05,000		1,05,000

(Contd.)

<p><i>Working - 1</i></p> <p>Goods lost in Transit 2 cases - 2,000</p> <p>Add: Proportionate Expenses incurred by Consignor - Expenses paid Rs. 25,000 on 50 cases, i. e. 25.000</p> <p style="padding-left: 40px;">50 = Rs. 500 per Case 500 x 2 =</p> <p style="text-align: right;">4,000</p> <p style="text-align: right;">_1000_</p> <p style="text-align: right;">5,000</p>		<p><i>Working - 2</i></p> <p>Goods in Transit 3 cases * 2,000</p> <p>Add: Proportionate Expenses incurred by Consignor 3 * 500</p> <p style="text-align: right;">6,000</p> <p style="text-align: right;">1,500</p> <hr/> <p style="text-align: right;">7,500</p>
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<p><i>Working - 3</i></p> <p>Valuation of Closing Stock</p> <p>15 cases x 2,000 = 30,000</p> <p>Add - Proportionate Expenses -</p> <p>(1) Consignor ~</p> <p style="padding-left: 20px;">Rs. 500 per case * 15 = 7,500</p> <p>(2) Consignee -</p> <p style="padding-left: 20px;">Non-recurring Expenses, Landing Charges</p> <p style="padding-left: 20px;">Rs. 3,000 on 45 cases</p> <p style="padding-left: 20px;">.-.on 15 cases - 1/3 * 3000 = 1,000</p> <p style="text-align: right;">38,500</p>		<p><i>Working 4</i></p> <p>Goods sent to Dacca - 50 Cases</p> <p>Less - lost in transit 2</p> <p style="padding-left: 20px;">in transit 3</p> <p style="text-align: right;">5</p> <hr/> <p style="text-align: right;">45</p> <p>Less: Sale by Ziauddin</p> <p style="text-align: right;">30</p> <hr/> <p style="text-align: right;">15</p> <hr/>
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### 15.13 LET US SUM UP

A manufacturer and wholesaler usually appoint agents to sell their product. They send a consignment of goods to them for selling on their behalf. The person who sends the goods is called consignor and their agent is called consignee. The consignor reimburses all expenses incurred by the agent for the sale of goods and gives a commission at a fixed rate. Commission paid is of two types, general and Del Credere. Consignor opens a consignment account in his books to find out profit or loss on the consignment.

### 15.14 KEYWORDS

**Consignor:** Person who send goods to an agent for selling these on his behalf

Consignee: An agent who sells goods on behalf of his principal.

**Del Credere Commission:** Additional commission given to consignee for selling goods on credit basis.

**Invoice Price:** Price after adding certain percentage over cost or selling price of the goods.



**15.15 TERMINAL QUESTION**

Q.1 State whether the following statements are True or False:

- (1) A consignment account is in the nature of 'Nominal Account'.
- (2) The relationship between consignor and consignee is that of seller and buyer.
- (3) When goods are sent on consignment, the consignee account is debited.
- (4) Account sale is the sales account in the books of the consignor.
- (5) Del Credere commission is paid to the consignee in order to avoid bad debts.

Answers: (1) True (2) False (3) False (4) False (5) True

Q.2 Fill in the blanks:

- (1) Goods despatched by a manufacturer or wholesaler to an agent for sale are called \_\_\_\_\_.
- (2) The periodical statement received from the consignee showing therein sale proceeds less expense, commission, remittances and resultant balance due to consignor is called an \_\_\_\_\_.

(3) Abnormal loss is credited to \_\_\_\_\_.

(4) Del Credere Commission is normally calculated on \_\_\_\_\_ sales.

Answers: (1) Consignment (2) Account Sale (3) Consignment (4) Total

Q.3. Indicate the correct answer:

1. When goods are sent on consignment debit is given to  
(a) Consignee's account (b) Consignment account (c) Sales account
2. The relationship between the consignor and consignee is that of  
(a) principal and agent (b) buyer and seller (c) debtor and creditor
3. A loss which is natural and unavoidable is  
(a) abnormal (b) normal (c) contingent
4. A loss arising due to pilferage, theft, fire etc. is  
(a) normal (b) abnormal (c) total
5. Abnormal loss of stock after adjusting for recovery and insurance claim is transferred to  
(a) trading account (b) profit & loss account (c) capital account
6. Consignee's account is a  
(a) nominal account (b) personal account (c) real account
7. Del Credere commission is calculated on  
(a) cash sales (b) credit sale (c) total sales

Answers: 1(b), 2(a), 3(b), 4(b), 5(b), 6(b), 7(c)



UNIT  
**16**

## JOINT VENTURE

### STRUCTURE

- 16.0 Objectives
- 16.1 Introduction
- 16.2 Definition
- 16.3 Features
- 16.4 Distinction between Joint Venture and Partnership
- 16.5 Distinction between Joint Venture and Consignment
- 16.6 Accounting Entries to be passed
- 16.7 Let Us Sum Up
- 16.8 Keywords
- 16.9 Terminal Questions

## **16.0 OBJECTIVES**

After studying this chapter, you will be able to know:

- the definition of a 'Joint Venture'
- the difference between a joint venture and partnership
- the difference between a joint venture and consignment

## **16.1 INTRODUCTION**

Where a businessman finds it difficult to undertake any business work or a venture alone, he may associate with other businessman. Such an association of persons is for a short period or for a particular venture and is known as 'Joint Venture'. It is regarded as a temporary partnership without a firm name and it ceases with the completion of the task undertaken. Persons, who have come together, are called co-venturers and not partners. The co-venturers enter into a contract with each other, deciding about their capital contribution and share of profit. In the absence of any agreement, profit and losses are shared equally by the co-venturers.

## **16.2 DEFINITION**

A dictionary for accountants, by Eric L. Kohler, defines joint venture as under: 'A commercial undertaking by two or more persons, differing from a partnership in that relate to disposition of a single lot of goods or the completion of a single project. Its duration is limited to the period in which goods are sold or the project is carried on.'

## **16.3 FEATURES**

The essential features of a joint venture agreement are:

- (1) It is an agreement between two or more persons.
- (2) The agreement is made to carry on a specific job.
- (3) The agreement is over as soon as the venture is completed.
- (4) It is a temporary partnership without any firm's name.

## **16.4 DISTINCTION BETWEEN JOINT VENTURE AND PARTNERSHIP**

- (1) A partnership has a firm name while a joint venture does not possess such a common name.
- (2) A partnership is a continuing business whereas a joint venture is purely temporary in nature.
- (3) The persons who enter into joint venture are called co-venturers while in case of a partnership, such persons are called partners.
- (4) Partners have joint and several liabilities while in a joint venture it depends on the mode of contract.
- (5) Separate set of books is maintained in case of a partnership firm whereas the same is not a must in case of a joint venture.
- (6) In a partnership firm, accrual basis of accounting is followed whereas in a joint venture cash basis of accounting is usually followed.
- (7) In a partnership, profit or loss is ascertained at the end of the year whereas in a joint venture it is ascertained on completion of each venture.

### 16.5 DISTINCTION BETWEEN JOINT VENTURE AND CONSIGNMENT

- (1) In a joint venture, the venturers contribute capital and share the profit or losses according to an agreed ratio, whereas, in a consignment, the consignee does not contribute any capital and he is not entitled to the profit or loss but he gets a commission at an agreed rate.
- (2) In a joint venture, each co-venturer can take part in the management of the venture, whereas in consignment, neither the consignor nor the consignee can take part in the other's business.
- (3) A joint venture is governed by the Partnership Act and by the terms of contract between the co-venturers but a consignment is governed by the law relating to 'Agency' and the terms of contract between parties to the contract.
- (4) A joint venture may be regarded as a temporary partnership whereas consignment is not similar to joint venture since the relationship between consignor and consignee is that of the 'Principal' and 'Agent'.

### 16.6 ACCOUNTING ENTRIES TO BE PASSED

#### **1. Where a separate set of books of account is kept:**

Following accounts are opened:

- (1) Joint bank account
- (2) Co-venturer's account
- (3) Joint venture account

Each co-venturer contributes some amount to the venture as an initial contribution and the same is deposited into the joint bank account. Expenses of the venture are met from the joint bank account as well as by the co-venturers from their personal resources. After the venture is completed, profit or loss of the venture is transferred to the co-venturer's account and final settlement is made. Entries

- (1) For initial contribution made by co-venturers -
 

Joint Bank a/c	Dr.
To Co-venturers	
- (2) For expenses incurred from joint bank account -
 

Joint Venture a/c	Dr.
To Joint bank account	
- (3) For assets brought in or expenses incurred by the co-venturers -
 

Joint venture a/c	Dr.
To Co-ventures a/c	
- (4) For cash sale effected
 

Joint bank a/c	Dr.
To Joint venture	
- (5) For receipt of purchase consideration on completion of the venture partly in cash and by partly by shares/debentures
 

Joint Bank a/c	Dr.
Share/Debenture a/c.	Dr.
To Joint Venture	

- (6) For taking over shares/debentures by a co-venturer -  
 Co-venturer a/c Dr.  
 (with agreed value of shares/debentures)  
 To shares/debentures
- (7) Difference in shares/debentures account, representing profit or loss is transferred to the joint venture
- For loss  
 Joint venture a/c Dr.  
 To shares/debentures
- For profit  
 Shares/debentures a/c Dr.  
 To joint venture For taking over unused material/asset by a co-venturer -
- (8) Co-venturer a/c Dr.  
 To joint venture For sale of unused material or asset as a scrap -
- (9) Joint bank a/c Dr.  
 To Joint venture
- For transfer of profit or loss on venture -
- (10) Profit → Joint venture a/c Dr.  
 To Co-venturers  
 Loss → Co-venturer's a/c Dr.  
 To Joint venture
- Final settlement amongst the co-venturers
- (ID) a) If co-venturer's account shows credit balance - amount will be paid to him.  
 Co-venturer a/c Dr.  
 To Joint bank
- If co-venturer's account shows debit balance - he will bring in required cash.  
 Joint bank a/c Dr.  
 To Co-venturer

### Illustration 1

A and B entered into a joint venture sharing profits and losses in the ratio of 3:2. They opened a joint bank account where A deposited Rs. 50,000 and B Rs. 40,000.

A, purchased goods for Rs. 30,000 and incurred Rs. 5,000 for expenses out of the joint bank and he also supplied materials from his own stock for Rs. 3,000. He sold the entire goods for Rs. 50,000 and deposited entire amount into the joint bank account.

B. purchased goods for Rs. 25,000 and incurred Rs. 3,000 for various expenses out of the joint bank account. He sold all the goods for Rs. 44,000 except for goods valued at Rs. 2,000 which he took for his own use. The proceeds were also deposited in the joint bank account.

Write up the joint venture A/c, joint bank account and the co-venturer's A/c.

**Solution****Joint Venture Account**

Dr.			Cr.	
		Rs.		Rs.
To Joint Bank - Purchase of Goods	30,000	35,000	By Joint Bank	
Expenses	5,000		Sale Proceeds	50,000
			Sale Proceeds	44,000
To A's Capital (materials)		3,000		
To Joint Bank - Purchase of goods	25,000	28,000	By B'sA/c	
Expenses	3,000		Goods taken	2,000
To Net Profit transferred to - A	18,000	30,000		
B	12,000			
		96,000		96,000

**Joint Bank Account**

Dr.		Cr.	
To A (Contribution)	50,000	By Joint Venture (Goods & Expenses)	35,000
To B (Contribution)	40,000	By Joint Venture (-)	28,000
To Joint Venture (Sales Proceeds)	50,000	By A (Final Payment)	71,000
To Joint Venture (Sales Proceeds)	44,000	By B (Final Payment)	50,000
	1,84,000		1,84,000

**Co-venturer's Account**

Dr.			Cr.		
A	B		A	B	
To Joint Venture			By Joint Bank	50,000	40,000
(goods taken)	-	2,000	By Joint Venture	3,000	-
To Joint Bank			By Joint Venture		
(final payment)	71,000	50,000	(Net Profit)	18,000	12,000
	71,000	52,000		71,000	52,000

**2. Where no separate books of account are kept**

Each co-venturer will record the transactions made by him as well as his co-venturer's transactions. Following accounts will be opened by each one of them (i) Joint venture and (2) Co-venturer

## Entries to be passed

- (1) For supply of goods from existing stock and from market purchases  
 Joint venture a/c Dr.  
     To Goods (from existing stock) To  
     Bank (from market purchases)
- (2) For payment of Expenses  
 Joint venture a/c Dr.  
     To Cash/Bank
- (3) For supply of goods and payment of expenses by Co-venturer  
 Joint venture a/c Dr.  
     To Co-venture a/c
- (4) For sale of goods - Cash Sales & Credit Sales  
 Bank a/c Dr. (Cash Sales)  
 Debtors a/c To Joint venture Dr. (Credit Sales)
- (5) For sale of goods by co-venturer  
 Co-venturer a/c Dr.  
     To Joint venture a/c
- (6) For Profit on Joint Venture  
 Joint Venture a/c Dr. (with total profit) (with  
     To Profit & Loss a/c To Co-venturer's share)  
     venturer
- (7) For loss on Joint Venture  
 Profit & Loss a/c Dr.  
 Co-venturer a/c Dr.  
     To Joint Venture
- (8) For final settlement  
 If payment is made  
 Co-venturer a/c To Bank Dr.  
 If payment is received To Bank a/c  
     To Co-venturer Dr.

**Illustration 2**

R and S decided to undertake a business venture jointly. They agreed to share a profit in the ratio of 2:1. R supplied goods worth Rs. 15,000 and paid Rs. 650 for carriage and freight. S supplied goods worth Rs. 12,000 and spent Rs. 500 for sundry expenses. S sold goods for Rs. 35,000. S is entitled to a commission of 10 per cent on sales. S settled the account of R by remitting the amount due by bank draft.



Open necessary ledger accounts in the books of R and S.

**Solution**

In the books of R - Joint Venture A/c

Dr.		Rs.	Cr.	
To Goods		15,000	By S (Sales of Goods)	35,000
To Cash (Carriage & Freight)		650		
Goods	12,000			
Sundry Expenses	500	12,500		
To S - (Commission @ 10% on Rs. 35,000)		3,500		
To Net Profit transferred to - Profit & Loss A/c	2,233			
SA/c	1,117	3,350		
		35,000		35,000

SA/c

Dr.		Rs.	Cr.	
To Joint Venture (Sales & Goods)		35,000	By Joint Venture	12,000
			Goods Expenses	500
			By Joint Venture	3,500
			(Commission) By Joint	1,117
			Venture (Profit) By Bank	883
		35,000		35,000

In the books of S — Joint Venture A/c

Dr.		Rs.	Cr.	
To R (Purchase of Goods)		15,000	By Cash	35,000
To R (Carriage & Freight)		650		
To Goods		12,000		
To Cash (Sundry Expenses)		500		
To Commission		3,500		
To Net Profit transferred to - Profit & Loss A/c	1,117			
RA/c	2,233	3,350		
		35,000		35,000

Dr.	RA/e	Cr.	
	Rs.	Rs.	
To Bank	17,883	By Joint Venture (Goods) By Joint Venture (Expenses) By Joint Venture (Profit)	15,000 650 2,233
	17,883		17,883

### 16.7 LET US SUM UP

Joint venture is a temporary partnership. Two or more persons come together to carry on a particular venture. As soon as the venture is over, they settle their accounts.

### 16.8 KEYWORDS

**Joint Venture:** Temporary partnership.

**Co-venturer:** Persons who have come together to carry on a venture.

**Joint Bank Account:** A bank account opened in the name of the Joint Venture (or joint names of the co-venturers).

### 16.9 TERMINAL QUESTIONS

Q.1

Fill in the blanks with suitable word/words:

- (1) In a joint venture, the association of persons is of a \_\_\_\_\_ nature.
- (2) Joint venture may also be called as a \_\_\_\_\_ partnership.
- (3) The co-venturers enter into a \_\_\_\_\_ with each other.
- (4) \_\_\_\_\_ required to the business.
- (5) The co-venturers agree to contribute \_\_\_\_\_
- (6) The co-venturers agree to share \_\_\_\_\_ or \_\_\_\_\_ arising out of business.
- (7) The persons entering into joint venture are called \_\_\_\_\_ .  
When Co-venturers decide to maintain a separate set of accounts, they open a \_\_\_\_\_ with their bank.
- (8) Joint venture is not a \_\_\_\_\_ partnership.
- (9) A debit balance in a joint venture account indicates \_\_\_\_\_ .
- (10) Expenses incurred by the co-venturers are debited to \_\_\_\_\_ .

**Answers:** (1) Temporary (2) Temporary/restricted (3) Contract (4) Capital (5) Profit, loss (6) Co-venturers (7) Joint bank account (8) Permanent (9) Loss (10) Joint venture 0-2

State whether following statements are True or False

- (1) The Co-venturers always share the profits equally.
- (2) They are required to share expenses, incurred on the venture.
- (3) Joint venture comes to an end as soon as the particular venture is over.
- (4) Joint venture is a restricted partnership.
- (5) The relation between the co-venturers is that of a Principal and an Agent.
- (6) Liability of the co-venturers is unlimited.
- (7) Joint venture is a non-trading concern.

Answers: (1) False; (2) True; (3) True; (4) True; (5) False; (6) False; (7) False

Q.3 Match the following:

- | A   | B                             |
|---|-------------------------------|
| (1) Joint Venture                           | (a) Personal                  |
| (2) Co-venturers account                    | (b) Nominal                   |
| (3) Goods supplied on joint venture account | (c) Real                      |
| (4) Joint bank account                      | (d) Joint venture             |
| (5) Credit balance in joint venture account | (e) Profit on joint venture   |
| (6) Separate set of books                   | <b>(f)</b> Joint bank account |
| (7) Unsold stock taken by co-venturers      | (g) Credit joint venture      |
| (8) Particular partnership                  | (h) Personal                  |

Answers: (1) b, (2) a, (3) c, (4) h, (5) e, (6) f, (7) g, (8) d





# LEASING AND HIRE-PURCHASE

## STRUCTURE

- 17.0 Objectives
- 17.1 Leasing
- 17.2 Hire-Purchase and Instalment Sale
- 17.3 Let Us Sum Up
- 17.4 Keywords
- 17.5 Terminal Questions

## 17.0 OBJECTIVES

After studying this unit, you will be able to know:

- Meaning of a lease arrangement
- Advantages of lease to lessor and lessee
- Different types of lease arrangements
- Sale under hire purchase and instalments
- Distinction between hire purchase and instalment sale
- Accounting entries to be passed in the books of the hire purchaser and the hire vendor.

## 17.1 LEASING

### 17.1.1 Definition

Leasing can be described as a contract between two parties, whereby the owner of an asset transfers his right of use to some other party on payment of a fixed periodical rent.

### Essential features of a lease contract

There are two parties to a lease transaction, the owner of the asset known as the lessor and the user of the asset as the lessee. By virtue of the lease agreement, the lessee gets the right of uninterrupted use of the asset provided he makes the payment of lease rentals regularly. During the entire period of currency of the contract, the ownership of the asset remains with the lessor only. The contract is usually for a specific period, normally five years and on the expiry of the same, it can be renewed or terminated or the asset can be purchased by the lessee depending upon the terms of the contract.

### 17.1.2 Advantages

Leasing, as a means of organising industrial production capacity, has become very popular in India in the last few years. The leasing is beneficial both to the lessor as well as the lessee.

### Advantages to Lessor

1. *Expansion of business:* Manufacturers of plant and machinery with high prices may find it difficult to expand their sales if they insist on selling their products on an outright ownership basis. Owing to recession in the economy, the growth of capital goods industry is affected to a considerable extent. In this situation, leasing is increasingly used to revive the demand for capital goods. The manufacturers of the capital goods have benefited immensely by adopting leasing arrangements.
2. *Tool of tax planning:* If a manufacturer or a dealer sells capital goods, it increases his profits and as a result, he will pay more income tax. Larger the sales, higher is the profit and consequently higher the tax liability. Instead of selling the capital goods, if the manufacturer or dealer leases them out, the lease rent becomes receivable over a long period. Thus, with the help of leasing, manufacturer or a dealer or lessor reduces his tax liability. In this way, leasing can be used as a tax-planning tool.

### Advantages to Lessee

1. *Reduction in capital investment:* Instead of purchasing the capital goods, if the same are taken on lease, the manufacturer can reduce the capital investment in the project. Entrepreneurs with lower financial capacity can start a venture without investing huge funds. Leasing also saves the interest

burden on funds which the lessee would have paid on the borrowed fund for purchasing the assets.

2. *Elimination of risk of obsolescence:* With fast developing technology, the owner of an asset has to bear the risk of his asset becoming obsolete or outdated. Since the lessee is not the owner of the asset, he does not have to bear this risk. If the lease period is short, on expiry of the lease period, the lessee can take on lease another capital asset having the most advanced technology.
3. *Increase in borrowing capacity:* If the capital goods are purchased with borrowed funds, the asset, as well as the borrowed funds, appear in the balance sheet; this reduces further borrowing capacity of the business - although leasing of capital assets involves substantial payments over a long period. In future, such liability need not be shown in the balance sheet. From the point of view of the lenders of the long-term loans, the borrower's borrowing capacity increases with no past borrowings. Thus, the lessee can borrow more funds from the financial institutions without much difficulty.
4. *Reduction in tax liability:* Lease rent payable by the lessee is treated as revenue expenditure in his hand which is fully debited to profit and loss account before calculating the taxable profit of the lessee. This will reduce his tax liability.
5. *Application of certain laws:* The provisions of the Monopolies and Restrictive Trade Practices Act can be avoided by keeping the capital investment at a lower level.
6. *Interference of financial institutions:* Leasing reduces the dependence on the financial institutions and banks for borrowing huge sums for long-term or medium term. Thus, the lessee can avoid interference of these institutions in the day-to-day management of his organisation.

#### 17.1.3 Limitations

1. Lease rent may be quite burdensome to the lessee as it has to cover the cost of depreciation, cost of finance and administrative expenses of the lessor.
2. When the lessor has acquired the leased assets by borrowing funds against the hypothecation of the leased assets, any default on the part of the lessor may adversely affect the operations of the lessee.
3. Leasing only shifts the need for borrowing from the lessee to the lessor. Thus, for the banks and the financial institutions, the demand for the finance remains the same.
4. Leased assets are not eligible for capital subsidies available for projects in backward areas.
5. Generally, lease rental structures do not provide for a moratorium period as available in respect of finance from banks/financial institutions. Thus, leasing is considered unattractive for projects with a long gestation period.
6. The disadvantage to the lessee in cases of financial lease is that he is not entitled to the protection of warranties from the supplier of the equipments as the same are purchased by lessor. He has to pay lease rentals in spite of loss, destruction or defects in the leased assets.

#### 17.1.4 Types of Leases

Lease is mainly of four types:

1. Finance or Capital lease
2. Operating lease
3. Service lease
4. Leveraged lease

### 1. Finance or Capital Lease

This is the most popular type of lease. It is fairly long-term in nature. Generally, the entire economic life of the asset is agreed to be transferred for use by the lessee, though the ownership remains with the lessor. Lessee agrees to pay the fixed instalments (lease rentals) which, in total, exceed the cost of equipment. Normally, such a contract is non-cancellable in nature during the primary period. Lessee bears the risk of obsolescence and under utilisation, if any. The lease is generally spread into two periods:

- (a) Primary Period: Normally, for equipment, the period is five years. The lessor recovers the cost of<sup>4</sup> the asset and interest thereon during this period.
- (b) Secondary Period: It starts after the primary period is over. The lease is continued on a very nominal rental.

### 2. Operating Lease

Operating lease is a lease which is not 'Finance' or a 'Capital' lease. It does not transfer any of the rewards and risks of ownership of the leased property to the lessee. The contract is, usually, cancellable and of lower maturity period than in the case of financial lease. Normally, the period of lease is much less compared to the economic life of the asset. Leasing of telephones, vehicles, computers, etc., are some of the examples of operating lease. The lease period is normally for a short period and may stretch from a day to about three years.

### 3. Service Lease

It is a lease agreement effected by manufacturers or dealers of capital goods (like machinery) or consumer durables (like Air-conditioners, etc.) in which they deal. Service lease covers the cost of maintenance and servicing the assets for a short period. The lease payment covers cost of servicing and not the capital outlay. Sometimes, the lessee may be given an option to retain the asset on the expiry of the lease period.

### 4. Leveraged Lease

In this type of lease, there are three parties to the lease agreement. In addition to the lessor and the lessee, the third party is the financier to lessor. Hence, the lease is also known as a 'Third Party Lease'. Under this lease, the third party provides the finance to the lessor. Leasing has nowadays become a specialised service industry. Many leasing companies have been formed to purchase assets and give them on lease to the lessees. The leasing companies give plant and machinery, factory buildings, worth crore of rupees, on lease. In order to lease such assets involving huge capital outlays, even leasing companies have to borrow huge funds. When a business uses borrowed funds, having low costs, to maximise its profits, it is said in the financial management that the business has used financial leverage. Since the leasing companies (i.e. the lessors) use borrowed funds to finance their leasing activities, such lease is known as 'Leveraged Lease'.

#### 17.1.5 Accounting Treatment in the Case of Finance or Capital Lease

(A) In the books of lessor

1. Assets given on lease under the 'Finance Lease' should be disclosed under the head 'Fixed Assets' in the balance sheet as:  
'Assets given on lease'



Depreciation, at the statutory rate allowed, should be charged on the assets given on lease and such assets should be shown at their written down value.

2. Annual lease rent received by the lessor is recorded as follows:

Bank a/c	Dr.
To Lease rent a/c (Being lease rent received from the lessee)	

3. Annual lease rent should be transferred to profit and loss account at the end of the year.

Lease rent a/c	Dr.
To profit and loss a/c (Being annual lease rent received transferred to profit and loss a/c)	

(Note: In the last year of the lease period, the residual value of the asset is also transferred to profit and loss account.

4. Against the annual lease rent, received and credited to Profit & Loss account (as per entry Nos. 2 and 3 above), a matching annual lease charge should be debited.

When the lessor calculates annual lease rent to be charged to the lessee, he recovers financial income (i.e. return on funds blocked in the leased asset). Thus, annual lease rent consists of two components:

- (i) Finance Income and
- (ii) Annual Charge.

Hence, in order to determine the Annual Lease Charge, the relevant Finance Income of that year must be deducted from Annual Lease Rent. Firstly, total Finance Income over the full lease period is found out as follows:

$$\text{Total Finance Income} = \text{Total Annual Lease Rent for all years} + \text{Residual value of leased asset} - \text{Fair value (i.e. cost) of the leased asset at the beginning of the lease term.}$$

Then the total Finance Income is allocated over each year of the lease term.

This can be done by anyone of the following methods:

- (a) Sum of the Digits Method: This is regarded as a reasonable approximation to the actuarial method.

#### **Illustration 1**

Allocate total finance income of Rs. 30,000 over the lease period of four years.

#### **Solution**

- (a) Sum of the digits of 1 to 4 years is  $1 + 2 + 3 + 4 = 10$  ;

The allocation is made under this method in the same ratio as No. of years outstanding bears to the sum of the digits of the years of lease term.

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Year	Years Left	Ratio	Allocation of Finance Income
1.	4	$\frac{4}{10} \times \text{Rs. } 30,000$	= 12,000
2.	3	$\frac{3}{10} \times \text{Rs. } 30,000$	= 9,000
3.	2	$\frac{2}{10} \times \text{Rs. } 30,000$	= 6,000
4.	1	$\frac{1}{10} \times \text{Rs. } 30,000$	= 3,000-
Total Finance Income			30,000

#### (b) Straight Line Method

The total Finance Income is equally allocated over all the years, i.e.  $\text{Rs. } 30,000/4 = \text{Rs. } 7,500$  per year. However, sum of the digits method is more appropriate.

Once the total Finance Income is apportioned over each year, Annual Lease Charge is calculated as follows:

Annual Lease Charge = Annual Lease Rent of each year less Finance Income allocated to each year. This Annual Lease Charge is again bifurcated into two elements:

(i) Statutory depreciation provision, (ii)

Lease equalisation charge.

Out of this, statutory depreciation provision is accounted in the usual way, i.e.

Depreciation a/c Dr.

To (Leased) asset a/c

And then profit and loss a/c Dr.

To Depreciation a/c However, lease equalisation charge is accounted through lease terminal adjustment a/c.

If the annual lease charge exceeds statutory depreciation, the following entry is passed for the difference between the two:

Lease Equalisation a/c Dr.

To Lease Terminal Adjustment a/c

If annual lease charge is less than the statutory depreciation, the following entry is passed for the difference between two:

Lease Terminal Adjustment a/c Dr.

To Lease Equalisation a/c

When the lease equalisation a/c has debit balance, it is deducted from the annual lease rent on the credit side of the profit and loss a/c.

When the lease equalisation a/c has credit balance, it is added to the annual lease rent on the credit side of the profit and loss a/c.

Lease terminal adjustment a/c is carried forward from year to year. If this account has a credit balance; it is shown on the liabilities side of the balance sheet under the head current liabilities. If the balance in this account is debit, it is shown on the assets side of the balance sheet under the head current assets.

In the last year of the lease term, the balance (which is normally credit) in the lease terminal adjustment a/c is deducted from the written down value of the leased asset.

The lessor may have to pay the initial direct costs such as commission to agent while negotiating lease transaction and legal fees for drafting the lease agreement. When such expenses are paid, normal entry is passed as follows:

Commission/Legal Fees a/c	Dr.
To Cash/Bank a/c	

Such expenditure is transferred to the profit and loss a/c of the same year in which it is incurred. The entry is:

Profit and Loss a/c	Dr.
To Commission/Legal Fees a/c	

The lessor may charge service charges or management fees to cover the legal and other expenses incurred by the lessor, when such income is received, normal entry is passed

Bank a/c	Dr.
To Service Charges/Management Fees a/c	

Such income is transferred to profit and loss a/c of the same year in which it is received.

Service Charge/Management Fees a/c	Dr.
To Profit and Loss a/c	

(A.) *In the books of the lessee:* The following accounting treatment is given in the books of the lessee:

1. When annual lease rent is paid

Lease Rent a/c	To
Bank a/c	

2. When annual lease rent is transferred to P and L a/c

Profit and Loss a/c	To	Lease Rent a/c
---------------------	----	----------------

Dr.

3. If any lump sum amount is paid for acquiring the leasehold property and the payment is not in the nature of the pre-paid lease rent, the lump sum amount so paid Dr. must be written off over the period of the term of the lease on a suitable basis. Straight line method (i.e. write off in equal instalments) can be adopted.

When such a payment is made, the following entry is passed:

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Leasehold Property a/c Dr.  
 To Bank a/c (Being lump sum paid for acquiring  
 leasehold property).

When the lump sum amount so paid is written off, the following entry is passed every year until the amount is fully written off:

Profit and Loss a/c Dr.  
 To Leasehold Property a/c

However, many times such a lump sum paid is in the nature of prepaid lease rent. Even in this case, when the lump sum is paid, leasehold a/c is debited and bank a/c is credited. If the annual lease rent is agreed, an amount equal to the annual lease rent is debited to annual lease rent a/c and credited to leasehold a/c. The entry is:

Annual Lease Rent a/c Dr.  
 To Leasehold a/c Annual lease rent is finally

transferred to profit and loss a/c

Profit and Loss a/c Dr.  
 To Annual Lease Rent a/c

### Illustration 2

Mr Desai purchased a computer on 1 st January 1994 at a cost of Rs. 60,000 and gave it immediately on lease for four years to Janata Stores who were to pay an annual lease rent of Rs. 35,000, Rs. 16,000, Rs. 8,000 and Rs. 4,500 respectively in these four years, payable in advance every year. The fair value of the computer at the commencement of the lease, i.e. on 1st January, 1994 was Rs. 60,000 and its residual value at the end of the lease term was estimated to be five per cent of the cost. The lessee had the right to continue the lease at the end of the aforesaid lease period at a nominal rent. The relevant statutory depreciation rate was forty per cent on written down value. You are required to give journal entries and ledger accounts in the books of Mr Desai and show how the relevant entries will appear in his profit and loss a/c and balance sheet for the four years.

### Solution

Before passing the entries we will have to calculate total finance income, allocate it over four years, calculate annual lease charge and determine the amounts of lease equalisation a/c and lease terminal adjustment a/c. For this purpose a table, as shown below, is prepared.

Before preparing the table, the following allocation of total finance income is made:

Year	Total Annual Lease Rent (also known as Minimum Lease Payments or MLP) Rs.
1.	35,000
2.	16,000
	8,000
4,	4,500
Residual Value at the end of fourth year	63,500
	3,000
	66,500

Total finance income = Annual lease rent + Residual value - Fair value of the asset at the commencement of the lease term. =  
 Rs. 63,500 + Rs. 3,000 - Rs. 60,000 =  
 Rs. 6,500

Table showing calculation of annual lease charge, lease equalisation amount and lease terminal adjustment account:

Year	Annual Lease Rent & Residual Value of Computer	M.L.P. Outstanding During the Year	Allocation of Finance Income	Amount of Lease Charge (2-4)	Book Value of Asset	Annual Depreciation @40%	Written Down Value of Asset (6-7)	Lease Equalisation Account (7-5)	Lease Terminal Account	Cumulative Balance of Lease Terminal Account
1	2	3	4	5	6	7	8	9	10	11
1994	35,000	31,500	3,561	31,439	60,000	24,000	36,000	7,439 (Dr.)	7,439 (Cr.)	7,439 (Cr.)
1995	16,000	15,500	1,752	14,248	36,000	14,400	21,600	152 (Cr.)	152 (Dr.)	7,287 (Cr.)
1996	8,000	7,500	848	7,152	21,600	8,640	12,960	1,488 (Cr.)	1,488 (Dr.)	5,799 (Cr.)
1997	4,500	3,000	339	4,161	12,960	5,184	7,776	* 1,977 (Dr.)	1,977 (Cr.)	7,776 (Cr.)
Residual Value of Computer	3,000			3,000						
	66,500	57,500	6,500	60,000						

• See Note No. 3

Note:

- M.L.P. outstanding (Column No. 3) for 1994 is arrived at by reducing 1994 lease rent from total column 2, i.e. 66,500 - 35,000 = 31,500. Thereafter, subsequent year's lease rent is reduced from M.L.P. outstanding from earlier year.

(1995: 31,500 - 16,000 = 15,500. 1996: 15,500 - 8,000 = 7,500 and for 1997: 7,500 - 4,500 = 3,000)

- Total finance income of Rs. 6,500 is allocated in the ratio M.L.P. outstanding during the year

1994	-	31,500	+	57,500	x	6,500	=	3,561
1995	-	15,500	+	57,500	x	6,500	=	1,752
1996	-	7,500	+	57,500	*	6,500	=	848
1997	-	3,000	+	57,500	x	6,500	=	339

- In the last year, i.e. 1997, lease terminal account balance is arrived at as under:

Annual charge of 1997 plus residual value of the asset (Column No. 5)

less

Depreciation for the year (Column No. 7)

= (4161 + 3000) = 7161 - 5184 = 1977

## In the Books of Mr. Desai Journal

Date	Particulars	L.F.	Debit (Rs.)	Credit (Rs.)
1-1-94 1.	Computer a/c Dr. To Bank a/c (Being computer purchased)		60,000	60,000
2.	Bank a/c Dr. To Annual Lease Rent a/c (Being lease rent for 1994 received)		35,000	35,000
31-12-94 3.	Depreciation a/c Dr. To Computer a/c (Being depreciation @ 40% written off)		24,000	24,000
4.	Annual Lease Rent a/c Dr. To Profit & Loss a/c (Being annual lease rent transferred to P&L a/c)		35,000	35,000
5.	Lease Equalisation a/c Dr. To Lease Terminal Adjustment a/c (Being excess of Annual Lease Charge over statutory depreciation accounted)		7,439	7,439
6.	Profit & Loss a/c Dr. To Lease Equalisation a/c (Being Lease Equalisation a/c transferred to P&L a/c)		7,439	7,439
1-1-95 1.	Bank a/c Dr. To Annual Lease Rent a/c (Being lease rent for 1995 received)		16,000	16,000
31-12-95 2.	Depreciation a/c Dr. To Computer a/c (Being depreciation @ 40% on WDV written off)		14,400	14,400
3.	Annual Lease Rent a/c Dr. To Profit & Loss a/c (Being lease rent transferred to P&L a/c)		16,000	16,000
<b>u</b>	Lease Terminal Adjustment a/c Dr. To Lease Equalisation a/c (Being excess of statutory depreciation over annual lease charge accounted)		152	152

5.	Lease Equalisation a/c To Profit & Loss a/c (Being Lease Equalisation a/c transferred to P&L a/c)	Dr.		152	152
1-1-96 1.	Bank a/c To Annual Lease Rent a/c (Being Lease rent for 1996 received)	Dr.		8,000	8,000
31-12-96 2.	Depreciation a/c To Computer a/c (Being depreciation @ 40% on WDV written off)	Dr.		8,640	8,640
3.	Annual Lease Rent a/c To Profit & Loss a/c (Being lease rent transferred to P&L a/c)	Dr.		8,000	8,000
4.	Lease Terminal Adjustment a/c To Lease Equalisation a/c (Being excess statutory depreciation over annual lease charge accounted)	Dr.		1,488	1,488
5.	Lease Equalisation a/c To Profit & Loss a/c (Being Lease Equalisation a/c transferred to P&L a/c)	Dr.		1,488	1,488
1-1-97 1.	Bank a/c To Annual Lease Rent a/c (Being lease rent for 1997 received)	Dr.		4,500	4,500
31-12-97 2.	Depreciation a/c Computer a/c (Being depreciation @ 40% on WDV written off)	Dr. To		5,184	5,184
3.	Annual Lease Rent a/c To Profit & Loss a/c (Being lease rent transferred to P&L a/c)	Dr.		4,500	4,500
4.	Lease Equalisation a/c To Lease Terminal Adjustment a/c (Being excess of Annual Lease Charge over statutory depreciation accounted)	Dr.		1,977	1,977
5.	Profit & Loss a/c Lease Equalisation a/c (Being Lease Equalisation a/c transferred to P&L a/c)	Dr. To		1,977	1,977

In the Books of Mr. Desai

Dr.			Cr.		
Date	Particulars	Rs.	Date	Particulars	Rs.
31-12-1994	To Bank a/c	60,000	31-12-1994	By Depreciation	24,000
				By Balance c/d	36,000
01-01-1995	To Balance b/d	60,000			(ii) hood
		36,000	31-12-1995	By Depreciation	14,400
				By Balance b/d	21,600
01-01-1996	To Balance b/d	36,000			36,000
		21,600	31-12-1996	By Depreciation	8,640
				By Balance c/d	12,960
01-01-1997	To Balance b/d	21,600			21,600
		12,960	31-12-1997	By Depreciation	5,184
				To Lease Terminal Adj. « 1/3	7,776
		12,960			12,960

Dr.			Cr.		
Date	Particulars	Rs.	Date	Particulars	Rs.
31-12-1994	To P&L a/c	35,000	01-01-1994	By Bank	35,000
		35,000			
31-12-1995	To P&L a/c		01-01-1995	By Bank	35,000
31-12-1996	To P&L a/c	16,000	01-01-1996	By Bank	16,000
31-12-1997	To P&L a/c	8,000	01-01-1997	By Bank	8,000
		4,500			
		4,500	01-01-1997	By Bank	4,500
					4,500

Dr.			Cr.		
Date	Particulars	Rs.	Date	Particulars	Rs.
31-12-1994	To Lease Terminal Adj. a/c	7,439	31-12-1994	By P&L a/c	7,439
		7,439			
					7,439



31-12-1995	To P&L a/c	152	31-12-1995	By Lease Terminal Adj. a/c	152
		<u>152</u>			<u>152</u>
31-12-1996	To P&L a/c	1,488	01-01-1996	By Lease Terminal Adj. a/c	1,488
		<u>1,488</u>			<u>1,488</u>
31-12-1997	To Lease Terminal Adj. a/c	1,977	01-01-1997	By P&L a/c	1,977
		<u>1,977</u>			<u>1,977</u>

## Lease Terminal Adjustment a/c

Dr.			Cr.		
Date	Particulars	Rs.	Date	Particulars	Rs.
31-12-1994	To Balance c/d	7,439	31-12-1994	By Lease Equalisation a/c	7,439
		<u>7,439</u>			<u>7,439</u>
31-12-1995	To Lease Equalisation a/c To Balance c/d	152 7,287	31-12-1995	By Balance b/d	7,439
		<u>7,439</u>			<u>7,439</u>
31-12-1996	To Lease Equalisation a/c To Balance c/d	1,488 5,799	01-01-1996	By Balance b/d Adj. a/c	7,287
		<u>7,287</u>			<u>7,287</u>
31-12-1997	To Computer a/c	7,776	01-01-1997	By Balance b/d By Lease Equalisation a/c	5,799 1,977
		<u>7,776</u>			<u>7,776</u>

## Profit &amp; Loss a/c for the year ended on 31-12-1994

Particulars	Rs.	Particulars	Rs.	Rs.
To Depreciation on Computer	24,000	By Lease Rent		27,561
		Less: Lease Equalisation	35,000	
			<u>7,439</u>	

## Balance Sheet as on 31-12-1994

Liabilities	Rs.	Assets	Rs.	Rs.
Current Liabilities & Provisions: Lease Terminal Adjustment a/c	7,439	Fixed Assets: Computer on Lease Less: Depreciation	60,000 24,000	36,000

## Profit &amp; Loss a/c for the year ended on 31-12-1995

Particulars	Rs.	Particulars	Rs.	Rs.
To Depreciation on Computer	14,400	By Lease Rent Add: Lease Equalisation a/c	16,000 152	16,152

## Balance Sheet as on 31-12-1995

Liabilities	Rs.	Assets	Rs.	Rs.
Current Liabilities & Provisions: Lease Terminal Adjustment a/c	7,287	Fixed Assets: Computer on Lease Less: Depreciation	36,000 14,400	21,600

## Profit &amp; Loss a/c for the year ended on 31-12-1996

Particulars	Rs.	Particulars	Rs.	Rs.
To Depreciation on Computer	8,640	By Lease Rent Add: Lease Equalisation a/c	8,000 1,488	9,488

## Balance Sheet as on 31-12-1996

Liabilities	Rs.	Assets	Rs.	Rs.
Current Liabilities & Provisions: Lease Terminal Adjustment a/c	5,799	Fixed Assets: Computer on Lease Less: Depreciation	21,600 8,640	12,960

## Profit &amp; Loss a/c for the year ended on 31-12-1997

Particulars	Rs.	Particulars	Rs.	Rs.
To Depreciation on Computer	5,184	By Lease Rent + Residual Value Less: Lease Equalisation a/c	7,500 1,977	5,523



rent over the full lease term should be representative of the time pattern of the earnings process contained in the lease. The Guidance Note goes on to suggest that in many cases, straight line basis (i.e. total lease rent - number of years of lease term) is representative of the time pattern, e.g. if the operating lease is for a term of three years and total lease rent is fixed at Rs. 12,900 the lease rent to be recognised and accounted every year will be Rs.  $12,900 \div 3 = \text{Rs. } 4,300$ .

In this situation, the total lease rent may be receivable:

- (i) in advance, at the beginning of the lease
- (ii) in various instalments which may or may not correspond to the system of apportioning of total lease rent (i.e. equal instalments or otherwise).

**(i) If the total lease rent is payable in advance, the following entries can be passed:**

- (a) When the lease rent is received:

Bank a/c	Dr.
To Advance Lease Rent a/c (Being total lease rent for the full lease term received in advance)	

- (b) When the current year's lease rent is accounted:

Advance Lease Rent a/c	Dr.
To Lease Rent a/c (Being lease rent apportioned to current year transferred from former account to later account)	

- (c) When current year's lease rent is transferred to profit and loss a/c.

Lease Rent a/c	Dr.
To Profit & Loss a/c (Being current year's lease rent transferred to P&L a/c)	

- (d) When any expenditure is incurred for maintaining leased asset

Expenses a/c	Dr.
To Bank a/c (Being expenses paid on maintaining leased asset)	

- (e) When the depreciation on leased asset is charged

Depreciation a/c	Dr.
To Asset (on Lease) a/c (Being depreciation on leased asset charged)	

- (f) When the depreciation on leased asset is transferred to P&L a/c

Profit & Loss a/c	Dr.
To Depreciation a/c (Being depreciation on leased asset transferred to P&L a/c)	

Note: Entries No. (c), (d), (e) and (f) are common and are applicable in all situations, viz., situations I, II and III discussed above.

**(ii) If the total lease rent is receivable in various instalments**

- (1) In the year in which the lease begins, the lessor debits the total lease rent receivable from the leases as follows:

- Lessee's a/c Dr.  
 To Lease Rent Suspense a/c (Being total lease rent receivable from the lessee)
- (2) When current year's lease rent is accounted:  
 Lease Rent Suspense a/c Dr.  
 To Lease Rent a/c (Being current year's lease rent accounted)
- (3) When the instalment of lease rent is received:  
 Bank a/c Dr.  
 To Lessee's a/c (Being instalment of lease rent received).

Then other entries will remain same as discussed in (c), (d), (e) and (f) in situation III (a) above.

### Illustration 3

Operating Lease: Modern Silk Mills Pvt. Ltd. leased its looms to Minar Exports Pvt. Ltd. for a period of five years from 1st April, 1988 for a lump sum lease of Rs.10, 50,000 payable in full in advance. The lessor agreed to incur the expenditure for the Repairs and Maintenance of the looms which were as follows:

Year	Repairs & Maintenance Expenditure
1988-89	Rs.4,700
1989-90	Rs. 5,200

The WDV of the looms on 1st April, 1998 was Rs. 4,60,000 and depreciation @ 33 V<sub>3</sub> per cent was to be charged.

You are required to pass journal entries and open lease rent a/c in the books of the lessor. Show relevant entries in the P & L a/c and the balance sheet for the years 1988-89 and 1989-90 if the lessor closes its accounts on 31 st March every year.

### Solution

In the Books of Modern Silk Mills Pvt. Ltd. (i.e. lessor)

Date	Particulars	L.F.	Debit (Rs.)	Credit (Rs.)
1-4-1988	Bank a/c Dr. To Lease Rent in Advance a/c (Being lease rent for five years Received in advance)		10,50,000	10,50,000
2.	Repairs & Maintenance a/c Dr. To Bank a/c (Being expenditure paid for repairs and maintenance of the leased looms)		4,700	4,700

Contd..

Date	Particulars	L.F.	Debit (Rs.)	Credit (Rs.)
31-03-1989 3.	Leases Rent in Advance a/c Dr. To Lease Rent a/c (Being current year's lease rent (i.e. Rs. 10,50,000 + 5 = Rs. 2,10,000 accounted)		2,10,000	2,10,000
4.	Lease Rent a/c -Dr. To Profit & Loss a/c (Being current year, lease rent transferred to P&L a/c)		2,10,000	2,10,000
5.	Depreciation a/c Dr. To Looms a/c (Being depreciation @ 33V <sub>3</sub> % on WDV of looms charged)		1,53,333	1,53,333
6.	Profit & Loss a/c Dr. To Repairs & Maintenance a/c To Depreciation a/c (Being depreciation and expenses on looms transferred to P&L a/c)		1,58,033	4,700 1,53,333
1-4-1989 1.	Repairs & Maintenance a/c Dr. To Bank (Being repairs and maintenance charges paid)		5,200	5,200
31-3-1990 2.	Lease Rent in Advance a/c Dr. To Lease Rent a/c (Being current year's lease rent accounted)		2,10,000	2,10,000
3.	Depreciation a/c Dr. To Looms a/c (Being depreciation @ 33V <sub>3</sub> % Rs. 4,60,000 - Rs. 1,53,333 WEV of looms charged)		1,02,222	1,02,222
4.	Lease Rent a/c Dr. To Profit & Loss a/c (Being current year's lease rent transferred to P&L a/c)		2,10,000	2,10,000
5.	Profit & Loss a/c Dr. To Repairs & Maintenance a/c To Depreciation a/c (Being depreciation and expenses on looms transferred to P&L a/c)		1,07,422	5,200 1,02,222

In the Books of Modern Silk Mills Pvt. Ltd.  
Ledger for 1988-89 and 1989-90  
Lease Rent in Advance a/c

Dr.					Cr.
Date	Particulars	Rs.	Date	Particulars	Rs.
31-3-1989	To Lease Rent a/c	2,10,000	1-4-1988	By Bank a/c	10,50,000
31-3-1989	To Balance c/d	8,40,000			
		10,50,000			10,50,000
Date	Particulars	Rs.	Date	Particulars	Rs.
31-3-1990	To Lease Rent a/c	2,10,000	1-4-1989	By Balance b/d	8,40,000
31-3-1990	To Balance c/d	6,30,000			
		8,40,000			8,40,000

Lease Rent a/c

Dr. Cr.

Date	Particulars	Rs.	Date	Particulars	Rs.
31-3-1989	To P&L a/c	2,10,000	31-3-1989	By Lease Rent in Advance a/c	2,10,000
		2,10,000			2,10,000
31-3-1990	To P&L a/c	2,10,000	31-3-1990	By Lease Rent in Advance a/c	2,10,000
		2,10,000			2,10,000

Repairs & Maintenance a/c

Dr. Cr.

Date	Particulars	Rs.	Date	Particulars	Rs.
1-4-1988	To Bank a/c	4,700	31-3-1989	By P&L a/c	4,700
		4,700			4,700
1-4-1989	To Bank a/c	5,200	31-3-1990	By P&L a/c	5,200
		5,200			5,200

Depreciation on Looms a/c

Dr. Cr.

Date	Particulars	Rs.	Date	Particulars	Rs.
31-3-1989	To Looms a/c	1,53,333	31-3-1989	By P&L a/c	1,53,333
		1,53,333			1,53,333
31-3-1990	To Looms a/c	1,02,222	31-3-1990	By P&L a/c	1,02,222

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### Profit & Loss a/c for the year ended 31-3-1989

Dr.		Cr.	
Particulars	Rs.	Particulars	Rs.
To Repairs & Maintenance a/c	4,700	By Lease Rent a/c	2,10,000
To Depreciation on Looms a/c	1,53,333		

### Balance Sheet as on 31-3-1989

Dr.		Cr.		
Liabilities	Rs.	Assets	Rs.	Rs.
Lease Rent in Advance a/c	8,40,000	Looms Less:	4,60,000	3,06,667
		Depreciation	1,53,333	

### Profit & Loss a/c for the year ended 31-3-1990

Dr.		Cr.	
Particulars	Rs.	Particulars	Rs.
To Repairs & Maintenance a/c	5,200	By Lease Rent a/c	2,10,000
To Depreciation on Looms a/c	1,02,222		

### Balance Sheet as on 31-3-1990

Dr.		Cr.		
Liabilities	Rs.	Assets	Rs.	Rs.
Lease Rent in Advance a/c	6,30,000	Looms Less:	3,06,667	2,04,445
		Depreciation	1,02,222	

### Illustration 4

#### Operating Lease

Using the data in Illustration 3 with the variation that the total lease rent was to be paid (not in advance but) in five instalments payable on the first date of each year as follows:

Year	Rs .
1988-89	4,00,000
1989-90	2,00,000
1990-91	2,00,000
1991-92	1,50,000
1992-93	1,00,000



Show the journal entries for the years 1988-89 and 1989-90 and relevant entries in the profit and loss a/c and balance sheet for these two years.

**Solution**

In the Books of Modern Silk Mills Pvt. Ltd. Journal for 1988-89

Date	Particulars	L.F.	Debit (Rs.)	Credit (Rs.)
1-4-1988	Minar Exports Pvt. Ltd. a/c Dr. 1. To Lease Rent Suspense a/c (Being lease rent receivable from Lessee)		10,50,000	10,50,000
2.	Bank a/c Dr. To Minar Exports Pvt. Ltd. (Being first instalment of the total lease rent received)		4,00,000	4,00,000
31-3-1989	Lease Rent Suspense a/c Dr. 3. To Lease Rent a/c (Being lease rent for the current year accounted on straight line basis, i.e. Rs. 10,50,000 - 5 = Rs. 2,10,000)		2,10,000	2,10,000
4.	Repairs & Maintenance a/c Dr. To Bank a/c To Depreciation a/c (Being Repairs & Maintenance Expenses Paid)		4,700	4,700
5.	Depreciation a/c Dr. To Looms a/c (Being depreciation written off)		1,53,333	1,53,333
6.	Lease Rent a/c Dr. To Profit & Loss a/c (Being current year's lease rent transferred to P&L a/c)		2,10,000	2,10,000
7.	Profit & Loss a/c Dr. To Depreciation a/c To Repairs & Maintenance a/c (Being depreciation and expenses on looms transferred to P&L a/c)		1,58,033	1,53,333 4,700

## Journal for 1989-90

Date	Particulars	LF.	Debit (Rs.)	Credit (Rs.)
1-4-1989	Bank a/c Dr. To Minar Exports Pvt. Ltd. a/c (Being second instalment of the total lease rent received)		2,00,000	2,00,000
2.	Repairs & Maintenance Dr. To Bank a/c (Being Repairs & Maintenance Expenses paid)		5,200	5,200
31-3-1990	Depreciation a/c Dr. To Bank a/c (Being depreciation written off Rs. 10,50,000 - 5 = Rs. 2,10,000)		1,02,222	1,02,222
4.	Lease Rent Suspense a/c Dr. To Lease Rent a/c (Being current year's lease rent accounted)		2,10,000	2,10,000
5.	Lease Rent a/c Dr. To Profit & Loss a/c (Being current year's lease rent transferred to P&L a/c)		2,10,000	2,10,000
6.	Profit & Loss a/c Dr. To Depreciation a/c To Repairs & Maintenance a/c (Being depreciation and expenses on Looms transferred to P&L a/c)		1,07,422	1,02,222 5,200

## Profit &amp; Loss a/c for the year ended 31-3-1989

Dr.		Cr.	
Particulars	Rs.	Particulars	Rs.
To Repairs & Maintenance a/c	4,700	By Lease Rent a/c	2,10,000
To Depreciation a/c	1,53,333		

## Balance Sheet as on 31-3-1989

Dr.		Cr.
Liabilities	Rs.	Assets
Lease Rent Suspense a/c	8,40,000	Looms a/c Less:
		Depreciation Minar
		Exports Pvt. Ltd.
		Rs.
		Rs.
		4,60,000
		1,53,333
		3,06,667
		6,50,000

## Profit &amp; Loss a/c for the year ended 31-3-1990

Dr.		Cr.
Particulars	Rs.	Particulars
To Repairs & Maintenance a/c	5,200	By Lease Rent a/c
To Depreciation a/c	1,02,222	
		Rs.
		Rs.
		2,10,000

## Balance Sheet as on 31-3-1990

Dr.		Cr.
Liabilities	Rs.	Assets
Lease Rent Suspense a/c	6,30,000	Looms a/c Less:
		Depreciation Minar
		Exports Pvt. Ltd.
		Rs.
		Rs.
		3,06,667
		1,02,222
		2,04,445
		4,50,000

**(B) In the Books of Lessee**

From the point of view of the lessee, the annual lease rent paid is expenditure, it is debited to lease rent account and subsequently transferred to the profit and loss a/c. The treatment in the books of lessee is exactly similar to the one discussed in the case of the Finance Capital lease.

In a situation discussed in III (i) and Illustration 4. the following entries are passed by the lessee:

- (1) When the total lease rent for the whole lease term is due:
 

Lease Rent Suspense a/c	Dr.
To Lessor's a/c	
- (2) When the current year's lease rent (payable) is to be accounted:
 

Lease Rent a/c	Dr.
To Lease Rent Suspense a/c	
- (3) When the current year's instalment is paid to lessor:
 

Lessor's a/c	Dr.
To Cash/Bank	
- (4) When the current year's lease rent paid is transferred to profit and loss a/c:
 

Profit and Loss a/c	Dr.
To Lease Rent a/c	

Credit balance in the lessor's a/c will continue to appear as a liability in the balance sheet of the lessee.

### Illustration 5

Pass journal entries in the books of the lessee taking data in Illustration 4.

### Solution

In the Books of Minar Exports Pvt. Ltd. Journal

Date	Particulars	L.F.	Debit (Rs.)	Credit (Rs.)
1988-89	Lease Rent Suspense a/c			
1-4-1988	To Modern Silk Mills Pvt. Ltd. a/c	Dr.	10,50,000	
1.	(Being total lease rent payable)			10,50,000
1-4-1988	Modern Silk Mills Pvt. Ltd.	Dr.	4,00,000	
2.	To Bank a/c (Being first instalment of total lease rent paid)			4,00,000
31-3-1989	Lease Rent a/c	Dr.	2,10,100	
3.	To Lease Rent Suspense a/c (Being lease rent for the current year. Rs. 10,50,000 ÷ 5 = Rs. 2,10,000 accounted in straight line basis)			2,10,000
31-3-1989	Profit & Loss a/c	Dr.	2,10,000	
4.	To Lease Rent a/c (Being current year's lease rent transferred to Profit & Loss a/c)			2,10,000
1989-90				
1-4-1989	M/s Modern Silk Mills Pvt. Ltd.	Dr.	2,00,000	
1.	To Bank a/c (Being second instalment of total lease rent paid)			2,00,000
31-3-1990	Lease Rent a/c	Dr.	2,10,000	
2.	To Lease Rent Suspense a/c (Being current year's lease rent transferred to Profit & Loss a/c)			2,10,000
31-3-1990	Profit & Loss a/c	Dr.	2,10,000	
3.	To Lease Rent a/c (Being current year's lease rent Transferred to Profit & Loss a/c)			2,10,000

## Profit &amp; Loss a/c for the year ended 31-3-1989

Dr.		Cr.	
Particulars	Rs.	Particulars	Rs.
To Lease Rent a/c	2,10,000		

Balance Sheet as on 31-3-1989 Dr.

Cr.

Liabilities	Rs.	Assets	Rs.
Modern Silk Mills Pvt. Ltd.	6,50,000	Lease Rent Suspense a/c	8,40,000

Profit &amp; Loss a/c for the year ended 31-3-1990 Dr.

Cr.

Particulars	Rs.	Particulars	Rs.
To Lease Rent a/c	2,10,000		

Balance Sheet as on 31-3-1990 Dr.

Cr.

Liabilities	Rs.	Assets	Rs.
Modern Silk Mills Pvt. Ltd.	4,50,000	Lease Rent Suspense a/c	6,30,000

**17.2 HIRE PURCHASE AND INSTALMENT SALE****17.2.1 Meaning**

In a hire purchase and in instalment sale, a buyer purchases goods but pays the price of the goods not in one lump sum but in various instalments. The buyer takes possession of the goods and enjoys them as if he is the sole owner of the goods, although, the price for the goods is not fully paid.

The person who purchases goods on hire purchase basis is called 'hirer'; while the seller is called 'hire purchase seller', 'hire purchase vendor' or 'owner'. The hire purchase agreement must be in writing. It includes the description of the goods, cash price, interest to be charged, number of instalments and so on. The hire purchase price consists of two elements:

- 1) Cash price and
- (2) Interest for delayed payments.

Normally, a certain amount is paid immediately at the time of signing the agreement. This is called 'Down' payment.

## 17.2.2 Distinction Between Hire Purchase and Instalment Sale

Hire Purchase	Instalment Sale
1. Ownership The agreement mentions the date on which ownership in the goods passes to the buyer. Usually, it passes on payment of the last instalment.	Ownership passes to the buyer as soon as the transaction of instalment sale is completed.
2. Default in payment of instalment In case of a default, the seller can take back the possession of the goods and he is not bound to return the amount already received.	The seller cannot take back the goods. He can sue the buyer for non-payment of instalment.
3. Buyer's right to terminate contract The buyer has an option to terminate the contract and return the goods.	The buyer has no right to terminate the contract.
4. Buyer's right to dispose of goods He cannot dispose of the goods as ownership has not passed on to him.	Since the buyer is the sole owner of the goods, he can dispose of these goods in any manner he likes.
5. Loss of Goods Loss of goods has to be borne by the seller provided the buyer has taken reasonable care of the goods.	As he is the sole owner, any loss of goods has to be borne by him.

## 17.2.3 Accounting Entries to be passed

Let us learn the accounting entries to be passed in the books of hire purchaser and the seller with an illustration.

## Illustration 1

Mr A purchased four trucks on 1st January 95 cash price being Rs. 1,12,000. The purchase is on hire purchase basis with Rs. 30,000 being payable on signing of the contract. Thereafter, Rs. 30,000 was paid annually for three years. Interest to be charged @ 5 per cent p.a. and Depreciation written off @ 20 per cent p.a. on written down value basis.

Pass necessary entries in the books of A

## Solution

	Rs.
Cash down price of four trucks	1,12,000
Less: Down payment	<u>30,000</u>
Balance to pay	82,000

This balance of Rs. 82,000 is paid in three instalments of Rs. 30,000 each

Total instalment amount Rs. 30,000 * 3	90,000
Balance payable	<u>82,000</u>
Excess paid towards interest	8,000

Statement showing principal and interest paid

Outstanding Amount in Rs.	Date	Instalment (Rs.)	Interest @ 5% (Rs.)	Principal Rs.
82,000 Less: Principal paid	1)31/12/95	30,000	4,100 (5% on Rs.	25,900
25,900 56,100	2)31/12/96	30,000	82,000)	27,195
Less: Principal paid 27,195	3)31/12/97	30,000	2,805 (5% on Rs.	28,905
28,905			56,100)	
			1,095	
		90,000	8,000	82,000

In the last instalment, interest is calculated by deducting the principal outstanding (i.e. 30,000 - 28,905 = 1,095) at the end of second year from the instalment amount.

Journal Entries in the books of Hire Purchaser - 'A'

Date	Particulars	L.F.	Debit (Rs.)	Credit (Rs.)
1-1-1995	Truck a/c Dr. To Hire Vendor (Being purchase of 4 trucks on hire purchase basis)		1,12,000	1,12,000
1-1-1995	Hire Vendor a/c Dr. To Bank (Being down payment made)		30,000	30,000
31-12-1995	Interest a/c Dr. To Hire Vendor (Being interest payable at the end of 1 st year brought into account) accounted in straight line basis)		4,100	4,100
31-12-1995	Hire Vendor a/c Dr. To Bank (Being payment of 1 st Instalment)		30,000	30,000

Date	Particulars	L.F.	Debit (Rs.)	Credit (Rs.)
31-12-1995	Depreciation a/c Dr. To Trucks a/c (Being depreciation on trucks @ 20% provided)		22,400	22,400
31-12-1995	Profit & Loss a/c Dr. To Interest a/c To Depreciation a/c (Being interest and depreciation charged to Profit & Loss a/c)		26,500	4,100 22,400
2nd year 31-12-1996	Interest a/c Dr. To Hire Vendor a/c (Being interest for the 2nd year provided)		2,805	2,805
31-12-1996	Depreciation a/c Dr. To Trucks a/c (Being depreciation for the year provided)		17,920	17,920
31-12-1996	Hire Vendor a/c Dr. To Bank (Being payment of 2nd Instalment)		30,000	30,000
31-12-1996	Profit & Loss a/c Dr. To Interest a/c To Depreciation a/c (Being interest and depreciation charged to Profit & Loss a/c)		20,725	2,805 17,920
3rd year 31-12-1997	Interest a/c Dr. To Hire Vendor a/c (Being interest for the 3rd year recorded)		1,095	1,095
31-12-1997	Depreciation a/c Dr. To Trucks a/c (Being depreciation for the 3rd year provided)		14,336	14,336

Entries in the Books of the Seller

Date	Particulars	L.F.	Debit (Rs.)	Credit (Rs.)
03-01-1995	Mr. A's a/c Dr. To Sale (Being sale of 4 trucks to Mr. A on hire purchase basis)		1,12,000	1,12,000



31-12-1995	Mr. A's a/c	Dr.		4,100	
	To Interest				4,100
2.	(Being interest for the year charged to Mr A)				
31-12-1995	Bank a/c	Dr.		30,000	
	To Mr A's a/c				30,000
3.	(Being instalment received from Mr A)				
31-12-1995	Interest a/c	Dr.		4,100	
	To Profit & Loss a/c				4,100
4.	(Being interest income transferred to Profit & Loss a/c)				

Entries similar to 2, 3 and 4 will be passed at the end of the second and third years.

### Illustration 2

Show various ledger accounts in the books of hire purchaser and hire vendor, on the basis of information given in the Illustration 1:

### Solution

In the books of hire purchaser-A Trucks Account

Dr.			Cr.		
Date	Particulars	Rs.	Date	Particulars	Rs.
1-1-95	To Hire Vendor a/c	1,12,000	31-12-95	By Depreciation a/c By	22,400
				Closing balance c/f	89,600
		1,12,000			1,12,000
1-1-96	To Opening Balance b/f	89,600	31-12-96	By Depreciation a/c By	17,920
				Closing balance c/f	71,680
		89,600			89,600
1-1-97	To Opening Balance b/f	71,680	31-12-97	By Depreciation a/c By	14,336
				Closing balance c/f	57,344
		71,680			71,680
1-1-98	To Opening Balance b/f	57,344			

Hire Vendor a/c

Dr.			Cr.		
Date	Particulars	Rs.	Date	Particulars	Rs.
1-1-95 31-12-95	To Bank a/c To Bank a/c	30,000	1-1-95 31-12-95	By Trucks a/c	1,12,000
	By Closing balance c/f	30,000		By Interest a/c	4,100
		56,100			
		1,16,100			1,16,100

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Date	Particulars	Rs.	Date	Particulars	Rs.
31-12-96	To Bank a/c To Closing balance c/f	30,000 28,905	1-1-96 31-12-96	By Opening Balance b/f By Interest a/c	56,100 2,805
		58,905			58,905
31-12-97	To Bank a/c	30,000	1-1-97 31-12-97	By Opening balance b/f By Interest a/c	28,905 1,095
		30,000			30,000

In the books of Hire Vendor a/c (Hire Purchaser)

Dr.			Cr.		
Date	Particulars	Rs.	Date	Particulars	Rs.
1-1-95 31-12-95	To Sales a/c To Interest a/c	1,12,000 4,100	1-1-95 31-12-95	By Bank a/c By Bank a/c By Closing balance c/f	30,000 30,000 56,100
		1,16,100			1,16,100
1-1-96 31-12-96	To Opening balance b/f To Interest a/c	56,100 2,805	31-12-96	By Bank a/c By Closing balance c/f	30,000 28,905
		58,905			58,905
1-1-97 31-12-97	To Opening balance b/f To Interest a/c	28,905 1,095	31-12-97	By Bank a/c	30,000
		30,000			30,000

Entries to be passed in case of Instalment basis

Under this system, the property in the goods passes to the purchaser immediately on the signing contract.

In the books of Hire Purchaser

(Entries are based on the basis of particulars given in the Illustration 1)

Date	Particulars	LF.	Debit (Rs.)	Credit (Rs.)
1-1-95	Trucks a/c Dr. Interest Suspense a/c Dr. To Hire Vendor a/c (Being purchase of trucks on instalment basis from Mr A)		1,12,000 8,000	1,20,000
1-1-95 2.	Hire Vendor a/c Dr. To Bank a/c (Being down payment made)		30,000	30,000

31-12-1995 3.	Interest a/c To Interest Suspense a/c (Being interest for the year adjusted)	Dr.		4,100	4,100
31-12-1995 4.	Hire Vendor a/c To Bank a/c (Being payment of instalment)	Dr.		30,000	30,000
31-12-95 1.	Depreciation a/c To Truck a/c (Being depreciation @ 20% on written down value basis for the year provided)	Dr.		22,400	22,400

At the end of each year, balance in interest suspense account will be shown in the Assets side of the Balance Sheet.

Entries similar to 3, 4 and 5 will be passed in the second and third years.

In the books of Hire Vendor

Date	Particulars	L.F.	Debit (Rs.)	Credit (Rs.)
1-1-95 1.	A's a/c To Sales a/c To Interest Suspense a/c (Being sale of 4 trucks on instalment basis)	Dr.	1,20,000	1,12,000 8,000
1-1-95 2.	Bank a/c To A's a/c (Being down payment received)	Dr.	30,000	30,000
31-12-95 3.	Interest Suspense a/c To Interest a/c (Being current year's interest adjusted)	Dr.	4,100	4,100
4.	Bank a/c To A's a/c (Being instalment received)	Dr.	30,000	30,000

At the end of each year, balance in interest suspense account will be carried forward in the liabilities side of the balance sheet. Entries similar to 3 and 4 will be passed in the second and third years.

### Illustration 3

A K Mines purchases from Wagon Ltd., wagons on instalment system on 1st April, 95, payments being made Rs. 30,000 down and Rs. 30,000 annually for three years.

The cash price is Rs. 1,11,750. The rate of interest is five per cent p.a. Depreciation to be written off @ 10% p.a. on written down value basis. Show necessary accounts in the books of A K Mines and Wagon Ltd.

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### Solution

		Rs.
Total amount paid:	Down payment	30,000
	3 instalments of Rs. 30,000 each	90,000
		1,20,000
Less: Cash down price		1,11,750
Interest		8,250

Date	Outstanding Amount (Rs.)	Total (Rs.)	Principal (Rs.)	Interest (Rs.)
31-03-96	81,750(1,11,750-30,000)	30,000	25,912	4,088
31-03-97	55,838(81,750-25,912)	30,000	27,208	2,792
31-03-98	28,630(55,838-27,208)	30,000	28,630	•1,370
		90,000	81,750	8,250

\* In the last year, interest is the difference between the instalment and outstanding amount.

In the books of A K Mines Ltd. Wagon a/c

Dr.			Cr.		
Date	Particulars	Rs.	Date	Particulars	Rs.
1-1-95	To Wagon Ltd. a/c	1,11,750	31-3-96	By Depreciation a/c	11,175
31-12-95			31-12-95	By Closing balance c/f	1,00,575
		1,11,750			1,11,750
1-4-96	To Opening balance b/f	1,00,575	31-3-97	By Depreciation a/c	10,058
				By Closing balance c/f	90,517
		1,00,575			1,00,575
1-1-97	To Opening balance b/f	90,517	31-3-98	By Depreciation a/c	9,052
31-12-97				By Closing balance c/f	81,465
		90,517			90,517
1-4-98	To Opening balance b/f	81,465			

Wagons Ltd. a/c

Dr.			Cr.		
Date	Particulars	Rs.	Date	Particulars	Rs.
1-1-95	To Bank a/c	30,000	1-4-95	By Wagon Ltd. By	1,11,750
31-3-96	To Bank a/c	30,000		By Interest Suspense a/c	8,250
	To Closing balance c/f	60,000			
		1,20,000			1,20,000

Contd...

31-3-97	To Bank To Closing balance c/f	30,000 30,000 60,000	1-4-96	By Opening balance b/f	60,000 60,000
31-3-98	To Bank a/c	30,000 30,000	1-4-97	By Opening balance b/f	30,000 30,000

## Interest Suspense a/c

Dr.			Cr.		
Date	Particulars	Rs.	Date	Particulars	Rs.
1-1-95	To Wagon Ltd. a/c	8,250	31-3-96	By Interest a/c By Closing balance c/f	4,088 4,162
		8,250			8,250
1-4-96	To Opening balance b/f	4,162	31-3-97	By Interest a/c By Closing balance c/f	2,792 1,370
		4,162			4,162
1-4-97	To Opening balance b/f	1,370	31-3-98	By Interest a/c	1,370
		1,370			1,370

## In the books of Wagons Ltd. A.K. Mines Ltd. a/c

Dr.			Cr.		
Date	Particulars	Rs.	Date	Particulars	Rs.
1-1-95	To Sales a/c To Interest Suspense a/c	1,11,750 8,250	1-4-95	By Bank a/c By Bank a/c	30,000 30,000
		1,20,000	31-3-96	By Closing balance c/f	60,000
1-4-96	To Opening balance b/f	60,000			1,20,000
		60,000	31-3-97	By Bank a/c By Closing balance c/f	30,000 30,000
1-4-97	To Opening balance b/f	30,000			60,000
		30,000	31-3-98	By Bank a/c	30,000
					30,000

## Interest Suspense a/c

Dr.			Cr.		
Date	Particulars	Rs.	Date	Particulars	Rs.
31-3-96	To Interest a/c To Closing balance c/f	4,088 4162 8250	1-4-95	By A.K. Mines Ltd. a/c	8,250

Date	Particulars	Rs.	Date	Particulars By Opening	Rs.
31-3-97	To Interest a/c To Closing balance c/f	2,792 1,370	1-4-96	balance b/f	4,162
		<sup>4</sup> j162			4,162
31-3-98	To Interest a/c	1,370	1-4-97	By Opening balance b/f	1,370
		1,370			1,370

### **17.3 LET US SUM UP**

In this unit, we learn the mechanism of leasing and hire purchase transactions. In lease arrangements, there are usually two parties. The owner of the asset is called 'lessor' and the person to whom asset is given for use is called 'lessee'. The ownership of the asset remains with the lessor. There are four types of lease arrangements, viz., finance, capital lease, operating lease, service lease and the leveraged lease.

Under hire purchase agreement, the buyer pays the price of the goods in instalments. The person who sells the goods is called 'Hire Vendor' while the person who purchases these is called 'Hire Purchaser'. Under the instalment system, ownership of the goods is immediately transferred to the buyer. In hire purchase agreement, if the buyer fails to pay any instalment, the seller can take back the goods. But under the instalment basis, the seller cannot take back the goods. He has to file a suit against the buyer for recovery of his dues.

### **17.4 KEYWORDS**

Lessor: The owner of the asset under a lease agreement.

Lessee: The user of the asset under a lease agreement.

Hire Purchaser: The buyer purchasing goods on hire purchase basis.

Hire Vendor: The seller under a hire purchase system.

Interest Suspense: Total interest payable to the seller under instalment system which is accounted at the time of sale.

### **17.5 TERMINAL QUESTIONS**

Q.1 Super Leasing Ltd., leased a machine costing Rs. 3,00,000 to M/s. Parag Engineering for a period of three years at an annual lease rent of Rs. 1,20,000 per year payable in advance on the first day at each year. The residual value of the machinery was estimated at Rs. 55,220. The statutory depreciation was written off at thirty per cent on written down value.

You are required to give ledger accounts in the books of Super Leasing Ltd. and Parag Engineering. Show the relevant entries in the profit and loss account and balance sheet of Super Leasing Ltd., for these years.

Q.2 Ramesh Leasing Ltd., leased its plant to Modem Chemicals Ltd., for a period of five years from 1st January, 1991 for a lump sum lease of Rs. 5,25,000 payable in full in advance. The lessor agreed to incur the expenditure for the repairs and maintenance of the machine as under; for the year 1991. Rs. 5,000 and for the year 1992, Rs. 6,000. The written down value of the plant was Rs. 2,30,000 on 1st January, 1991 and depreciation @ 30 per cent was to be charged.

You are required to pass journal entries in the books of the lessor for the first two years.

Q.3 Fill in the blanks with appropriate words:

- (A) (a) In a lease agreement there are \_\_\_\_\_ parties.  
 (b) The owner of the asset is known as \_\_\_\_\_ .  
 (c) The user the asset is known as \_\_\_\_\_ .  
 (d) The ownership of the asset remains with the \_\_\_\_\_
- (B) State whether following statements are TRUE or FALSE:  
 (a) Leasing agreement is usually for a specific period.  
 (b) Leasing is a tool of tax planning.  
 (c) Under leasing arrangement, risk of obsolescence is to be borne by the lessee.  
 (d) Lease rent paid by lessee is not an expense.  
 (e) Lessor can claim depreciation on leased assets.  
 (f) In an operative lease, period of lease is much less compared to the economic life of the asset.
- (C) Name of the two items which can be covered under:  
 (a) Operating lease and (b) Service lease

Answers: (A) (a)-Two (b)-Lessor (c)-Lessee (d)-Lessor

(B) (a)-True (b)-True (c)-False (d)-False (e)-True (f)-True

(C) (a)-Telephone, Computer (b)-Machinery, Air-Conditioner

Q.4 Fill in the blanks:

- (a) In hire purchase transactions, the buyer pays the price in \_\_\_\_\_ .  
 (b) In hire purchase, ownership of goods passes to the buyer on payment of \_\_\_\_\_ instalment.  
 (c) The ownership of goods passes to the buyer immediately in \_\_\_\_\_ system.  
 (d) The person who purchases goods on hire purchase basis is called \_\_\_\_\_

Answers: (a) Instalment (b) Last (c) Instalment (d) Hire Purchaser (e) Hire Vendor.

**I**





UNIT  
18

# ACCOUNTS OF NON-TRADING ORGANISATIONS

## STRUCTURE

- 18.0 Objectives
- 18.1 Introduction
- 18.2 Need for Maintenance of Account
- 18.3 Books of Account
- 18.4 Final Accounts
- 18.5 Distinction between Receipts and Payments Account and Income and Expenditure Account
- 18.6 Treatment of Some Special Items
- 18.7 Preparation of Income and Expenditure Account and Balance Sheet from Receipts and Payment Account
- 18.8 Preparation of Receipts and Payments Account
- 18.9 Let Us Sum Up
- 18.10 Keywords
- 18.11 Terminal Questions

## **18.0 OBJECTIVES**

After studying this unit, you will be able to:

- Understand nature of non-trading organisations.  
    Know the books of account maintained by these organisations
- Know the difference between receipts and payments account and income and expenditure account
- Know how to prepare final accounts of non-trading organisations.

## **18.1 INTRODUCTION**

There are some organisations or institutions that are engaged in rendering certain services to the people, e.g. educational institutions, sports clubs, public hospitals, charitable trusts etc. Like trading organisations, their main aim is not to make profit but to render a particular type of service to a certain section of people. Sports clubs, like the Cricket Club of India, render services to cricketers. The Asiatic Society of Bombay is engaged in the promotion of literature by making available various types of books, magazines etc. to the public. The educational institutions run schools and colleges and thereby spread educational activities in a particular area. These organisations are registered under the Public Trust Act or Society Act.

## **18.2 NEED FOR MAINTENANCE OF ACCOUNT**

For rendering services to the public, these organisations collect moneys by way of membership fees, tuition fees, subscriptions and donations etc. from public at large. Though they are non-profit making entities, they would like to know the results of their activities at the year-end. They would like to know whether their income during the year was enough to meet the expenses. To have a proper control over the huge collections made, it is necessary to maintain books of account. This will reduce possibilities of misappropriation of funds. The final accounts of these associations are submitted to the Government agencies, Municipal Authorities, Public Trusts, etc. On the basis of these accounts, grants may be made available to them to carry on their activities in a better manner. The Act also requires these organisations to complete the accounts in a particular form and submit these to them every year. Therefore, it is necessary for such organisations to maintain the accounts as required by the Act.

## **18.3 BOOKS OF ACCOUNT**

Non-trading concerns maintain following books of account:

- (a) Cash book,
- (b) General ledger,
- (c) Journal,
- (d) Membership register,
- (e) Donation register,
- (f) Property register,
- (g) Subsidiary registers, depending upon special features, e.g. students register, patients registers. etc.

## **18.4 FINAL ACCOUNTS**

Final accounts of the non-trading concern consist of-

- 18.1.1 Receipts and payment account
- 18.1.2 Income and expenditure account
- 18.1.3 Balance sheet

### **Receipts and payments account**

This account shows actual amount received and paid in cash. Cash includes cheques. These receipts and payments may relate to the previous year, current year or subsequent year. These receipts and payments may be revenue or capital. The account starts with opening balance of cash and bank and ends with closing balance of cash and bank. In short, this account shows actual receipts and payments for the whole year.

### **Income and expenditure account**

This is nothing but a profit and loss account. Since the object of these associations is not to make profit, the name is changed from profit and loss account to income and expenditure account. All income items are shown on credit side whereas all expenses are shown on debit side. The result of this account will be either profit or loss which is called surplus or deficit for the year.

Income and expenditure account shows income and expenditure for the current year only. It shows actual amount of income received and receivable for the year. Similarly, amounts paid and payable for the year will be shown on expenditure side. All capital receipts and payments are carried forward to the balance sheet.

### **Balance Sheet**

It is a statement showing the position of assets and liabilities of the association on a particular date. This is similar to balance sheet of a trading organisation in which the capital of the association is called 'Capital Fund' or 'General Fund'.

## **18.5 DISTINCTION BETWEEN RECEIPTS AND PAYMENTS ACCOUNT AND INCOME AND EXPENDITURE ACCOUNT**

The following are points of distinction between the receipts and payments account and the income and expenditure account:

Receipts and Payments Account	Income and Expenditure Account
1. Classification It is a real account.	It is a nominal account
2. Contents It contains summary of actual expenses receipts and payments of a particular period.	It contains incomes and expenditures of a particular period.
3. Items included It includes capital as well as revenue items.	It includes only revenue items.
4. Opening and Closing balance It starts with opening cash and bank balances and ends with closing cash and bank balances.	There is no opening balance but ends with surplus or deficit for the Year.

<p>5. Period</p> <p>It shows all the receipts and payments during the year, irrespective of whether these pertain to the previous years, current year or the subsequent years.</p>	<p>It shows incomes and expenditure of only the current year.</p>
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## **18.6 TREATMENT OF SOME SPECIAL ITEMS**

### **18.6.1 Donations**

If donations are received for a specific purpose, then these are credited to that fund account and shown in the balance sheet on the liabilities side, e.g. donations for building fund, donations for endowment fund and so on. Donations received as routine revenue items like donations for annual meet, donations for charity show etc. are shown on income side of Income and Expenditure account.

### **18.6.2 Entrance Fees**

Entrance fees are collected at the time of admission of new members to a club. These are collected only once in the life time and hence are treated as non-recurring (capital receipts) and taken to balance sheet. Every year, new members are admitted to the club and hence some feel that entrance fee is a recurring receipt and it should be taken to income side. Therefore, we must treat this item as per the instruction given in the problem.

### **18.6.3 Life Membership Fees**

These fees are received in lump sum on one occasion only and hence, treated as non-recurring receipt. These are taken to balance sheet as a separate fund or added to capital fund.

### **18.6.4 Legacies**

As per the will of the deceased person, his legal representative gives the gifts to the association. These are normally treated as non-recurring receipts and are taken to the liabilities side of the balance sheet.

### **18.6.5 Government Grants**

If grant is received for maintenance, then it is taken as an income of the association but if it is received for a specific purpose, say, building construction, then it is credited to the particular fund and shown in liabilities side of the balance sheet.

### **18.6.6 Special Fund**

If any special fund is created like building fund, endowment fund, charity fund and so on, all income and expenses pertaining to that fund should be adjusted against the fund.

### **18.6.7 Opening and Closing Stock of Stationery**

When opening and closing stocks of stationery are given, these will appear in opening and closing balance sheets respectively and the stationery consumed during the year will appear as an item of expense in income and expenditure account.

### **Illustration No. 1**

From the following information, find out the amount to be taken to Income and Expenditure account.

**H**

Particulars	As on 1.4.97 Rs.	As on 31.3.98 Rs.
Opening Stock	800	400
Creditors for Stationery	240	600
Advance Payment for Stationery	200	300
Amount paid for Stationery	-	4,000

**Solution**

Stock of Stationery as on 1.4.97	800	
Add: Paid to Stationery during the year	4,000	
Advance Payment for Stationery as on 1.4.97	200	
Creditors for Stationery as on 31.3.98	600	5,600
Less: Creditors for Stationery as on 1.4.97	240	
Advance Payment for Stationery as on 31.3.98	300	
Stock of Stationery as on 31.3.98	400	940
Amount to be charged to Income and Expenditure Account		4,660

**18.6.8 Sale of Fixed Assets and Investments**

Receipt on account of sale of fixed assets and investment are of capital nature. Book value of the fixed assets and investments sold should be deducted from the total value of the fixed assets and investments on the assets side of the balance sheet. If the sale proceeds are more than the book value, then the excess amount over the book value is profit. On the other hand, if the sale proceeds are less than the book value, difference is considered as loss. Profit or loss, on sale of fixed assets and investments, is shown in the income and expenditure account. Profit is entered on the credit side and loss is entered on the debit side.

**18.6.9 Purchase and Sale of Sports Materials**

Purchase of sports materials is a capital expenditure and hence shown on assets side of the balance sheet. Depreciation charged is reduced from the asset and shown as an expense in the income and expenditure account. Sale of old bats, balls, nets etc., is a regular transaction of a recurring nature and hence, taken on the credit side of the income and expenditure account.

**18.7 PREPARATION OF INCOME AND EXPENDITURE ACCOUNT AND BALANCE SHEET FROM RECEIPTS AND PAYMENTS ACCOUNT**

The following are the steps to be taken for preparing final accounts from receipts and payments account:

**Receipts side**

1. Take opening cash and bank balances to opening balance sheet.
2. All revenue receipts will be shown on income side of income and expenditure account. From the actual amount received, previous year's collections and future year's collections, if any, will be reduced and, amount receivable at the end of the current year, will be added to actual receipt.
3. If any amount is received in respect of the previous year, we have to show it in the opening balance sheet on the assets side. Similarly, any amount received in respect of the next year is to be shown as 'Income received in Advance' in closing balance sheet as a liability.

4. Donation received for any specific purpose is a capital receipt and shown in the balance sheet on the liabilities side as a fund, e.g. donations for building fund, donations for scholarship fund, etc.
5. In case of a sale of fixed asset, reduce the book value from the asset concerned in the balance sheet and the profit or loss on sale will be shown in the income and expenditure account.

#### Payments side

1. If the opening bank balance appears on the payments side, it means an overdraft balance. This will appear in the opening balance sheet as a liability.
2. All revenue payments for the current year will appear on the expenditure side of the income and expenditure account.
3. Revenue payments made for the previous year will appear in the opening balance sheet on the liability side.
4. Capital payments will appear on the assets side of the closing balance sheet.
5. Any payment made for the next year is to be shown as 'Prepaid Expenses' in the closing balance sheet on the assets side.
6. Closing cash and bank balances will appear on the assets side of the closing balance sheet.

#### Adjustments

After posting the items from receipts and payments accounts, we have to consider all adjustments given in the problem. Each adjustment has two effects. The usual adjustments are:

1. *Outstanding Income* : To be added to the respective income account and shown in the closing balance sheet on the assets side as 'Income Receivable'.
2. *Outstanding Expenses* : To be added to respective expenses account and shown on the liabilities side of the closing balance sheet as 'Outstanding Expenses.'
3. *Income Received in Advance* : To be reduced from the concerned income item and shown on the liabilities side of the closing balance sheet as 'Income received in advance'.
4. *Prepaid Expenses* : To be reduced from the respective expenses account and shown in the assets side of closing balance sheet as 'Prepaid Expenses'.
5. *Depreciation on Assets*:- To be reduced from the respective assets and shown on expenditure side in income and expenditure account.

#### Opening Balance Sheet

In a problem, opening balances of certain items may be given. From these balances we have to prepare the opening balance sheet. The difference between the assets and liabilities side, represents the opening capital fund. Opening balances of assets and funds will be carried forward to the closing balance sheet. The next step is to compare the outstanding income appearing in the opening balance sheet with the actual receipts as per receipts and payments account. If the opening balance is more than the actual receipts, then the difference means income of the previous year is still outstanding. This will be carried forward to the closing balance sheet as an asset.

#### Closing Balance Sheet

Opening balances of assets and liabilities (funds) will be carried forward to the closing balance sheet. After adjusting the current year's transactions to the respective accounts of assets and liabilities, closing

balances will be taken to the outer column of the balance sheet. Income and expenditure account will show the current year's surplus or deficit. If the income side is more than the expenditure side, it is called 'Surplus' or 'Excess of income over Expenditure'; on the other hand, if the expenditure side is more than the income side it is called 'Deficit' or 'Excess of Expenditure over Income', surplus is added to the capital fund whereas the deficit is reduced from the capital fund.

We have to remember the following points while preparing the final accounts:

1. Receipts and payments account balances are considered only once.
2. Receipts mean an income or a liability and payment means an asset or expense.
3. Opening balances will appear in the opening balance sheet while closing balances will appear in the closing balance sheet.
4. Every adjustment has two effects.

Following illustration will help us to understand the techniques of preparing final accounts.

### Illustration No. 2

From the following information relating to Maharaja Club, prepare the income and expenditure account for the year ended 31 st March, 1998 and the balance sheet as on that date. Abstract of the cash book for the year is as follows:

Dr.	Rs.	Cr.	Rs.
Receipts		Payments	
To Membership's subscription	5,000	By Unkeep of Field and Pavillion	2,000
To Member's Admission Fees	300	By Tournament Expenses	700
To Sale of Old Balls and Bats	50	By Rates and Insurance	200
To Ground Rent	300	By Telephone	50
To Subscriptions for Tournament	1,000	By Stationery	100
To Bank-Cash Drawn	4,000	By General Charges	50
To Donations	10,000	By Secretary's Honorarium	170
		By Grass Seeds	30
		By Bats and Balls	700
		By Bank Lodgements	16,650
	20,650		20,650

Assets on 1st April 1997:		Stock of Bats and Balls	1,500 500
Cash at Bank	3,000	Subscriptions Due	
Stationery	200		
Liabilities as on 1st April. 1997	Nil		

Donations and surplus, on account of tournament, should be kept in reserve for a permanent pavilion. Subscriptions due as on 31st March, 1998 are Rs. 750. Write off 50% of bats and balls and 25% of printing and stationery accounts.

## Solution

## Maharaja Club for the year

Income and Expenditure Account ended 31st March, 1998.

Dr.

Cr.

Expenditure		Rs.	Income	Rs.	
To Upkeep of Field and Pavilion		2,000	By Member's Subscriptions		
To Rates and Insurance		200	Amount received	5,000	
To Telephone		50	Less: Subscription due for the previous year	500	
To General Charges		50		4,500	
To Secretary's Honorarium		170	Add: Subscription due at the end	750	5,250
To Grass Seeds		30	By Members Admission Fees		300
To Bats and Balls Written-off	1,500		By Sale of Old Bats and Balls		50
Opening Stock					
Add: Purchases	700		By Ground Rent		300
	2,200				
Less: Closing Stock	1,100	1,100			
To Stationery consumed - Opening Stock	200				
Add: Purchases	100				
	300				
Less: Closing Stock (75percentof300)	225	75			
To Excess of Income over Expenditure transferred to Capital Fund		2,225			
		5,900			5,900

## Maharaja Club Balance Sheet as on

1st April, 1997

Liabilities	Rs.	Assets	Rs.
Capital Fund (Balance figure)	5,200	Cash at Bank	3,000
		Stock of Bats and Balls	1,500
		Stock of Stationery	200
		Subscriptions Due	500
	5,200		5,200



**Maharaja Club Balance Sheet as on  
31st March, 1998**

Dr.					Cr.
Liabilities	Rs.	Rs.	Assets	Rs.	Rs.
Capital Fund -			Cash at Bank -		
Opening Balance	5,200		Opening Balance	3,000	
Add: Excess of Income			Add: Bank		
Over Expenditure	2,225	7,425	Lodgements	16,650	
				19,650	
Reserve for Permanent			Less: Cash Drawn	4,000	15,650
Pavilion -			Stock of Bats and Balls		1,100
Donations Received	10,000		Stock of Stationery		225
Tournaments Surplus -			Subscriptions Due		750
Subscription           1,000					
Less: Expenses           700	300	10,300			
		17,725			17,725

**Illustration No. 3**

From the following information, prepare receipts and payments account and income and account of the club for the year ended 31st December, 1997 and also the balance expenditure sheet as at 31st December, 1996 and 31st December, 1997.

	Rs.
Subscriptions received (including Rs. 4,000 for 1996)	30,000
Donations received (not to be capitalised)	2,000
Subscriptions outstanding at the end of the year	6,000
Rent paid	1,800
Purchase of Furniture (life 10 years) at the beginning of the year	1,000
Purchase of Sports Equipments	2,500
Purchase of Magazines and Newspapers	1,200
Sale of old furniture at the beginning of the year (Book value Rs. 300)	500
Opening Cash and Bank balance	6,800
Investments Purchased	4,000
Interest on Investment received	1,000
Bank Charges	20
Postage, Telegram and Telephones	1,800
Printing and Stationery (One bill of Rs. 300 for last year)	1,000
Printer's Bill Outstanding	500

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Entrance Fees (50 per cent to be Capitalised)	1,400
Legacies Received (to be Capitalised)	2,000
Honorary Secretary's Allowance (including Rs. 200 for last year)	1,800
Outstanding Allowance (Honorary Secretary's)	300

### Solution

#### Opening Balance Sheet as on 31st December, 1996

Liabilities	Rs.	Assets	Rs.
Outstanding Expenses		Subscription Receivable	4,000
Printing Bill	300	Furniture	300
Secretary's Allowance	200	Cash and Bank Balance	6,800
Capital Fund (balancing amount)	10,600		
	11,100		11,100

#### Receipts and Payments Accounts For the year ended 31st December, 1997

Dr.	Rs.	Cr.	Rs.
Receipts		Payments	
To Opening Cash and Bank Balances	6,800	By Rents	1,800
To Subscriptions received	30,000	By Purchase of Furniture	1,000
To Donations received	2,000	By Purchase of Sports - Equipments	2,500
To Sale of Furniture	500	By Printing and Stationery	1,000
To Interest on investment Received	1,000	By Purchase of Magazines Newspapers	1,200
To Entrance Fees	1,400	By Purchase of Investment	4,000
To Legacies received	2,000	By Bank charges	20
		By Postage, Telegram and Telephones	1,800
		By Honorary Secretary's allowance paid	1,800
		By Closing cash and Bank Balances	28,580
	43,700		43,700

#### Income and Expenditure Account for the year ended 31st December, 1997

Dr.	Rs.	Rs.	Cr.	Rs.	Rs.
Expenditure			Income		
To Rent To Bank Charges		1,800	By Subscriptions	30,000	
To Postage, Telegrams and		20	Amount received Less:		
			Previous Year's		

Expenditure	Rs.	Rs.	Income	Rs.	Rs.
Telephones		1,800	Outstanding	4,000	
To Printing and Stationery Amount paid Less: Previous Year's Outstanding	000 300		Add: Current Year's Outstanding	26,000	32,000
Add: Current Year's Outstanding	700	1,200	By Donations By Profit on Sale of Furniture	1,400 700	2,000 200
To Magazines and Newspapers To Hon. Secretary's Allowance Amount paid Less: Previous Year's	800 200	1,200	(Note 1) By Interest on Investments By Entrance Fees:		1,000
Add: Outstanding allowance	600 300	1,900	Amount Received Less: Capitalised		700
To Depreciation on Furniture (Note 2) To Excess of income over expenditure, i.e., Surplus		100			
		35,900			35,900

**Closing Balance Sheet as on 31st December, 1997**

Liabilities	Rs.	Rs.	Assets	Rs.	Rs.
Entrance Fees	500	700	Furniture Opening	300	
Outstanding Exp. - Printing Bill Secretary's Allowance	300	800	Balance Less: Sale	300	
Capital Fund -	10,600		Add: Purchased during the year	1,000	
Opening Balance Add: Surplus for the year Legacies	27,880	38,480	Less: Depreciation	1,000 100	900
		2,000	Subscription Receivable		6,000
			Cash and Bank Balances		28,580
			Sports Equipment		2,500
			Investments		4,000
		41,980			<b>41,980</b>

Notes:

- Profit on sale of furniture

Sale proceeds	500
Less: Book value of furniture	300
Profit on sale	<u>200</u>

- Life of furniture, purchased during the year, is 10 years. Therefore, 1/10th of Rs. 1,000 will be charged every year as depreciation.

### 18.8 PREPARATION OF RECEIPTS AND PAYMENTS ACCOUNT

Opening and closing balance sheets and, income and expenditure account and, certain additional information are given. From these statements, you are asked to prepare receipts and payments account.

Points to be noted for preparing receipts and payments account:

Receipts and payments account starts with opening cash and bank balances and ends with closing balances. These balances should be taken from the opening and closing balance sheet.

Receipts and payments account shows actual receipts and payments in cash whether these are revenue or capital. Actual receipts and payments can be found out by preparing the following statements:

**(a) Income Items**

Amount received in cash	___
Less: Receivable at the beginning (Opening Balance of Outstanding income)	___
Add: Received in advance at the beginning (Opening Balance Received in Advance)	___
Add: Amount receivable at the end (Closing Balance of Accrued Income)	___
Less: Received in advance at the end (Closing Balance Received in Advance)	___
Actual Income shown in Income and expenditure account)	___

**(b) Expense Items**

Actual payments in cash. Less: payable at the beginning (Opening Outstanding)	___
Add: Prepaid - opening balance	___
Less: Prepaid - closing balance	___
Add: Payable at the end (Closing outstanding)	___
Actual expense shown in Income and expenditure account	___

**(c) Assets Item**

Opening balance	___
Add: Addition during the year	___

Less: Cost of item sold during the year

Less: Depreciation shown in Income and expenditure account

Closing balance

**(d) Capital Fund**

Opening balance	
Add: Surplus as per Income and expenditure A/c	
OR	
Less: Deficit as per Income and expenditure A/c	
Closing balance	

**(e) Stamps used/Stationery consumed**

Opening balance Add:

Payments made

Less: Closing stock

Actual expenditure as per Income and expenditure A/c

Always start from income and expenditure account. Consider all items relating to income from the opening and closing balance sheets and prepare the statement as shown above, (item-a). Then find out the actual receipts in cash. If an income item appears only on the income side, take the same as it is to the receipts side of the receipts and payments account.

Entrance fees, donations to specific funds are capital receipts. By comparing the closing balance of these items with the opening, net amount received during the year can be found out and then taken to receipts side.

Now, take up items appearing on the expenditure side one by one. Mark all items relating to a particular item of expenditure, in the opening and closing balance sheets, and show it in the statement (items-b) wherever applicable, to get the actual amount paid.

Other items of expenditure, where there is no adjustment, to be shown directly on the payments side of the receipts and payments account.

Depreciation is a non-cash transaction and is to be considered for finding out amount paid for purchase of asset (refer to item-c above).

Surplus or deficit is the net result of the current year's operations and it is to be taken to capital fund statement (item-d).

If opening and closing stock of stationery, stamps etc. are given, actual amount paid may be ascertained by preparing a statement (item-e).

While preparing these statements (a to e), we must pick up the items given in the income and expenditure account and/or the opening and closing balance sheets and fill them in the above statements, to arrive at the missing figure. This amount so found out is to be taken to the receipts and payments account.

Following illustration will clarify these points.

**Illustration No. 4**

The following income and expenditure account of Raj Club is given for the year ended 31st December 1997.

**Income and Expenditure A/c**

Dr.		Cr.	
Expenditure	Rs.	Income	Rs.
To Opening Stock of Provisions	10,000	By Subscriptions	26,000
To Purchase of Provisions	40,000	By Donations	30,000
To Salaries	15,000	By Entrance Fees	8,000
To Printing and Stationery	5,000	By Sale of Provisions	43,000

Expenditure	Rs.	Income	Rs.
To General Expenses To Depreciation on Equipments To Excess of income over Expenditure	3,000 1,000 38,000	By Closing Stock of Provisions	5,000
	1,12,000		1,12,000

The following balance sheets are given to you:

Balance Sheet as on

Liabilities	31-12-96	31-12-97	Assets	31-12-96	31-12-97
Creditors for Provisions	8,000	10,000	Equipments at written down value fund	10,000	15,000
General Fund	47,000	85,000	Cash and Bank Balances	30,000	55,000
			Subscription Receivable	5,000	20,000
			Stock of Provisions	10,000	5,000
	55,000	95,000		55,000	95,000

Prepare the receipts and payments account, for the year ended 31 st December, 1997.

**Solution**

**1. Equipments:**

	Rs.
Opening Balance as on 31-12-96 Add:	10,000
Purchases made during the year	<u>6,000</u>
	16,000
Less: Depreciation for the year	1,000
Closing Balance as on 31-12-97	<u>15,000</u>

**2. Subscriptions:**

	Rs.
Actual amount received in cash	11,000
Less: Previous year's outstanding (1996)	5,000
	<u>6,000</u>
Add: Current year's outstanding (1997)	20,000

Income for the year as per Income and Expenditure A/c

**3. Creditors for Provisions:**

	Rs.
Actual amount paid in cash	38,000
Less: Previous year's outstanding (1996)	<u>8,000</u>
	30,000
Add: Current year's outstanding (1997)	10,000
Purchase of Provisions as per Income and Expenditure A/c	<u>10,000</u>

Raj Club Receipt and Payment Account  
for the year ended 31st December 1997

Dr.		Cr.	
Receipts	Rs.	Payments	Rs.
To Opening Balance	30,000	By Purchase of Provisions (Note 3)	38,000
To Subscriptions Received (Note 2)	11,000	By Salaries	15,000
To Donations	30,000	By Printing and Stationery	5,000
To Entrance Fees	8,000	By General Expenses	3,000
To Sale of Provisions	43,000	By Purchase of Equipments (Note 1)	6,000
		By Closing Balance	55,000
	1,22,000		1,22,000

**Illustration No. 5**

From the following details, ascertain the amount of subscriptions to be credited to income and expenditure A/c for the year 1997.

Subscriptions received in 1997 - Rs. 24,000 which include Rs. 2,000 for 1996 and Rs. 4,000 for 1998. Subscriptions due but not received at the end of the year 1997 were Rs. 10,000. Subscriptions received in 1996 in advance for 1997 were Rs. 6,000.

**Solution**

	Rs.
Subscriptions received during the year	24,000
Less: Received for previous year (1996)	2,000
	22,000
Less: Received for the next year (1998)	4,000
	18,000
Add: Received in Advance in 1996 for 1997 Subscriptions to be taken to Income and Expenditure A/c	10,000
	28,000

**Illustration No. 6**

Find out the amount of salaries to be debited to income and expenditure account of 1997 from the details given below:

	Rs.
Payment made for salaries during 1997	24,000
Outstanding salary as on 31-12-1996	1,000
Outstanding salary as on 31-12-1997	1,600
Prepaid salary as on 31-12-1996	600
Prepaid salary as on 31-12-1997	800

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### Solution:

	Rs.
Salaries paid during 1997	24,000
	<u>1,000</u>
Less: Last year's outstanding paid-1996	23,000
	<u>1,600</u>
Add: Outstanding for the current year 1997	24,600
	<u>600</u>
Add: Prepaid in 1996 Less: Prepaid in	25,200
1997	<u>800</u>
	24,400

### 18.9 LET US SUM UP

Non-trading organisations are those organisations which are not engaged in trading activities. They deal in monetary transactions which are charitable or non-trading in nature hence purchasing and selling of goods are not undertaken by these organisations. Aim of such organisations is not to earn profit but to render services. These organisations render social services such as promotion of literature, art, science, education, sports, etc. The final accounts of these organisations consist of: (i) Receipts and Payments account or Income and Expenditure account and

(ii) Balance Sheet.

### 18.10 KEYWORDS

Receipts and Payments Account: Summary of cash transactions for the year.

Income and Expenditure Account: Contains income and expenditure items of the organisation for the year

Deficit: Excess of expenditure over income; Surplus;

Legacies: Amount received as per the will of the deceased person

Entrance Fees: Amount paid by a member at the time of joining an organisation

### 18.11 TERMINAL QUESTIONS

Q. I From the following receipts and payments account of Maharashtra Club, prepare the income and expenditure A/c as at 31 st December, 1997.

Dr.			Cr.
Receipts	Rs.	Payments	Rs.
To Cash in Hand	4,000	By Salary	2,000
To Cash at Bank	10,000	By Repairs	500
To Donations	5,000	By Furniture Purchased	6,000
To Subscriptions	12,000	By Miscellaneous Expenses	500
To Entrance Fees	1,000	By Purchase of Investments	6,000



To Interest on Investments	100	By Insurance Premium	200
To Interest on Bank Account	, 400	By Billiard Table	8,000
To Sale of Old Newspapers	150	By Paper, Ink etc.,	150
		By Cash in Hand	2,100
		By Cash at Bank	7,200
	32,650		32,650

### Additional Information

- Subscriptions In arrears for 1997 Rs. 900 and subscriptions received in advance for 1998 Rs. 200.
- Insurance premium prepaid Rs. 40.
- Miscellaneous expenses outstanding Rs. 90.
- 50 percent of the donations to be capitalised.
- Entrance fees to be treated as revenue income.

(Answer: Surplus Rs. 13,450)

Q.2 From the following particulars, calculate the amounts to be shown in the income and expenditure account during the year 1996.

	Rs.
(a) Amount paid for stationery as per Receipts and payment Account	1,080
Stock of stationery on 01-01-1996	300
Stock of stationery on 31-12-1996	50
Creditors for stationery on 01-01-1996	200
Creditors for stationery on 31-12-1996	130
Advance payment for stationery as on 01-01-1996	20
(b) Subscriptions received during the year	28,680
Subscriptions outstanding as on 01-01-1996	2,400
Subscriptions outstanding as on 31-12-1996	3,000
Subscriptions received in advance as on 01-01-1996	1,800
Subscriptions received in advance as on 31-12-1996	1,080

(Answer: Stationery Rs. 1,250; subscriptions Rs. 30,000)

Q.3 Give one word, term or phrase:

- Organisations not engaged in Trading Activities.
- Amount given to a non-trading organisation as per the will of the deceased person.
- Amount received by way of a gift.
- Amount paid to the person who is not employee of the organisation.
- Lump sum amount paid instead of paying periodically.

Answers: (1) Non-Trading organisations, (2) Legacy, (3) Donation, (4) Honararium, (5) Life Membership

Q.4 Choose the correct answer:

- The Income and Expenditure account is prepared on the basis of-
  - mercantile system of accounting
  - cash system of accounting
  - hybrid system of accounting.

- (b) Amount received towards Endowment Fund is -  
 (i) revenue receipt  
 (ii) capital receipt (iii) deferred revenue receipt
- (c) The debit balance in the Income and Expenditure Account indicates -  
 (i) the excess of income over expenditure  
 (ii) the excess of expenditure over income (iii) the excess of cash receipts over cash payments.
- (d) which of the following item should not be entered in the receipts and payments account of a club-  
 (i) subscriptions received (ii) sale of machinery (iii) loss on sale of old furniture
- (e) Subscriptions receivable at the beginning and end of the year are Rs. 2000 and Rs. 3000 respectively. Income and Expenditure accounts show subscriptions at Rs. 20000. The amount shown in receipt and payment account under subscriptions account  
 (i) Rs. 19,000 (ii) Rs. 23,000 (iii) Rs. 22,000

Answers: (a) i, (b) ii, (c) ii, (d) iii, (e) Rs. 19,000

Q.5 Match the following:

**A**

- (1) Receipts and Payments Account  
 (2) Income and Expenditure Account  
 (3) Deficit  
 (4) Non-trading organisation

**B**

- (A) No intention of earning profit  
 (B) Excess of expenditure over income  
 (C) Income and expenditure for the year  
 (D) Actual receipts and payments in cash

Answers: (1) (D), (2) (C), (3) (B), (4) (A)

A graphic consisting of a thick black border forming a square. Inside the square, the word "UNIT" is written in a smaller, bold, sans-serif font above the number "19", which is written in a much larger, bold, sans-serif font.

# DEPRECIATION ACCOUNTING

## STRUCTURE

- 19.0 Objectives
- 19.1 Meaning of Depreciation
- 19.2 Causes of Depreciation
- 19.3 Need for Depreciation
- 19.4 Factors of Depreciation
- 19.5 Accounting Entries
- 19.6 Methods of Depreciation
- 19.7 Let Us Sum Up
- 19.8 Keywords
- 19.9 Terminal Questions

## 19.0 OBJECTIVES

After studying this chapter, you will be able to understand:

- The meaning of depreciation and its need
- The methods of depreciation
- How to prepare depreciation account
- Accounting entries passed for recording depreciation

## 19.1 MEANING OF DEPRECIATION

Depreciation is a charge to profit and loss account for the fall in value of an asset during each year of its use.

The Institute of Chartered Accountants of England and Wales defines depreciation as follows:

'Depreciation represents that part of the cost of the fixed asset to its owner which is not recoverable when the asset is finally put out of use by him. Provision against this loss of capital is an integral cost of conducting the business during the effective commercial life of the asset and is not dependent upon the amount of profit earned.'

The above definition brings out the following facts about depreciation:

- (i) Depreciation is a part of the operating cost.
- (ii) It is a reduction in the value of the asset, (iii) The decrease in the value of an asset is due to its use, caused by wear and tear, or by other reasons.
- (v) The decrease in the value of an asset is gradual and continuous.

## 19.2 CAUSES OF DEPRECIATION

The main causes of depreciation are:

- (i) Wear and tear due to actual use.
- (ii) *Efflux of time*: mere passage of time will cause a fall in the value of an asset, even if it is not used. For example, a car brought in the year 1948 will not have any value or only negligible value in the year 1998, even though the car is not used.
- (iiv) *Obsolescence*: a new invention or a permanent change in demand may render an asset useless.
- (iv) Accidents
- (v) Fall in market price

Only in few cases do assets appreciate. Land and old paintings may go up in value. But usually the value of asset diminishes continuously. This is true even if the asset is not used. Mere passage of time is sufficient to reduce the value of an asset.

## 19.3 NEED FOR DEPRECIATION

Need for depreciation arises because of the following reasons: (i)

### **To know the correct profits**

Ascertainment of correct profit or loss is not possible without providing for depreciation as the loss in the value of assets also goes towards earning of the income.

## (ii) To show correct financial position

Balance sheet shows true and fair financial position of the concern. It means that the fixed assets must be shown at their proper value to the business as a going concern. True value would be the cost less the amount which is lost by way of wear and tear, i.e. depreciation on account of use of the asset in the period.

## (iii) To make provision for replacement of asset

The gradual reduction or decline in the value of asset leads to at a point of time when the asset will have no value. It needs to be replaced by another asset of a similar type. At such time, it becomes necessary to purchase another asset and to pay for the same.

19.4 FACTORS OF DEPRECIATION

For calculating depreciation, the basic factors are:

- (i) The cost of the asset;
- (ii) The estimated residual or scrap value at the end of its life; (iii) The estimated number of years of its commercial life.

One should not consider the actual number of years that it can physically run but the number of years it is likely to be used by the firm. A machine may be capable of running for ten years but due to new inventions, it is expected to be used only for eight years; then the estimated life of the asset is eight years and not ten years.

19.5 ACCOUNTING ENTRIES

The accounting entries to be made on account of providing depreciation are:

Depreciation Account	Dr.	3,000	
To Asset Account			3,000

The depreciation account goes to the debit of Profit and Loss Account and the asset appears at its reduced value in the Balance Sheet. An alternative entry is:

Depreciation Account	Dr.	3,000	
To Provision for Depreciation Account			3,000

In this case, depreciation account goes to the debit of profit and loss account. The value of asset continues to be the same for every year in the balance sheet and the provision for depreciation is deducted from the value of asset and the net value of asset is shown in the balance sheet. In other words, the provision for depreciation may appear in the balance sheet.

19.6 METHODS OF DEPRECIATION

The following are the various methods for providing depreciation: (i) Fixed percentage on original cost or fixed instalment or straight line method, (ii) Fixed percentage on diminishing balance or reducing instalment method or written down value method.

- (iii) Sinking fund method or depreciation fund method.
- (iv) Insurance policy method,
- (v) Annuity method.

(vi) Sum of digits method, (vii) Revaluation method, (viii) Depletion method, (ix) Machine hour rate method. However, we will study only the first three methods which are prescribed in our syllabus.

### 19.6.1 Straight Line Method

In this method, a suitable fixed percentage of the original cost of the asset is written-off every year and the amount to be written-off every year is arrived at as under:

$$\text{Depreciation} = \frac{\text{Cost price of asset} - \text{Scrap value}}{\text{Estimated life of the asset (i.e. number of years)}}$$

While calculating depreciation for a particular year, the period for which the asset is used in the year concerned, should be taken into account. For example, if the asset is purchased on 1st January, and the books are closed on 31st March, only three months' depreciation should be provided for in the first year and nine months' depreciation in the last year of the estimated life span of the asset.

#### Illustration No. 1

Patel Transport acquired a truck on 1st October 1995 at a cost of Rs. 4,00,000. The firm writes-off depreciation @ 10% of the original cost every year. The books are closed on 31st March every year. Show the truck account and depreciation account for three years.

#### Solution

In the books of M/s. Patel Transport  
Truck Account

Dr.			Cr.		
Date	Particulars	Amt. (Rs.)	Date	Particulars	Amt. (Rs.)
1-10-95	To Bank a/c	4,00,000	31-3-96	By Depreciation a/c (@ 10 per cent for 6 months)	20,000
				By Balance c/d	3,80,000
		4,00,000			4,00,000
1-4-96	To Balance b/d	3,80,000	31-3-97	By Depreciation	40,000
			31-3-97	By Balance c/d	3,40,000
		3,80,000			3,80,000
1-4-97	To Balance bid	3,40,000	31-3-98	By Depreciation	40,000
			31-3-98	By Balance c/d	3,00,000
		3,40,000			3,40,000

**Depreciation Account**

Dr.			Cr.		
Date	Particulars	Amt. (Rs.)	Date	Particulars	Amt. (Rs.)
31-3-96	To Truck a/c	20,000	31-3-96	By Profit and Loss a/c	20,000
31-3-97	To Truck a/c	40,000	31-3-97	By Profit and Loss a/c	40,000
31-3-98	To Truck a/c	40,000	31-3-98	By Profit and Loss a/c	40,000

**19.6.2 Written Down Value Method**

In this method, the rate of percentage of depreciation is fixed, but it applies to the value at which the asset stands in the books at the beginning of the year. The depreciation on Rs. 1,00,000/-, (the cost of the asset), @ 10% will be Rs. 10,000/- in the first year. After this amount is written-off, the value of the asset in books is reduced to Rs. 90,000/-. Depreciation in the second year will be Rs. 9,000/- i.e. 10% of Rs. 90,000/-. In the third year it will be Rs. 8,100/-.

Illustration 1 is worked out here under this method:

**Truck Account**

Dr.			Cr.		
Date	Particulars	Amt. (Rs.)	Date	Particulars	Amt. (Rs.)
1-10-95	To Bank a/c	4,00,000	31-3-96	By Depreciation a/c (@ 10% for 6 months)	20,000
				By Balance c/d	3,80,000
		4,00,000			4,00,000
1-4-96	To Balance b/d	3,80,000	31-3-97	By Depreciation	38,000
			31-3-97	By Balance c/d	3,42,000
		3,80,000			3,80,000
1-4-97	To Balance b/d	3,42,000	31-3-98	By Depreciation	34,200
			31-3-98	By Balance c/d	3,07,800
		3,42,000			3,42,000

**Depreciation Account**

Dr.			Cr.		
Date	Particulars	Amt. (Rs.)	Date	Particulars	Amt. (Rs.)
31-3-96	To Truck a/c	20,000	31-3-96	By Profit and Loss a/c	20,000
31-3-97	To Truck a/c	38,000	31-3-97	By Profit and Loss a/c	38,000
31-3-98	To Truck Ac	34,200	31-3-98	By Profit and Loss a/c	34,200

### 19.6.3 Advantages and Disadvantages of Straight Line Method

#### Advantages

- (i) It is the simplest method of calculating depreciation.
- (ii) The value of asset will be reduced to zero or the scrap value, which will be realised on sale of scrap.
- (iii) It is easy to understand, as there is no variation in the amount of depreciation charged from year to year.

#### Disadvantages

- (i) Interest on capital invested in the asset is not considered.
- (ii) The depreciation is equal for all the years. However, the expenditure on repairs and renewal goes on increasing as the asset gets older, resulting in higher amount charged to profit and loss account on account of depreciation and repairs in the subsequent years.

### 19.6.4 Advantages and Disadvantages of written down value method

#### Advantages

- (i) The asset not being completely written-off will enable one to keep track of it. (ii) This method is recognised under the Income-Tax Act and the Companies Act.
- (iii) The total expenditure on repairs and renewal and depreciation on asset are equal in all years, as in the initial years the depreciation will be more and repairs are less and in later years the expenditure on repairs will be high and depreciation less.

#### Disadvantages

- (i) The asset can never be reduced to zero value in the books.
- (ii) Interest on capital investment to acquire the asset is not considered.
- (iii) Difficult to understand, as there is variation in the depreciation charged from year to year.

### 19.6.5 Sinking Fund Method

In the earlier two methods, depreciation is deducted from the asset and no provision is made for the replacement of the asset. When one writes-off depreciation, he should also make sure that sufficient funds are available in the business to replace the asset. Under the earlier two methods, ready cash may not be available at the time of replacement of the asset. Therefore, the amount written off as depreciation should be kept aside and invested in readily saleable securities. The securities so acquired and the old asset are sold at the time of replacement and a new asset is purchased with the sale proceeds. Since the investment will earn some interest, it is not necessary to provide full amount of depreciation. For example, Rs. 10,000/- accumulated annually for ten years will be much more than Rs. 1,00,000/- because of the interest.

Under this method 'Depreciation Fund' or 'Sinking Fund' is created and the amount is invested in readily saleable securities. At the end of the life of the asset, the securities are sold and the sale proceeds of the old assets are used for replacement of the asset.

The following steps are involved in sinking fund method:



- (i) The depreciation to be charged through a sinking fund or depreciation fund.
- (ii) The sinking fund is accumulated by charging depreciation at a flat rate to the profit and loss account.
- (iii) The interest earned on investment should be credited to sinking fund account every year.
- (iv) At the time of replacement of the asset, the securities are sold and the amount realised is used to acquire the new asset.

#### 19.6.6 Accounting Entries under the Sinking Fund Method

The following accounting entries are recorded in the books: **(A)**

##### **At the end of the first year**

- (i) Depreciation a/c Dr. (For Providing Depreciation)  
    To Sinking Fund a/c
- (ii) Sinking Fund Investment a/c Dr. (For Investment of Fund in Securities)  
    To Bank a/c

##### **At the end of second year and subsequent years till the asset is replaced**

- (i) Bank a/c Dr. (Amount of interest earned)  
    To Interest on Sinking Fund Investment Dr. (For Providing depreciation)
- (B)** (ii) Depreciation a/c Dr. (Transfer of Interest to Sinking Fund)  
    To Sinking Fund a/c (iii)  
Interest on Sinking Fund  
Investment a/c  
    To Sinking Fund a/c (iv) Dr. (Investment of amount set aside as  
depreciation for the year along with the  
interest earned on investment for the year)  
Sinking Fund Investment a/c  
    To Bank a/c

##### **In the year of replacement of asset**

- (i) Bank a/c Dr. (For Sale of Investment)  
    To Sinking Fund Investment a/c Dr. (When there is a Profit on Sale of  
Investment) Dr. (When
- (C)** (ii) Sinking Fund Investment a/c there is a Loss on  
    To Sinking Fund a/c (iii) Sale of Investment) Dr. (Charge of  
depreciation for that year)  
Sinking Fund a/c  
    To Sinking Fund Investment a/c
- (iv) Depreciation a/c Dr. (Sale of Old Asset)  
    To Sinking Fund a/c (v)
- Sinking Fund a/c Dr. (Transfer of Sinking Fund to Asset)  
    To Asset a/c
- (vi) Sinking Fund a/c  
    To Asset a/c

(vii) New Asset a/c  
To Bank a/c

Dr. (Purchase of New Asset)

### Illustration No. 2

On 1st April, 1994 a scooter was purchased for Rs. 20,000. It has to be replaced at the end of four years. It is expected that investment will yield a net interest of 5% per annum. A sinking fund is created to collect the necessary amount.

On 31st March, 1998 the firm had a balance of Rs. 15,000. The sinking fund investment realised Rs. 15,700. The new scooter costs Rs. 26,500. Show the necessary ledger accounts.

### Solution

The sinking fund table shows that to get Re. 1 at the end of four years @ 10% p.a., an annual investment of Re. 0.2155 is necessary.

Therefore, for Rs. 20,000/- an annual investment of Rs. 4,309.41 (i.e., 0.2155\* Rs. 20,000) is required.

### Scooter Account

Dr.			Cr.		
Date	Particulars	Amt. (Rs.)	Date	Particulars	Amt. (Rs.)
1-4-94	To Bank a/c	20,000	31-3-95	By Balance c/d	20,000
1-4-95	To Balance b/d	20,000	31-3-96	By Balance c/d	20,000
1-4-96	To Balance b/d	20,000	31-3-97	By Balance c/d	20,000
1-4-97	To Balance b/d To	20,000	31-3-98	By Sinking Fund a/c -	20,735.83
31-3-98	Profit and Loss a/c	735.83		transfer	
		20,735.83			20,735.83

### New Scooter Account

Dr.			Cr.		
Date	Particulars	Amt. (Rs.)	Date	Particulars	Amt. (Rs.)
1-4-98	To Bank a/c	26,500	31-3-99	By Balance c/d	26,500

### Sinking Fund Account

Dr.			Cr.		
Date	Particulars	Amt. (Rs.)	Date	Particulars	Amt. (Rs.)
31-3-95	To Balance c/d	4,309.41	31-3-95	By Depreciation a/c	4,309.41
31-3-96	To Balance c/d	9,049.76	1-4-95	By Balance b/d	4,309.41
			31-3-96	By Interest on Sinking Fund	430.94
			31-3-96	Investment a/c	4,309.41
				By Depreciation a/c	
		9,049.76			9,049.76
			1-4-96	By Balance b/d By Interest on	9,049.76
			31-3-97	Sinking Fund	

Date	Particulars	Amt. (Rs.)	Date	Particulars	Amt. (Rs.)
31-3-97	To Balance c/d	14,265.15	31-3-97	Investment a/c	904.98
		14,265.15		By Depreciation a/c	4,309.41
31-3-98	To Scooter a/c	20,735.83	1-4-97	By Balance b/d	14,265.15
			31-3-98	By Interest on Sinking Fund Investment a/c	1,426.42
			31-3-98	By Sinking Fund Investment a/c	734.85
			31-3-98	By Depreciation a/c	4,309.41
		20,735.83			20,735.83

#### Sinking Fund Investment Account

Dr.			Cr.		
Date	Particulars	Amt. (Rs.)	Date	Particulars	Amt. (Rs.)
31-3-95	To Bank a/c	4,309.41	31-3-95	By Balance c/d	4,309.41
1-4-95	To Balance b/d	4,309.41	31-3-96	By Balance c/d	9,049.76
31-3-96	To Bank a/c	4,740.35			9,049.76
		9,049.76	31-3-97	By Balance c/d	14,264.15
1-4-96	To Balance b/d	9,049.76			14,264.15
31-3-97	To Bank a/c	5,214.39	31-3-98	By Bank	15,000.00
		14,264.15			15,000.00
1-4-97	To Balance b/d To	14,264.15			
31-3-98	Sinking Fund	734.85			
		15,000.00			15,000.00

### **19.7 LET US SUM UP**

Depreciation is the reduction in useable value of fixed assets due to wear and tear, efflux of time and obsolescence. Unless proper charge for depreciation is made in accounts, correct profit cannot be ascertained.

### **19.8 KEYWORDS**

**Depreciation:** It is fall in value of an asset.

**Straight line Method:** A fixed percentage of the original cost of the asset is charged as depreciation each and every year during the useful life of the asset.

**Written Down Value Method:** The rate of depreciation is fixed. However, depreciation is calculated on the diminishing value of the asset.

**Sinking Fund Method:** Under this method 'Sinking Fund' is created and the fund amount is invested in securities. At the time of replacement of asset, the securities are sold and the proceeds are used for replacement of the asset.

**19.9 TERMINAL QUESTIONS**

Fill in the blanks:

1. Depreciation is the part of the cost.
2. Depreciation is the reduction in the value of \_\_\_\_\_.
3. Depreciation is recorded in \_\_\_\_\_ side of profit and loss account.
4. \_\_\_\_\_ is a fall in the value of an asset.
5. Depreciation is calculated on the diminishing value method.
6. of the asset in \_\_\_\_\_
7. A fixed percentage of depreciation is charged \_\_\_\_\_ method.

A.

every year under \_\_\_\_\_  
Under \_\_\_\_\_

B.

\_\_\_\_\_ method of depreciation, the securities are sold and the proceeds are used for replacement of the asset.

Answer: 1. Operating 2. Asset 3. Debit 4. Depreciation 5. Written Down Value 6. Straight Line 7. Sinking Fund State whether the following statements

are True or False and give reasons:

1. Depreciation is a part of the operating cost.
2. Depreciation is to know the correct profit.
3. Depreciation is provided to arrive at the profit earned by the business.
4. Fall in market price is the main cause of depreciation.
5. The value of asset will be reduced to zero under the written down value method of depreciation.
6. The asset being completely written off under the written down value method.
7. The expenditure on repairs and renewal and depreciation on assets are equal in every year under the straight line method of depreciation.

Q.I

Answer: True: 1, 2, 3 ; False: 4, 5, 6, 7

0.2

M/s. ABC Travel Agency purchased a second hand car for Rs. 80,000 on 1st April, 1993. They spent Rs. 35,000 on its overhauling. Depreciation is written-off @ ten per cent p.a. on the original cost. On 30th June, 1996 the car was found to be unsuitable and sold for Rs. 65,000. Prepare the car account from 1993 to 1995. assuming the accounts are closed on 31st March every year.


Answer: (Loss to be written-off Rs. 12,625)

A firm purchased a machinery for Rs. 5,00,000 on 1st January, 1990 and wrote-off depreciation @ fifteen per cent on the diminishing value method. On 31st December, 1992 one-fourth of machinery was found unsuitable and disposed off for Rs. 56,000. On 1st January, 1993 a new machine was purchased at a cost of Rs. 1,50,000. Write up the machinery account from 1990 to 1993. The accounts are closed on 31st December. Answer: (Loss to be written-off Rs. 20,765.63; Balance in Machinery Account Rs. 3,23,252.34)

  
**UNIT  
20**

# ACCOUNTING FROM INCOMPLETE RECORDS (SINGLE ENTRY SYSTEM)

## STRUCTURE

- 20.0 Objective
  - 20.1 Introduction
  - 20.2 Salient Features
  - 20.3 Limitations
  - 20.4 Computation of Profits under Single Entry System
  - 20.5 Preparation of Statement of Affairs under Single Entry System
  - 20.6 Let Us Sum Up
  - 20.7 Keywords
  - 20.8 Terminal Questions
- 

## **20.0 OBJECTIVE**

To understand, the system of single entry bookkeeping and learn to prepare a profit and loss account and statement of affairs from the incomplete records.

## **20.1 INTRODUCTION**

'Single Entry System' may be defined as any system which is not exactly the double entry system. In other words, Single entry system may consist of:

- (i) Double entry in respect of certain transactions such as cash received from debtors, cash paid to creditors, etc.
- (ii) Single entry in respect of certain transactions such as cash purchases, cash sales, expenses made, fixed assets purchased, etc.
- (iii) No entry in respect of certain such as depreciation, bad debts, etc.

Thus, a business is said to be using single entry system if it is not following completely the principles of double entry system of bookkeeping. Kohler defines the single entry system as, 'A system of book-keeping in which, as a rule, only records of cash and of personal accounts are maintained, it is always incomplete double entry, varying with the circumstances.'

## **20.2 SALIENT FEATURES**

The salient features of the single entry system can be put as follows: (i)

### **Maintenance of personal accounts**

Usually under this system personal accounts are maintained while real and nominal accounts are avoided. On account of this reason some accountants define it as a system where only personal accounts are maintained.

### **(ii) Maintenance of cash book**

A cash book is maintained, which usually mixes up both the personal transactions and the business transactions.

### **(iii) Dependence on original vouchers**

In order to collect the necessary information one has to depend on original vouchers. For example, the figure of credit purchases may not be readily available; it may have to be found out on the basis of the original invoices received from the suppliers. Similarly, the total figure of sales at the end of a particular period may have to be found out on the basis of the invoices which have been issued by the business from time to time.

### **(iv) No uniformity**

The system may differ from firm to firm as per their individual requirements and conveniences,

### **(v) Suitability**

The system is suitable in case of small proprietary or partnership concerns. Limited companies cannot adopt this system on account of legal requirements.

## **20.3 LIMITATIONS**

The system suffers from the following limitations:

**(i) Arithmetical accuracy cannot be checked**

In case of double entry system of bookkeeping. Trial balance is prepared to check the arithmetical accuracy of the books of accounts. This is possible because every transaction is recorded at two places. In case of the single entry system, this is not done. Hence, trial balance cannot be prepared and the arithmetical accuracy of the books of accounts cannot be checked. This increases the possibility of more frauds and misappropriations, as compared to the double entry system of bookkeeping.

**(ii) True profits cannot be known**

In the absence of complete information for sales, purchases and other expenses, it is not possible to draw the profit and loss account. Hence, the true profit or loss, made or suffered by the business, cannot be known.

**(Hi) Financial position of the business cannot be judged**

In the absence of a true figure of profit and correct information about the assets and liabilities of the business, the balance sheet cannot be drawn up to give a correct picture of the financial position of the business on a particular date.

**(iv) Makes planning and decision-making difficult**

The system does not provide accurate figures about the performance of the business and its financial position. For example, separate figures of gross profit, net profit and sales are not available. Thus, the ratio of gross profit to sales or net profit to sales cannot be found out. Similarly in the absence of any information about the cost of goods sold, the proportion of different elements of cost of sales cannot be found out. In the absence of such information, it becomes difficult for the proprietor of the business to know the reasons of his improving or deteriorating profitability and financial position. Thus, he is not in a position to compare, plan and take sound decision for the prosperity of the business. Moreover, it may be difficult for him to find the real value of his business in the event of his deciding to sell the business.

**20.4 COMPUTATION OF PROFITS UNDER SINGLE ENTRY SYSTEM**

The profit or loss in case of business maintaining accounts according to single entry system can be computed by two methods: (i) Net Worth method, and

(ii) Conversion method.

**(1) Net Worth Method**

According to this method, the profit or loss made by the business is computed by comparing the net worth (or capital) of the business on two different dates. For example, if the capital of the business on 1st January 1992 was Rs. 80,000 and it is Rs. 90,000 on 31st December, 1992, it can be said that the business has made profit of Rs. 10,000 during the period.

Following adjustments are required for determination of the profit in case of this method:

- (i) *Adjustment for drawings* : The proprietor may withdraw money from the business for his personal use. In the absence of any such withdrawal, the capital at the end of accounting period would have been more by the amount of money withdrawn by him. Thus, the amount of drawings should be added back to the capital at the end of the accounting period to find out his true profit for that period.





6,00,000

= 1,50,000

47,500

Cost of goods sold		90,000
Total Opening Stock at cost as on 1-1-01		<u>1,37,500</u>
		= Rs.25,000
<b>(2) Closing Stock as on 31-12-2001:</b>		
Total sales for last month = 1/6th of Rs. 1,50,000 (i.e. December, 2001)		
	R	8,333
(a) Cash Sales: 1/3rd of Rs. 25000		
less Profit Margin @ 5per cent on sales	<u>R</u>	417
		Rs. 7,916
(b) Credit Sales: 2/3rd of Rs. 25,000	R	16,667
less Profit Margin @ 10per cent on sales	<u>R</u>	1,667
Cost of goods sold		<u>Rs. 15,000</u>
Total closing stock at cost		<u>Rs.22,916</u>
<b>(3) Total Purchases during 2001:</b>		
Total sales during 2001	6	,00,000
Less: Profit on goods sold:		
5per cent on Rs. 2,00,000 = Rs. 10,000		
10per cent on Rs. 4,00,000 = Rs. 40,000	50,000	5,50,000
Add: Closing Stock		
		<u>22,916</u>
less: Opening Stock		5,72,916
Total Purchases during 2001		<u>1,37,500</u>
		<u>4,35,416</u>
<b>(4) Closing Debtors and Creditors as on 31-12-2001:</b>		
(a) Closing Debtors:		
Total credit sales for the two months = 1/3rd of Rs. 1,00,000 = Rs.33,333 (i.e. November, 2001 and December, 2001)		
(b) Closing Creditors:		
Total purchases for the last three months = 1/4th of Rs. 4,35,416 = 1,08,854 (i.e. October 2001, November 2001, and December 2001)		

## (2) Conversion Method

The Net Worth method, explained in above pages, does not provide a clear picture of the operational results of a business. It does not give information about sales, purchases, gross profit, operating expenses, etc. of the business. As a result, neither a meaningful analysis of the financial statements can be done nor can effective steps be taken to improve the financial position of the business. It will, therefore, be better to collect all such information from the books of accounts, and other sources, which is necessary for preparing a 'Trial Balance' of the business. This is done by preparing a total debtors account, a total creditors account, a bills receivable account and a bills payable account and receipts and payments accounts etc. on the basis of double entry. Accounts relating to different expenses, incomes, fixed assets and fixed liabilities, and outstanding, are also prepared with the help of receipts and payments accounts and additional information available. Thus, the closing balances of different accounts are found out and a trial balance prepared. Final accounts can then be prepared in the usual way. Such a method of collecting information as per the requirements of the double entry system of bookkeeping is termed as the 'Conversion Method'.

In practice, usually, an abridged conversion method is followed. Under this method, nominal accounts are not opened in the ledger, nor is a trial balance prepared. Only such information is collected which is required for preparing the trading and profit and loss account, and balance sheet of the business.

## 20.5 PREPARATION OF STATEMENT OF AFFAIRS UNDER SINGLE ENTRY SYSTEM

Statement of affairs is a statement giving the assets and liabilities of the business on a particular date. It is virtually the Balance Sheet of the business. However, the term Balance Sheet is used for the statement of assets and liabilities in the double entry system of bookkeeping where balances are taken from the ledger. In case of single entry system, all the assets and liabilities, which appear in the statement of affairs, are not necessarily taken from the ledger accounts, on account of incomplete recording of the transactions. Moreover, the term Balance Sheet is used for statement which shows the correct financial position of the business. In case of the single entry system, it may not be possible to prepare a statement which shows the correct financial position of the business, since the information from different sources, which may include not only the books of accounts, but other sources, which may not be hundred per cent reliable. For example, estimate about drawings may have to be made on the basis of the estimated living expenses of the proprietor of the business and also other estimated payments which might have been paid on his behalf.

### Steps for preparing Statement of Affairs

The following steps may be taken for preparing the statement of affairs:

- (i) In most cases in single entry system, a cash book is maintained. In case, this has been done, the cash and the bank balances can be taken from the cash book. In the absence of a proper cash book, cash balance may have to be found out by preparing a receipts and payments account on the basis of information, collected from the proprietor of the business, and the statement of accounts, which might have been received or sent by the proprietor from/to his debtors and creditors. Information regarding other business expenses can be collected from the salaries register of his employees, petty cash book, if any, maintained by him, etc. and the actual cash balance available with the business. The balance at the bank can be verified from the bank pass book or statement of account from the bank.
- (ii) A list of sundry debtors and creditors should be prepared. This may not be difficult because in most cases, a record of personal accounts is maintained under the single entry system.
- (iii) The value of the fixed assets like building, plant, furniture, etc. should be ascertained from vouchers or other documents available with the business. A reasonable charge for depreciation should also be made and the assets should be shown in the statement of affairs after charging depreciation.
- (iv) A physical verification of the stock should be taken and the value of the stock should be ascertained on the basis of the different invoices received from suppliers from time to time, in respect of the goods purchased.
- (v) The amount of outstanding expenses and the accrued income should also be determined. Last year's figures about these items may be of considerable help in this respect.
- (vi) The excess of assets over liabilities should be found out and this will denote the net worth or the capital of the business on the date on which the Statement of Affairs has been prepared.

### Illustration No. 2

From the following information, prepare the Profit and Loss account for the year ended 31st December 1989 and the Balance Sheet as on that date:

Assets and Liabilities	1-1-89 Rs.	31-12-89 Rs.
Sundry Assets	18,000	20,000
Stock	14,000	19,000
Cash in Hand	8,200	4,800
Cash at Bank	2,200	8,000
Debtors	9	26,000
Creditors	12,000	9,800
Miscellaneous Expenses Outstanding	1,000	600

Details relating to the year's transactions are:

Receipts in the year and discount credited to debtor's account	2,45,000
Returns from Debtors	6,000
Bad Debts	1,000
Sales - Cash and Credit	3,00,000
Returns to Creditors	3,000
Payment to Creditors by Cheque	2,36,200
Receipt from Debtors deposited into Bank	2,43,000
Cash Purchases	10,000
Salary and Wages paid out of Bank	18,000
Miscellaneous expenses paid by Cash	5,000
Drawings by Cash	9,400
Purchase of Sundry Assets by Cheque	2,000
Cash withdrawn from Bank	21,000
Cash sales deposited in Bank	?
Discount allowed by Creditors	4,000

### Solution

#### Profit and Loss Account for the year ended 31st December, 1989

Particulars	Amount	Particulars	Amount
To Opening stock	14,000	By Sales	3,00,000
To purchases	2,51,000	Less: Returns	6,000
Less: Returns	3,000	By Closing Stock	19,000
	2,48,000	By Discount	4,000
To Salaries and Wages	18,000		
To Misc. Expenses	4,600		
To Discount	2,000		
To Bad Debts	1,000		
To Net Profit Transferred to Capital A/c	29,400		
	3,17,000		3,17,000

**Balance Sheet**

as on 31st December, 1989

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Liabilities	Amount (Rs.)	Assets	Amount (Rs.)
Capital Opening Balance	67,400	Sundry Assets	20,000
47,400 Add: Profit	9,800	Stock-In-Trade	19,000
29,400 76,800 Less: Drawings	600	Sundry Debtors	26,000
9,400 Sundry Creditors Misc. Expenses outstanding		Cash at Bank '	8,000
		Cash in Hand	4,800
	77,800		77,800

**Working Notes:**

(i)

**Balance Sheet as on 31st December, 1988**

Liabilities	Amount (Rs.)	Assets	Amount (Rs.)
Sundry Creditors	12,000	Sundry Assets	18,000
Misc. Expenses	1,000	Sundry Debtors (see note ii)	18,000
Capital (Balancing Figure)	47,400	Stock-in-Trade	14,000
		Cash at Bank	2,200
		Cash in Hand	8,200
	60,400		60,400

(ii)

**Sundry Debtors Account**

Particulars	Amount (Rs.)	Particulars	Amount (Rs.)
To Balance b/d (balancing figure)	18,000	By Bank	2,43,000
To Sales	2,60,000	By Discount	2,000
		By Returns	6,000
		By Bad Debts	1,000
		By Balance c/d	26,000
	2,78,000		2,78,000

(iii)

**Sundry Creditors Account**

Particulars	Amount (Rs.)	Particulars	Amount (Rs.)
To Bank	2,36,200	By Balance bid	12,000
To Discount	4,000	By Purchases (balancing figure)	2,41,000
To Returns	3,000		
To Balance c/d	9,800		
	2,53,000		2,53,000

## (iv) Cash Book

Particulars	Cash (Rs.)	Bank (Rs.)	Particulars	Cash (Rs.)	Bank (Rs.)
1989 January, 1					
To Balance c/d	8,200	2,200	By Sundry Creditors		2,36,200
To Sundry Debtors		2,43,000	By Purchases	10,000	
To Cash Sales			By Salaries and Wages		18,000
(balancing figure)		40,000	By Misc. Expenses	5,000	
To Bank (contra)	21,000		By Drawings	9,400	
			By Sundry Assets		2,000
			By Cash (contra)		21,000
			By Balance c/d	4,800	8,000
	29,200	2,85,200		29,200	2,85,200

## (v)

	Purchases	Sales
	Rs.	Rs.
Cash	10,000	40,000
Credit	2,41,000	2,60,000
	2,51,000	3,00,000

## (vi)

	Rs.
Misc. Expenses paid	5,000
Add: Outstanding on 31st December, 1989	600
	5,600
Less: Outstanding on 31st December, 1988	1,000
	4,600

**20.6 LET US SUM UP**

When the system of 'Double Entry' is not followed, the preparation of accounts becomes difficult, as the full information is not available. Normally, in such situations, the books of account contain information only relating to cash and personal accounts and, therefore, we have to collect information from other sources like original vouchers, invoices etc. We may also have to look at the practices adopted by the business unit to estimate various figures. The profit can be computed by using "Net Worth method or Conversion method. A statement, similar to the balance sheet, can also be prepared. This is called 'Statement of Affairs'.

**20.7 KEYWORDS**

Single Entry system, Net Worth method, Conversion method, adjustments, Statement of Affairs.

**20.8 TERMINAL QUESTIONS****Question 1**

From the information and ratios given below draw the profit and loss account and balance sheet of A. Sridhar as on 31 st December 89:

Balance Sheet  
As on 31-12-1989

Liabilities	Rs.	Assets	Rs.
Capital	2,00,000	Machinery	70,000
Creditors:		Furniture	45,000
Goods supplied	35,000	Stock	35,000
Expenses	5,000	Debtors	1,00,000
		Cash	5,000
		Bank	15,000
	2,40,000		2,40,000

Other particulars:

Debtors' velocity 2 months

Creditors' velocity 1 month

Stock level uniform G.P. 3 <math>\frac{1}{2}</math> %

Sales are 20% in cash and 80% on credit.

Sales for the current year are 20% more than the previous year. Receipts from debtors in cash Rs. 50,000 and balance in cheques.

	Rs.
Payment by cheque:	
Creditors	?
Machinery	40,000
Furniture	5,000
Investments	40,000
Drawings	20,000
Business expenditure	60,000
Payments in cash:	
Business expenditure	90,000
Cash deposited into bank	1,00,000
Provide Depreciation @ 10%	

**Question 2**

Mr. PQ has a small trading business for which the following procedures are followed:

- (1) All collections are deposited with the bank each day.
- (2) All payments except petty expenses are made by cheque.
- (3) To meet petty expenses a cheque of Rs. 500 is withdrawn from the bank on the 1st day of each month.
- (4) Mr. PQ makes personal drawings from the bank.

The following figures are available from Mr. PQ's records:

	Rs.
Cash in hand as on 1st July 84	320
Cash in hand as on 31 st December 84	200
Balance in bank as on 1st January 84	2,500
Balance in bank as on 31-12-84	5,000 (overdraft)
Debtors as on 1 st January 84	20,000
Debtors as on 31 st December 84	30,000
Creditors as on 1st January 84	20,000
Creditors as on 31st December 84	30,000
Stock of goods on 1st January 84	10,000
Stock of goods on 31 st December 84	30,000
Payments made to creditors during the year	20,000
Sales made during the year	30,000

Mr. PQ spent during the year Rs. 200 from the year ended on 31 st December, 1984 and balance sheet as on that date from the above information.

**Question 3**

The Balance Sheet of Hari Ram as at 31st December 1988 is given below:

Liabilities	Amount (Rs.)	Assets	Amount (Rs.)
Capital Creditors	2,50,000	Cash in Hand Cash at	42,000
Rent Outstanding	60,000	Bank Debtors Furniture	70,000
	2,000	and Fittings Stock	40,000
			75,000
			85,000
	<b>3,12,000</b>		<b>3,12,000</b>

The following information is available: (i) Hari Ram always sells goods at a profit of 25% on sales.

(ii) Goods are sold for cash and credit. Customers who buy on credit pay by cheque,

(iii) Payment for purchases is made by cheque.



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- (iv) On every Saturday, the collections of the week are sent to bank after paying weekly salary of Rs. 300 to the assistant, expenses of Rs. 50 per week and personal expenses Rs. 100 per week.

On checking the bank pass book for the period ending 31 st December, 1989, the following entries were found:

- (1) Payment to creditors Rs. 85,000
- (2) Payment on account of rent Rs. 5,000
- (3) Payment on account of insurance premium Rs. 1,000
- (4) Amount remitted into bank Rs. 1,40,000 including cheque for Rs. 20,000 received from customers to whom goods were sold on credit.

The following are the balances on 31st December 1989:

- (1) Debtors Rs. 62,000,
- (2) Creditors for goods Rs. 64,000, and
- (3) Stock Rs. 50,400

On the evening of 31st December, 1989, the cashier absconded with the available cash. The following information is also available:

- (1) A claim was lodged with the insurance company, for the amount of defalcation and it was admitted by them.
- (2) Certain items of furniture were sold on 31st December 88 for Rs. 2,000 but the amount had not been received within 31st December 89. Depreciation is to be written off at 10% per annum.
- (3) Rent outstanding as at 31st December 89 was Rs. 1,000.
- (4) Some scrap materials which were not included in stock were sold for Rs. 2,000 but the amount had not been received within 31 st December 89. Prepare a trading and profit and loss A/c for the period ended 31st December, 1989 and a balance sheet as on 31st December, 1989.

Answers

1. Net Profit - 1,42,000, Balance Sheet total 3,72,000
2. Net Profit - 14,080, Balance Sheet total 60,200
3. Net Profit - 2,700, Balance Sheet total 3,22,500



# RATIO ANALYSIS

## STRUCTURE

- 21.0 Objective
- 21.1 Meaning of Accounting Ratios
- 21.2 Classification of Ratios
- 21.3 Uses of Accounting Ratios
- 21.4 Limitations of Accounting Ratios
- 21.5 Various Ratios
- 21.6 Different Users and Their Use of Ratios
- 21.7 Let Us Sum Up
- 21.8 Keywords
- 21.9 Terminal Questions

## **21.0 OBJECTIVE**

After studying this unit, you will be able to understand different accounting ratios and learn the techniques of ratio analysis.

## **21.1 MEANING OF ACCOUNTING RATIOS**

Accounting ratios are relationships, expressed in mathematical terms, between accounting figures, which are connected with each other in some manner. Obviously, no purpose will be served by comparing two sets of figures which are not at all connected with each other. Moreover, absolute figures are also unfit for comparison.

## **21.2 CLASSIFICATION OF RATIOS**

Accounting ratios can be classified on the following basis:

### (1) *Traditional Classification*

The traditional classification has been on the basis of the financial statements, to which the determinants of a ratio belong. On this basis, the ratios could be classified as:

- (i) Profit and loss account ratios, i.e., ratios calculated on the basis of the profit and loss account only.
- (ii) Balance sheet ratios, i.e. ratios calculated on the basis of the figures of balance sheet only.
- (iii) Composite ratios or inter-statement ratios, i.e. ratios based on figures of profit and loss account as well as the balance sheet.

### (2) *Functional Classification*

Traditional basis of classification, as given above, has been found to be too crude and unsuitable because, analysis of balance sheet and income statement cannot be done in isolation. They have to be studied together in order to determine the profitability and solvency of the business. According to the order that ratios serve as a tool for financial analysis, they are now classified as:

- (i) Profitability Ratios, (ii) Turnover or activity ratios, and
- (iii) Financial or solvency ratios. Financial ratios may be

further classified into two categories:

- (a) *Short-term Solvency Ratios* are the ratios that disclose the financial position or solvency of the firm in the short period. Some accountants prefer to call them simply as 'Liquidity Ratios'.
- (b) *Long-term Solvency Ratios* are the ratios that disclose the financial position or solvency of the firm in the long period. Some accountants prefer to call them simply as 'Solvency Ratios'.

## **21.3 USES OF ACCOUNTING RATIOS**

Following are some of the uses of accounting ratios:

1. *Simplify financial statements:* Ratios simplify the comprehension of financial statements. Ratios tell the whole story of changes in the financial condition of the business.
2. *Facilitate inter-firm comparison :* Ratios provide data for inter-firm comparison. Ratios highlight the factors associated with successful and unsuccessful firms. They also reveal strong firms and weak firms, overvalued and under-valued firms.

3. *Facilitate intra-firm comparison*: Ratios also make possible comparison of the performance of the different divisions of the firm. The ratios are helpful in deciding about their efficiency or otherwise in the past and likely performance in the future.
4. *Help in planning* : Ratios help in planning and forecasting. Over a period of time, a firm or industry develops certain norms that may indicate future success or failure. If the relationship changes in the firm's data over different time periods, the ratios may provide clues on trends and future problems.

Thus, 'ratios can assist management in its basic functions of forecasting, planning, coordination, control and communication.'

#### **21.4 LIMITATIONS OF ACCOUNTING RATIOS**

Accounting ratios are subject to certain limitations. These are given below:

1. *Comparative study required*. Ratios are useful in judging the efficiency of the business only when they are compared with the past results of the business or with the results of a similar business. However, such a comparison only provides a glimpse of the past performance and forecasts for future may not prove correct, since several other factors like market conditions, management policies, etc. may affect the future operations.
2. *Limitations of financial statements*. Ratios are based only on the information which has been recorded in the financial statements. As indicated in the preceding pages, financial statements suffer from a number of limitations. The ratios derived from there, therefore, are also subject to those limitations. For example, non-financial charges, though important for the business, are not revealed by the financial statements. If the management of the company changes, it may ultimately have adverse effects on the future profitability of the company but this cannot be judged by having a glance at the financial statements of the company.

Similarly, the management has a choice about the accounting policies. Different accounting policies may be adopted by the management of different companies, regarding the valuation of inventories, depreciation, research and development expenditure and treatment of deferred revenue expenditure, etc. The comparison of one firm with another, on the basis of only ratio analysis, without taking into account the fact of companies having different accounting policies, will be misleading and meaningless. Moreover, the management of the firm itself may change its accounting policies from one period to another. It is, therefore, absolutely necessary that financial statements are subject to close scrutiny before an analysis is attempted on the basis of accounting ratios. The financial analyst must carefully examine the financial statements and make the necessary adjustments in the financial statements on the basis of disclosure made, regarding the accounting policies, before undertaking financial analysis.

The growing realisation among accountants, all over the world, that the accounting policies should be standardised, has resulted in establishment of International Accounting Standards Committee, which has issued a number of International Accounting Standards. In our country, the institute of Chartered Accountants of India has established the Accounting Standards Board for formulation of requisite accounting standards. The Accounting Standards Board has already issued twenty-nine Standards including AS 1: Disclosure of Accounting Policies. The Standard AS 1 has been made mandatory in respect of accounts beginning on or after 1st April 1991. It is hoped that in the years to come, with the progressive standardisation of the accounting policies, this problem will be solved to a greater extent.

3. *Ratios alone are not adequate.* Ratios are only indicators; they can not be taken as final regarding good or bad financial position of the business. Other things have also to be seen. For example, a high current ratio does not necessarily mean that the concern has a good liquid position, in case the current assets mostly comprise of outdated stocks. It has been correctly observed, 'No ratio may be regarded as good or bad inter se. It may be an indication that a firm is weak or strong but it must never be taken as proof of either one. Ratios may be likened to railroads. They tell the analyst 'stop, look and listen.'
4. *Window Dressing.* The term window dressing means manipulation of accounts in such a way, as to conceal vital facts and, present the financial statements in such a way, as to show a better position than what actually is. On account of such a situation, the presence of particular ratio may not be a definite indicator of a good or bad management. For example, a high stock turnover ratio is generally considered to be an indication of operational efficiency of the business. But, this might have been achieved by unwarranted price reductions or failure to maintain proper stock of goods.

Similarly, the current ratio may be improved just before the balance sheet date by postponing replenishment of inventory. For example, if a company has got current assets of Rs. 4,000 while the current liabilities are Rs. 2,000, the current ratio is 2, which is quite satisfactory. In case the company purchases goods of Rs. 2,000 on credit, the current assets would go up to Rs. 6,000 and current liabilities to Rs. 4,000, thus reducing the current ratio to 1.5. The company may, therefore, postpone the purchases beyond the balance sheet date. Similarly, in order to improve the current ratio, the company may payoff certain pressing current liabilities before the balance sheet date. For example, if in the above case the company pays current liabilities of Rs. 1,000, the current liabilities would stand reduced to Rs. 1,000, current assets would stand reduced to Rs. 3,000 but the current ratio would go up to 3.

5. *Problems of price level changes.* Financial analysis, based on accounting ratios, will give misleading results if the effects of changes in the price level are not taken into account. For example, two companies, set up in different years, having plant and machinery of different ages, cannot be compared, on the basis of traditional accounting statements. This is because the depreciation charged on the plant and machinery in case of the older company would be at a much lower figure as compared to the company which has been set up recently. The financial statements of the companies should, therefore, be adjusted keeping in view the price level changes if a meaningful comparison is to be made through accounting ratios. The techniques of current purchasing power and current cost accounting are quite helpful in this respect.
6. *No fixed standards.* No fixed standards can be laid down for ideal ratios. For example, current ratio is generally considered to be ideal if current assets are twice the current liabilities. However, in case of those concerns which have adequate arrangements with their bankers for providing funds when they require, it may be perfectly ideal if current assets are equal to or slightly more than current liabilities.

It may, therefore, be concluded that ratio analysis, if done mechanically, is not only misleading but also dangerous. It is indeed a double-edged sword which requires a great deal of understanding and sensitivity of the management process rather than mechanical financial skill. It has been rightly observed, 'The ratio analysis is an aid to management in taking correct decisions, but as a mechanical substitute for thinking and judgment, it is worse than useless. The ratios, if discriminately calculated and wisely interpreted, can be a useful tool of financial analysis'.

## 21.5 VARIOUS RATIOS

### A. Profitability Ratios

#### 1. Overall Profitability Ratio

It is also called as the 'Return on Investment'. It indicates the percentage of return on the total capital employed in the business. It is calculated on the basis of the following formula:

$$\frac{\text{Operating profit}}{\text{Capital employed}} \times 100$$

The term 'capital employed' has been given different meanings by different accountants. Some of the popular meanings are as follows: (i) Sum total of all assets whether fixed or current.

- (ii) Sum total of fixed assets
- (iii) Sum total of long-term funds employed in the business, i.e.

Share capital + Reserves and surplus + Long-term loans - [Non-business assets + fictitious assets]

In management accounting, the term 'capital employed' is generally used in the meaning given in the point (iii) above.

The term 'Operating Profit' means profit before 'Interest and Tax'. The term 'Interest' means interest on long-term borrowings'. Interest on short-term borrowings will be deducted for computing operating profit. Non-trading incomes such as interest on Government securities or non-trading losses or expenses such as loss on account of fire, etc. will also be excluded.

#### *Significance of ROI*

The ROI is a concept that measures the profit which a firm earns on investing a unit of capital. 'Yield on capital' is another term employed to express the idea. It is desirable to ascertain this periodically. The profit being the net result of all operations, the return on capital expresses all efficiencies or inefficiencies of a business collectively and, thus, is a dependable measure for judging its overall efficiency or inefficiency. On this basis, there can be a comparison of the efficiency of one department with that of another, of one plant with that of another, of one company with that of another and of one industry with that of another. For this purpose, the amount of profits considered is that before making deductions on account of interest, income-tax and dividends, and capital is the aggregate of all the capital at the disposal of the company, viz., equity capital, preference capital, reserves, debentures, etc.

The ROI, when calculated in this manner, would also show whether the company's borrowing policy was wise economically and, whether the capital had been employed fruitfully. Suppose, funds have been borrowed at eight per cent and the ROI is seven and half per cent, it would have been better not to borrow (unless borrowing was vital for survival). It would also show that the firm had not been employing the funds efficiently.

The ROI, as explained, may also be calculated on the equity shareholders' capital. In that case, the profit after deductions for interest, income tax and preference dividend will have to be compared with the equity shareholders' funds. It would not indicate operational efficiency or inefficiency but merely the maximum rate of dividend that might be declared.

The business can survive only when the return on capital employed is more than the cost of capital employed in the business.

## 2. Earnings per Share (EPS)

ROI is a popular method for determining the overall profitability of a firm. However, ROI as a measure for evaluating the comparative profitability of two or more firms, can give satisfactory results only when the firms are of the same age and of the same size. In order to do away with this risk, it will be better to calculate the earnings per share.

EPS tells about the earning per equity share. It can be computed as follows:

$$\text{Earning per Share} = \frac{\text{Net profit after tax and pref. dividend}}{\text{Number of equity shares}}$$

### Significance

The earning per share helps in determining the market price of the equity share of the company. A comparison of EPS of the company with another will also help in deciding whether the equity share capital is being effectively used or not. It also helps in estimating the company's capacity to pay dividend to its equity shareholders.

## 3. Price Earning (P/E) Ratio

This ratio indicated the number of times the earning per share is covered by its market price. This is calculated according to the following formula:

$$\frac{\text{Market price per equity share}}{\text{Earning per share}}$$

### Significance

Price-Earning ratio helps the Investor in deciding whether or not to buy the shares of a company at a particular market price.

## 4. Gross Profit Ratio

This ratio expresses relationship between the gross profit and net sales. Its formula is:

$$\frac{\text{Gross profit}}{\text{Net sales}} \times 100$$

### Significance

This ratio indicates the degree to which the selling price of goods per unit may decline without resulting in losses, from operations, to the firm. It also helps in ascertaining whether the average percentage of mark up on the goods is maintained.

There is no norm for judging the 'Gross Profit Ratio'. Therefore, the evaluation of the business on its basis is a matter of judgment. However, the gross profits should be adequate to cover operating expenses and to provide for fixed charges, dividends and building up of reserves.

## 5. Net Profit Ratio

This ratio indicates net margin earned on a sale of Rs. 100. It is calculated as follows:

$$\frac{\text{Net operating profit}}{\text{Net sales}} \times 100$$

### Significance

This ratio helps in determining the efficiency with which affairs of the business are being managed. An increase in the ratio, over the previous period, indicates improvement in the operational efficiency of the business, provided the gross profit ratio is constant. The ratio is thus, an effective measure to check the profitability of a business.

An investor has to judge the adequacy or otherwise of this ratio by taking into account the cost of capital, the return in the industry as a whole and, market conditions, such as boom or depression period. No norms can be laid down. However, constant increase in the above ratio year after year is a definite indication of improving conditions of the business.

### B. Solvency Ratios

A company is considered to be solvent or financially sound if it is in a position to carry on its business smoothly and meet all obligations, both long-term as well as short-term, without strain. The following are the important ratios for measuring the long-term and short-term solvency of a firm.

#### 1. Long-term Solvency Ratios

In order to determine the long-term solvency of a business, the following ratios will be useful: (i)

*Fixed Assets Ratio:* This ratio is expressed as follows:

$$\text{Fixed Assets Ratio} = \frac{\text{Fixed assets}}{\text{Long-term funds}}$$

The ratio should not be more than 1. If it is less than 1, it shows that a part of the working capital has been financed through long-term funds. This is desirable to some extent because a part of working capital, termed as 'core working capital', is more or less of a fixed nature. The ideal ratio is 0.67.

Fixed assets include 'net fixed assets' (i.e. original cost-depreciation to date) and trade investments including shares in subsidiaries. Long-term funds include share capital, reserves, and long-term loans.

- (ii) *Debt-equity Ratio.* The debt-equity ratio is calculated to ascertain the soundness of the long-term financial policies of the company. It is also known as the 'External-Internal' equity ratio. It may be calculated as follows:

$$\text{Debt-equity ratio} = \frac{\text{External equities}}{\text{Internal equities}}$$

The term 'external equities' refers to total outside liabilities, and the term 'internal equities' refers to shareholders' funds or the tangible net worth. In case the ratio is 1 (i.e. outsiders' funds are equal to shareholders' funds), it is considered to be quite satisfactory.

In case debt-equity ratio is to be calculated as a long-term financial ratio, it may be calculated as follows:

$$\text{Debt-equity ratio} = \frac{\text{Total long-term debt (i)}}{\text{Total long-term funds}}$$

$$\text{(ii) Debt-equity ratio} = \frac{\text{Total long-term debt}}{\text{Shareholders' funds}}$$



Method (ii) is most popular.

Ratio (i) gives the proportion of the long-term debt to the total long-term funds (including borrowed as well as owned funds), while the Ratio (ii) indicates the proportion of the long-term debt to the shareholders' funds (i.e. tangible net worth) .

Ratio (i) may be taken as ideal if it is 0.5 while the ratio (ii) may be taken as ideal if it is 1. In other words, the investor may take debt-equity ratio as quite satisfactory if shareholders' funds are equal to long-term borrowed funds. However, a higher ratio, say, two-thirds borrowed funds and one-third owned funds, may also not be considered as unsatisfactory if the business needs heavy investment in fixed assets and has an assured return on its investment, e.g. the case of public utility concerns.

It is to be noted that preference shares, redeemable within a period of twelve years from the date of their issue, should be taken as a part of debt.

#### *Significance*

The ratio indicates the proportion of owners' stake in the business. Excessive liabilities tend to cause insolvency. The ratio indicates the extent to which the firm depends upon outsiders for its existence. The ratio provides a margin of safety to the creditors. It tells the owners the extent to which they can borrow, to increase the profits, with a limited investment.

## 2. Short-term Solvency Ratios

The following ratios will be useful for determining the short-term solvency of a business: (i) *Current Ratio*: This ratio is an indicator of the firm's commitment to meet its short-term liabilities. It is expressed as follows:

$$\frac{\text{Current assets}}{\text{Current liabilities}}$$

Current assets include cash and other assets convertible or meant to be converted into cash during the operating cycle of the business (which is of not more than a year). Current liabilities mean liabilities payable within a year's time either out of existing current assets or by creation of new current liabilities.

Book debts outstanding for more than six months and loose tools should not be included in current assets. Prepaid expenses should be taken into current assets.

An ideal current ratio is 2. A very high current ratio is also not desirable since it means less efficient use of funds.

#### *Significance*

The current ratio is an index of the concern's financial stability since it shows the extent of the working capital, which is the amount by which the current assets exceed the current liabilities. As stated earlier, a higher current ratio would indicate inadequate employment of funds while a poor current ratio is a danger signal to the management. Poor current ratio shows that the business is trading beyond its resources.

(ii) *Liquidity Ratio* : This ratio is also termed as 'acid test ratio' or 'quick ratio'. This ratio is ascertained by comparing the liquid assets (i.e. assets which are immediately convertible into cash without much loss) to current liabilities. Prepaid expenses and stock are not taken as liquid assets. The ratio may be expressed as:

$$\frac{\text{Liquid assets}}{\text{Current liabilities}}$$

The ideal ratio is 1.

Significance

The ratio is also an indicator of short-term solvency of the company.

A comparison of the current ratio to quick ratio shall indicate the inventory hold-ups. For example, if the two concerns have the same current ratio but a different liquidity ratio, it indicates overstocking by the concern having a low liquidity ratio as compared to the concern which has a higher liquidity ratio.

### C. Turnover Ratios

1. *Stock Turnover Ratio* : This ratio indicates whether the investment in inventories is efficiently used or not. It, therefore, explains whether investment in inventories is within proper limits or not. The ratio is calculated as follows:

$$\frac{\text{Cost of goods sold during the year}}{\text{Average inventory}}$$

Average inventory is calculated by taking stock levels of raw materials, work-in-process, finished goods, at the end of each month, adding them up and, dividing by twelve.

The average inventory may also be computed on the basis of the average of inventory at the beginning and at the end of the accounting period.

Significance

The inventory turnover ratio signifies the liquidity of the inventory. A high inventory turnover ratio indicates brisk sales. The ratio is, therefore, a measure to discover the possible trouble in the form of overstocking or overvaluation. The stock position is known as the graveyard of the balance sheet. If the sales are quick, such a position would not arise unless the stocks consist of unsaleable items. A low inventory turnover ratio results in the blocking of funds in inventory, which may ultimately result in heavy losses due to inventory becoming obsolete or deteriorating in quality.

2. *Debtors' Turnover Ratio (Debtors' Velocity)*:- Debtors are an important constituent of current assets and, therefore, the quality of debtors, to a great extent, determines a firm's liquidity. Two ratios are used by financial analysts to judge this. They are:
  - (i) Debtors, turnover ratio, and
  - (ii) Debt collection period ratio.

*Debtors' turnover ratio* is calculated as under:

$$\frac{\text{Credit sales}}{\text{Average accounts receivable}}$$

The term 'Accounts Receivable' includes 'Trade Debtors' and 'Bills Receivable'.

In case, details regarding opening and closing receivables and credit sales are not available, the ratio may be calculated as follows:

$$\frac{\text{Total sales}}{\text{Accounts receivables}}$$

Significance

'Sales to Accounts Receivable Ratio' indicates the efficiency of the staff entrusted with collection of book debts. The higher the ratio, the better it is, since it would indicate that debts are being

collected more promptly. For measuring the efficiency, it is necessary to set up a standard figure; a ratio lower than the standard will indicate inefficiency.

The ratio helps in cash budgeting since the flow of cash from customers can be worked out on the basis of sales.

*Debt Collection Period Ratio* : The ratio indicates the extent to which the debts have been collected in time. It gives the average debt collection period. The ratio is very helpful to the lenders because it explains to them whether their borrowers are collecting money within a reasonable time. An increase in the period will result in greater blockage of funds in debtors. The ratio may be calculated by any of the following methods:

- (i) 
$$\frac{\text{Months (or days) in a year}}{\text{Debtors' turnover}}$$
- (ii) 
$$\frac{\text{Average accounts receivable} \times \text{Months (or days) in a year}}{\text{Credit sales for the year}}$$
- (iii) 
$$\frac{\text{Accounts receivable}}{\text{Average monthly or daily credit sales}}$$

#### Significance

Debtors' collection period measures the quality of debtors since it measures the rapidity or slowness with which money is collected from them. A shorter collection period implies prompt payment by debtors. It reduces the chances of bad debts. A longer collection period implies too liberal and inefficient credit collection performance. However, in order to measure a firm's credit and collection efficiency, its average collection period should be compared with the average of the industry. It should be neither too liberal nor too restrictive. A restrictive policy will result in lower sales which will reduce profits.

It is difficult to provide a standard collection period of debtors. It depends upon the nature of the industry, seasonal character of the business and, credit policies of the firm. In general, the amount of receivables should not exceed three to four months' credit sales.

## 21.6 DIFFERENT USERS AND THEIR USE OF RATIOS

- (i) Accounting ratios used by a long-term creditor:

$$\text{(a) Fixed charges cover} = \frac{\text{Income before interest and tax}}{\text{Interest charges}}$$

$$\text{for debt service (b) Debt service coverage ratio} = \frac{\text{Cash profit available}}{\text{Interest} + \text{Principal payments instalment}}$$

- (ii) Accounting ratios used by a bank granting a short-term loan:

$$\text{(a) Quick ratio} = \frac{\text{Quick assets}}{\text{Current liabilities}}$$

$$(b) \text{ Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities (iii)}}$$

Accounting ratios used by shareholders:

$$(a) \text{ Earnings per share} = \frac{\text{Pr ofit available for equity shareholders}}{\text{No. of equity shares}}$$

$$\text{Dividend yield ratio} = \frac{\text{Dividend per share (b)}}{\text{Market price per share}}$$

### Illustration

Assuming current ratio is 2, state in each of the following cases, whether the current ratio will improve or decline or will have no change:

- (i) Payment of a current liability
- (ii) Purchase of fixed assets (iii)
- Cash collected from customers (iv)
- Bill receivable dishonoured
- (v) Issue of new shares

### Solution

When the current ratio is 2 : 1 or say the current assets are Rs. 20,000 and the current liabilities Rs. 10,000, the effect of the transaction given in the problem on current ratio will as follows:

- (i) Payment of current liability: On payment of a current liability out of current assets, working capital will remain unchanged. However, current ratio will improve. For instance, if out of above current liabilities Rs. 5,000 is paid, resultant current assets will be Rs. 15,000 and current liabilities Rs. 5,000. This will give a current ratio of 3:1.
- (it) Purchase of fixed assets: On purchase of fixed assets in cash, current assets will decrease without any change in current liabilities. Thus, the transaction will result in decline of current ratio from 2: 1
- (iii) Cash collected from customers: Collection of debtors, results in the conversion of one current asset, viz., debtors into another current asset, viz., cash. Hence, amount of current assets and current liabilities remain unchanged, the current ratio will, therefore, remain at 2:1.
- (iv) Bills receivable dishonoured: When a bill receivable is dishonoured, it cannot always be presumed that the customer has become insolvent. Hence, if the customer is solvent, the amount of bills receivable will get reduced and the amount due from debtors will increase. There will be no change in the amount of current liabilities. Hence, on this assumption current ratio will continue to be 2:1.

However, if it is anticipated that the debt becomes bad and it is recorded as such, it will result in the reduction of current assets resulting in fall in the current ratio from 2:1.

- (v) Issue of new shares: If issue of new shares is for cash it will result in an increase in the current assets. Hence, there will be consequential improvement in current ratio as there will be no change in current liabilities.

However, if issue is in consideration of purchase of fixed assets or conversion of debentures, there will be no change in current assets or current liabilities and, therefore, no change in current ratio.

### 21.7 LET US SUM UP

Ratios are important tools for financial analysis and are used by owners, investors, bankers, creditors, rating agencies and other interested persons. For calculating ratios, figures, provided in the financial statements, i.e. the P & L a/c and the Balance sheet, are used. Ratios can be used for inter-firm or intra-firm comparison in order to know the trends and position of various financial parameters. While using the ratios, we should be careful about the various situations in which the firms operate and also methods used in arriving at the figs, in the financial statements. The main ratios are the profitability ratios, solvency ratios and, the turnover ratios.

### 21.8 KEYWORDS

Financial Statements, P&L a/c, Balance Sheet, Tangible Net Worth (TNW), Profitability, Solvency, Turnover, Earning Per Share(EPS), P/E ratio, DSCR, Operating Profit, Net Profit, Current Assets, Current Liabilities. Long-term debts, Working Capital, Window-dressing.

### 21.9 TERMINAL QUESTIONS

#### Question 1

Calculate the following for the years 1990 and 1991 using figures made available:

- Return on capital employed
- Current ratio
- Debt/equity ratio
- Fixed assets turnover ratio
- Inventory turnover ratio
- Earning per share

BALANCE SHEET  
(as on 31st December)

(Rs. in Lakh)

Particulars	1989	1990	1991
<b>Liabilities</b>			
<i>Share capital: shares of Rs. 10 each</i>	800	1,000	1,000
<i>Reserves and Surplus</i>	700	800	1,000
<i>Secured Term Loans</i>	800	2,000	2,400
<b>Cash Credits from Banks</b>	800	1,000	1,500
<b>Sundry creditors</b>	1,200	900	1,100
	<b>4,300</b>	<b>5,700</b>	<b>7,000</b>

Assets	2,800	3,000	4,000
Fixed Assets: Gross Block	920	1,400	2,000
Less: Depreciation			
Stock Debtors	<b>1,880</b>	1,600	2,000
Other Current Asset	1,520	2,400	2,800
	480	500	900
	420	1200	1300
	2,420	4,100	5,000
Total Assets	<b>4,300</b>	5,700	7,000

## Extracts from Profit and Loss Account

Particulars	For the year ended 31st December (Rs. lakhs)	
	1990	1991
Sales Profit before Depreciation and Interest on Term		
Loans Depreciation Interest on Term Loans Tax	4,800	7,200
Dividends	1,500	2,400
	480	600
	420	300
	100	150

**Question 2**

From the following statements of X Ltd, for the year ending 31st March, 1987, you are required to rearrange the items for purposes of financial analysis and calculate the following ratios:

- (i) Current ratio,
- (ii) Quick ratio,
- (iii) Stock turnover ratio,
- (iv) Fixed Assets turnover ratio, and
- (v) Debtor's turnover ratio.

**BALANCE SHEET**  
as on 31st March, 1987

Liabilities	Rs.	Assets	Rs.
Share capital Issued and Fully Paid	5,00,000	Land and Buildings	5,00,000
up: 50,000 Equity Shares of Rs.10	4,00,000	Plant and Machinery	2,00,000
each General Reserve Profit and	1,50,000	Stock Sundry Debtors	1,50,000
Loss Account Sundry Creditors	2,00,000	Cash and Bank	2,50,000
		Balances	1,50,000
	12,50,000		<b>12,50,000</b>

**PROFIT AND LOSS ACCOUNT for  
the year ending 31st March, 1987**

Particulars	Rs.	Particulars	Rs.
To Opening Stock	2,50,000	By Sales By	18,00,000
To Purchases To	10,50,000	Closing Stock	1,50,000
Gross Profit	6,50,000		
	19,50,000		19,50,000
To Selling and Distribution Expenses	1,00,000	By Gross Profit By Profit on sale	6,50,000
To Administration Expenses To	2,30,000	of Fixed Assets	50,000
Finance Expenses To Net Profit	20,000		
	3,50,000		
	7,00,000		7,00,000

**Question 3**

From the following information, prepare a summarised balance sheet as on 31st March, 1990:

(i) Working Capital	(ii) Reserve and Surplus	(iii) Bank	Rs.
Overdraft	(iv) Fixed Assets	Proprietary Ratio	1,20,000
(v) Liquid Ratio	(v) Current Ratio		80,000
			20,000
			0*75
Answers			2.5
1.			1.5
(a) Return on Capital Employed -			
(b) Current Ratio	1990	1991	
(c) Debt/Equity Ratio	33.44%	43.90%	
(d) Fixed Assets Turnover Ratio	2.16	1.92	
(e) Inventory Turnover Ratio	1.11	1.20	
(f) Earning per share	2.76	4.00	
2. (i) Current Ratio 2.75	1.68	1.85	
(ii) Quick Ratio 2	3	6	
(iii) Stock Turnover Ratio 5.75			
(iv) Fixed Assets Turnover Ratio 2.60			
(v) Debtor's Turnover Ratio 7.2 or 51 days			
3. Balance Sheet total 5,60,000			

# **MODULE-D**

## **FINAL ACCOUNTS**

**Unit 22.** Balance Sheet Equation

**Unit 23.** Partnership Accounts

**Unit 24.** Final Accounts of Banking Companies

**Unit 25.** Company Accounts - I

**Unit 26.** Company Accounts - II

**Unit 27.** Accounting in Computerised Environment





# BALANCE SHEET EQUATION



**UNIT  
22**

- 22.0 Objectives
- 22.1 Introduction
- 22.2 Balance Sheet Equation
- 22.3 Computation of Balance Sheet Equation
- 22.4 Let Us Sum Up
- 22.5 Keywords
- 22.6 Terminal

**STRUCTURE**

Questions

Answers to

Terminal Questions

**22.0 OBJECTIVES**

After going through this unit, you will be able to understand:

- the meaning of assets, liabilities, capital, net worth, revenue, expense
- the relationship between assets and liabilities

**22.1 INTRODUCTION**

Assets are equal to the liabilities. The liabilities consist of claims of owners and claims of outsiders. The claims of the owners mean the paid up capital plus balance of reserves and surplus. The sum of the capital and the balance of reserves and surplus is also called the net worth. For the business, net worth is the liability of the business towards the owners. In other words, it is the claim of the owners against the assets of the business. As per one of the concepts of accountancy, the business and its owners are considered as two separate and distinct entities. All the transactions of the business are recorded in the books of the business from the point of the business, not its owners.

**22.2 BALANCE SHEET EQUATION**

Always the total claims (those of outsiders such as creditors and of the proprietors, i.e. net worth) will equal the total assets of the business.

We can express the same as:

Assets = Equities (total claims)

or Assets = Liabilities + Capital

or Liabilities = Assets - Capital

or Capital = Assets - Liabilities

**22.3 COMPUTATION OF BALANCE SHEET EQUATION**

If there is any change in the amount of the assets or the liabilities, the owners' claim or the capital is bound to change correspondingly. If assets increase and liabilities do not, the capital will increase; a reduction in the amount of assets or an increase in the amount of liabilities will mean a reduction in the amount of capital.

Assets	Capital + Liabilities
Cash v	
Bank	Capital + reserves and surplus
Bills Receivable	Creditors
Debtors	Bills payable
Stock in trade	Outstanding expenses
Furniture	Bank Overdraft
Machinery	
Building t	

Such balance sheet equations will be clearer by the various transactions given below:

Suppose Mr Ravindran starts a business and the following successive changes or transactions take place.

1. He commences his business with Rs. 20,000 as capital.

This means that the firm has assets totalling Rs. 20,000 in the form of cash and claims against the firm are also Rs. 20,000 in the form of capital. The balance sheet stands as follows:

Balance Sheet 1

Liabilities	Rs.	Assets	Rs.
Ravindran's Capital	20,000	Cash	20,000

2. The business purchased a machinery of Rs. 1,000. The effect of this transaction is that amount of cash in hand is lower by Rs. 1,000, but a new asset (machinery) has been acquired leaving the total assets unchanged. The balance sheet after this transaction will appear as follows:

Balance Sheet 2

Liabilities	Rs.	Assets	Rs.
Ravindran's Capital	20,000	Cash (20,000-1,000) Machinery (0+ 1,000)	19,000
Total	20,000	Total	20,000

3. The business purchases goods for Rs. 2,000 for cash.

The effect of this transaction is that amount of cash in hand is lower by Rs. 2,000, but a new asset (stock of goods) has been acquired leaving the total assets unchanged. The balance sheet after this transaction will appear as follows:

Balance Sheet 3

Liabilities	Rs.	Assets	Rs.
Ravindran's Capital	20,000	Cash (19,000-2,000) Machinery (1,000 + 0) Goods (0 + 2,000)	17,000 1,000 2,000
Total	20,000	Total	20,000

4. The business purchases goods for Rs. 5,000 on credit. Because of this transaction, the stock of goods increased by Rs. 5,000 making the total assets Rs. 25,000. Now Rs. 5,000 is payable to the supplier of goods (creditor).

The balance sheet after this transaction will appear as follows:

Balance Sheet 4

Liabilities	Rs.	Assets	Rs.
Ravindran's Capital	20,000	Cash (17,000-0)	17,000
Creditor (0 + 5,000)	5,000	Machinery (1,000 + 0) Goods (2,000 + 5,000)	1,000 7,000
Total	25,000	Total	25,000

The business sells goods on credit for Rs. 5,000; the cost of the goods sold is Rs. 3,000.

In this transaction, a new asset, i.e. debtor, has come into existence to the extent of Rs. 5,000. But, the stock of goods will be reduced by Rs. 3,000 (cost of goods sold). The net increase in the asset Rs. 2,000 (Rs. 5,000 less Rs. 3,000) is a surplus which belongs to the owner. So his net worth will now be Rs. 22,000 (Capital Rs. 20,000 plus surplus Rs. 2,000)

The balance sheet after this transaction will appear as follows:

Balance Sheet 5

Liabilities	Rs.	Assets	Rs.
Ravindran's Capital	20,000	Cash (17,000-0)	17,000
Reserves & Surplus (0 + 2,000)	2,000	Machinery (1,000 + 0)	1,000
Creditor (5,000 + 0)	5,000	Goods (7,000-3,000)	4,000
		Debtor (0 + 5,000)	5,000
<b>Total</b>	<b>27,000</b>	<b>Total</b>	<b>27,000</b>

6. The business pays Rs. 500 for rent and Rs. 500 for salaries. The cash will now be reduced by Rs. 1,000. There is no asset to show for this. These expenses will be borne by the owner and to that extent the surplus will get reduced.

Balance Sheet 6

Liabilities	Rs.	Assets	Rs.
Ravindran's Capital	20,000	Cash (17,000-1,000)	16,000
Reserves & Surplus (2,000-1,000)	1,000	Machinery (1,000 + 0)	1,000
Creditor (5,000 + 0)	5,000	Goods (4000 - 0)	4,000
		Debtor (5,000 + 0)	5,000
<b>Total</b>	<b>26,000</b>	<b>Total</b>	<b>26,000</b>

As has been seen above, one can take any number of transactions; however the total assets will be equal to the total of liabilities and the capital. The left hand side shows the total liabilities of the firm or shows the sources from which the funds have been obtained. In the above balance sheet, Rs. 5,000 have been obtained from outsiders and Rs. 21,000 have been contributed by the owner of the business. The other side of the balance sheet, which is known as the asset side, shows how the funds have been invested by the business.

One conclusion which is apparent from the various transactions given above is that every transaction has a double effect will always be true (reducing or increasing an asset will have a corresponding effect on liabilities or capital).

## **22.4 LET US SUM UP**

At any point of time, the total assets of a firm will be equal to the liabilities of the firm. The equation, viz., 'Assets = Liabilities' will be always true. The liabilities consist of liabilities towards owners (Capital + Reserves and Surplus = Net worth) and towards outsiders. In other words, Assets = Net worth + Creditors.

## 22.5 KEYWORDS

**Capital:** It means the amount which the owner of business has invested in the firm and can claim from the firm.

**Liability:** It means the amount which the firm owes to outsiders. Long term liabilities are those liabilities which are payable after a long term. Current liabilities are those liabilities which are payable in near future (generally within one year).

**Assets:** Assets are things of value owned. Fixed assets are those assets which are purchased for the purpose of operating the business but not for resale, e.g. Land, Building, Plant and Machinery, etc. Current assets are those assets which are kept for short term for converting into cash or for resale, e.g. unsold goods, debtors, cash, bank balance, etc.

**Revenue:** It means the amount which, as a result of operations, is received by the business.

**Expense:** It is the amount spent in order to produce and sell the goods and services which produce the revenue.

**Income:** The difference between revenue and expense is called income (if revenue is more than expense).

**Debtor:** A person who owes money to the firm, mostly on account of credit sales of goods, is called a debtor.

**Creditor:** A person to whom money is owed by the firm is called a creditor.

## 22.6 TERMINAL QUESTIONS

- Sudhir had the following transactions. Use the balance sheet equations to show their effect on his assets, liabilities and capital.
  - Invested Rs. 1,50,000 in cash.
  - Purchased securities for cash Rs. 10,000.
  - Purchased a building for Rs. 2,00,000, giving Rs. 50,000 in cash and balance by way of a loan from Canara Bank.
  - Sold securities costing Rs. 2,000 for Rs. 3,000.
  - Paid Salaries of Rs. 2,000.
  - Paid interest of Rs. 10,000 and paid Rs. 10,000 towards Canara Bank Loan.
  - Received dividend of Rs. 1,000 on securities.
- Point out whether the following statements are True or False.
  - The balance sheet represents an expansion of the equations as:  $\text{Assets} = \text{Liabilities} + \text{Capital}$ .
  - $\text{Assets} - \text{Original Capital} = \text{Liabilities}$ .
  - Rehman has assets of Rs. 10,000 and liabilities of Rs. 5,000. His capital therefore would be Rs. 15,000.
  - Assets will be equal to capital if there are no liabilities of the business.
  - If a firm borrows a sum of money, its capital would be reduced.

Answers to Terminal Questions

2. (a) True; (b) False; (c) False; (d) True; (e) False

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# PARTNERSHIP ACCOUNTS

## STRUCTURE

- 23.0 Objectives
- 23.1 Introduction to Partnership
- 23.2 Distinction between Partnership and other forms of business
- 23.3 Partners' Capital and Loan Accounts
- 23.4 Goodwill and Method of its valuation
- 23.5 Entries in Respect of Goodwill
- 23.6 Admission of a Partner
- 23.7 Retirement and Death of a Partner
- 23.8 Sleeping Partner and Quasi Partner
- 23.9 Model problems in Partnership
- 23.10 Let Us Sum Up
- 23.11 Keywords
- 23.12 Terminal Questions



### **23.0 OBJECTIVES**

After going through this unit, you will:

- know the features of the partnership firm and its need
- know the types of partners' capital accounts and loan accounts  
know the treatment of intangible assets like goodwill
- know the accounting treatment of admission, retirement and death of a partner
- know and understand the meaning of sleeping, quasi and limited partnerships

### **23.1 INTRODUCTION TO PARTNERSHIP**

Section 4 of the Indian Partnership Act, 1932 defines partnership as "The relation between persons who have agreed to share the profits of a business carried on by all or anyone of them acting for all."

According to the above definition, the main features of partnership are as under:

- (i) It is the relationship between persons, which means that there should be at least two persons to form a partnership.
- (ii) A partnership is the result of an agreement, which may be written, or oral.
- (iii) The agreement is to share the profits of the business. This means that profits have to be shared by all though loss may be borne by only one partner, a few partners or all the partners.
- (iv) The business must be carried by one or more than one or all, on behalf of all. This means that one partner can act on behalf of the other partners. This is known as the principle of agency.

When all these four characteristics are fulfilled, the relationship between the persons is known as the 'Partnership'. Persons who have entered into partnership with one another are individually called 'partners' and collectively 'a firm'. The name under which the business is carried on is called the 'firm name' and it constitutes a separate entity for its activities/operations and subsequent accounting treatment thereof.

According to the Indian Partnership Act, there is no maximum limit of partners in the partnership, but according to the Companies Act 1956; the maximum number of partners is ten in case of banking business and twenty in case of other business operations. The Companies (Amendment) Bill 2003 permits the formation of partnership consisting of professionals up to fifty partners. An association of persons of more than the said limit is an illegal association.

The document, which contains the partnership agreement, is known as 'Partnership Deed'. Legally, it is not compulsory for any partnership firm to have a written partnership deed but it is always advisable to have a written partnership deed to be referred to in future in the event of any disputes between partners. Sometimes, even if there is a partnership deed, it may be silent on certain points. In such cases, the relevant provisions of the Partnership Act will apply.

Some of the important clauses of partnership deed (particularly those affecting accounts and consequent accounting treatment) are as follows:

1. Name of the firm and the partnership business.
2. Commencement and duration of business.
3. Amount of capital to be contributed by each partner.
4. Rate of interest to be allowed to each partner on his capital and on his loan to the firm.

5. Disposal of profits, particularly the ratio in which profits or losses is to be shared.
6. Amount to be allowed to each partner as drawings and the timings of such drawings and interest chargeable, if any.
7. Whether a partner will be allowed to draw a salary.
8. Any variations in the mutual rights and duties of partners.
9. Method by which the goodwill is to be calculated on the admission, retirement or death of a partner.
10. Procedure by which a partner may retire and the method of payment of his dues.
11. Basis of determination of the executors of a deceased partner and the method of payment.
12. Treatment of losses arising out of the insolvency of a partner.
13. Procedure to be followed for settlement of disputes among partners.
14. Preparation of accounts and their audit.

In the absence of any partnership deed or where a deed is silent in respect of the above-mentioned points, the following rules of the Partnership Act will have to be observed:

1. The partners are entitled to share profits or losses equally.
2. The partners are not entitled to any interest on capital nor any interest is to be charged by the firm on drawings.
3. The partners are entitled to interest at 6 per cent per annum on loans given by them to the firm.
4. The partners are not entitled to any salary, remuneration or commission for any extra work done.

### **23.2 DISTINCTION BETWEEN PARTNERSHIP AND OTHER FORMS OF BUSINESS**

The distinction between partnership accounts and other forms of business is depicted in the Table below:

Points of Distinction	Proprietary	Partnership	Company and other forms which are separate legal entities (Artificial Judicial persons)
Legal Status	Individual, i.e. one single person.	Partners and partnership firm is one entity. All partners are jointly and severally liable for acts of the firm.	They are separate legal entities.
Ownership	Owned by a single person.	Owned jointly by all the partners.	Members of the Company, i.e. Shareholders are the owners.
Share of Profit	Entire profits belong to the proprietor.	All the partners share the profits in some agreed proportion.	Members, i.e. shareholders enjoy the profit in the form of dividends.
Management of Business	Business in most cases is run by single person.	Business may be run by one or some or all the partners acting for all.	Board of Directors who are professionals and may also be shareholders manages business.

Proprietorship and partnership are two forms of business organisation in which there is not much difference between the accounts thereof. However, instead of one capital account in a proprietary concern, there will be as many capital accounts as there are partners in a partnership firm. Moreover, there are certain transactions applicable only to a partnership firm such as interest on capital and drawings of the partners, salary and commission and interest on loan payable to a partner. All these items are shown separately in the profit and loss appropriation account and profits and losses are distributed among the partners in their respective profit sharing ratio after such adjustments as stated above. Partners' capital accounts are separately shown on the liabilities side of the balance sheet (assuming credit balances in the accounts in normal circumstances).

Sometimes, a new partner is admitted to the firm or an old partner retires or is expelled or dies. In such events, special adjustments are required to be made (explained in detail later). For dissolution of a firm also, special accounting procedure for realising the firm's assets, settling the liabilities and partners' dues is required to be adopted.

### **23.3 PARTNERS' CAPITAL AND LOAN ACCOUNTS**

#### **A. Methods of Maintaining Capital Accounts**

The Partners' capital accounts may be maintained by two methods, viz.. Fixed Capital Method and Fluctuating Capital Method. Generally, the partnership deed mentions the method of maintaining capital accounts. If a particular method is stated in the partnership deed then the firm has to maintain the capital accounts only by that method. However, if there is no mention about the method of maintaining capital accounts in the partnership deed, the capital accounts are maintained as per the Fluctuating Capital Method.

##### *(a) Fixed Capital Method*

Under this method, for each partner two accounts are maintained. One is called the partner's capital account and the other is called partner's current account. Partner's capital account is credited with the amount of capital contributed by the partner. All the adjustments regarding interest on capital, interest on drawings and share in profit or loss are recorded in the current account.

##### *(b) Fluctuating Capital Method*

Under this method, all the transactions relating to a partner are entered in only one capital account maintained for him. No current account is opened as in the Fixed Capital Method. Capital account is credited, not only with the amount contributed by him/her as capital, but other transactions, such as interest on capital, drawings and share of profits, are also recorded in the same capital account.

#### **Illustration 1**

Sagar and Sameer are partners sharing profits and losses in the ratio of 3:2. Their capitals are Rs. 60,000 and Rs. 40,000, respectively. Interest at 5 per cent p.a. was agreed to be allowed on capital. During the year, Sagar withdrew Rs. 15,000 and Sameer withdrew Rs. 10,000 and the amount of interest on drawings was Rs. 800 and Rs. 500 respectively. The profits of the firm before allowing interest on capital and charging interest on drawings amounted to Rs. 20,000. Sameer is entitled to salary of Rs. 6,000 per year, which he has not withdrawn.

Show Profit and Loss Appropriation and Partners' Capital a/cs as on 31 st December, 2004: (i) when the capitals are fluctuating and (ii) when they are fixed.

## Profit and Loss Appropriation Account for the year ended 31st December, 2004

Dr.			Cr.		
Particulars	Rs.	Rs.	Particulars	Rs.	Rs.
To Interest on Capital Sagar Sameer	3,000 2,000	5,000	By Net Profit for the year	800	20,000
	6,180		By Interest on Drawings: Sagar		
To Salary to Sameer	4,120		Sameer	500	1,300
To Capital a/c Or Current a/c Sagar Sameer		6,000			
		21,300			21,300

Capital Accounts under Fixed Capital Method:

**Capital Accounts**

Dr.			Cr.		
	Sagar Rs.	Sameer Rs.		Sagar Rs.	Sameer Rs.
To Closing balance	60,000	40,000	By Opening balance	60,000	40,000
	60,000	40,000		60,000	40,000

**Current Accounts**

Dr.			Cr.		
	Sagar Rs.	Sameer Rs.		Sagar Rs.	Sameer Rs.
To Drawings a/c To Interest on drawings a/c To Closing balance	15,000 800	10,000 500 1,620	By Interest on Capital a/c By Salary a/c By P and L App. a/c By Closing balance	3,000 6,180 6,620	2,000 6,000 4,120
	15,800	12,120		15,800	12,120

Capital Accounts under Fluctuating Capital Method:

**Capital Accounts Dr.**

Dr.			Cr.		
	Sagar Rs.	Sameer Rs.		Sagar Rs.	Sameer Rs.
To Drawings a/c	15,000	10,000	By Balance b/d	60,000	40,000
To Interest on drawings a/c	800	500	By Interest on Capital	3,000	2,000
To Closing balance	53,380	41,620	By Salary a/c		6,000
	69,180	52,120	By P and L App. a/c	6,180	4,120
				69,180	52,120

**B. Partners' Loan Accounts**

Loans given by the partners, exclusive and independent of contributions by way of capital, are recorded in separate accounts called Partners' Loan Accounts, keeping the Capital Accounts undisturbed.

**C. Interest on Capital, Drawings and Loans from Partners**

If there is an agreement to allow interest on capital, loan and drawings, interest is calculated at a rate specified in the agreement. In the absence of any such provision in the agreement, no interest will be allowed/charged on the capital and drawings and interest at the rate of 6 per cent per annum will be allowed on the partners' loans to the firm. It may further be noted that, in the absence of any agreement to the contrary, interest to partners, on the capital account, will be paid only if there is a profit. However, interest on a loan, given by the partners, has to be allowed, irrespective of the fact that there is no profit.

**23.4 GOODWILL AND METHOD OF ITS VALUATION**

Goodwill is the value of an established business over and above the value represented by its tangible assets. It is the reputation that the firm has built up in the course of its business. It is also the value attached to the super profit earning capacity of a business arising from its wide connections and long standing in the business. Goodwill is the value of the good name of a firm, which attracts more customers and helps it earn more profits. It is an intangible fixed asset built up slowly by the owners of the business over a period of time and is very often recorded in the books of account. Unlike a fictitious asset, which has no realisable value, Goodwill has a realisable value and can be bought and sold in the market.

*Necessity:* The necessity for valuation of goodwill in a firm arises in the following cases:

1. Change in profit sharing ratio.
2. Admission of a new partner.
3. Retirement, expulsion or death of a partner
4. Sale of business

There are mainly three methods of valuation of goodwill, viz.

- (i) Average Profit Method
- (ii) Super Profit Method
- (iii) Capitalisation of Profit Method

**(i) Average Profit Method**

In this method, goodwill is valued on the basis of the average profits of past few years (normally abnormal increase or decrease in profit is left out). Average profit (simple or weighted), so arrived at, is multiplied by an agreed multiplier factor (called number of years' purchase) and the amount so arrived is taken as the amount of goodwill.

**Illustration 2 (Simple average)**

A business has earned profits for the past five years as follows:

Year	Profit (Rs.)
1	30,000 40,000
2	(10,000) Loss
3	50,000 70,000
4	
5	

The goodwill of the firm is calculated at four times the average of the past five years.

Solution

Total Profits = 30,000 + 40,000 + (-10,000) + 50,000 + 70,000 = Rs. 1,80,000

Step 1: Find average profit

Average Profits Rs. 1,80,000 ÷ 5 = Rs. 36,000 Step 2:

Find Goodwill, i.e. Average Profit x Multiplier

Value of goodwill Rs. 36,000 \* 4 = Rs. 1,44,000

(ii) Super Profit Method

Under this method, goodwill is calculated on the basis of the number of years' purchase of Super Profits. Super Profit is the difference between the Actual Profit and the normal expected profit in the trade.

Super profit is multiplied by a certain multiplier, as in the simple average method.

Steps

(a) Identify the capital employed, say,	Rs. 1,00,000
(b) Identify the average profits (actually earned), say,	Rs. 36,000
(c) Identify the normal rate of return, say, 10%	
(d) Find normal profit 10% of Rs. 1,00,000 =	Rs. 10,000
(e) Excess, i.e. super profit is (Rs. 36,000 - Rs. 10,000) =	Rs. 26,000
(f) Multiplier, say, 5 years (@ 10%)	
(g) Goodwill is Rs. 26,000 * 5 =	Rs. 1,30,000

(iii) Capitalisation of Profit Method

Under this method, value of goodwill is arrived at after capitalising the normal profit at a given reasonable or normal rate of return. Profit, when divided by the normal rate of return, gives the amount, which should have been invested in the business of the firm in the form of capital. This value is compared with the net assets of the firm. The value of goodwill is the excess of capitalised value over the net assets of the firm.

Let us say, for example,

Actual normal profit of a firm with capital of Rs. 1,00,000 is Rs. 26,000.

Normal rate of return is 10% .

Normal value of business, i.e. capitalised value of business

= Profit ÷ Normal Rate

= (26,000 ÷ 10) x 100 = Rs. 2,60,000.

Actual capital of the business: Rs. 1,00,000.

Therefore, Goodwill = Rs. 2,60,000 - Rs. 1,00,000 = Rs. 1,60,000.

**23.5 ENTRIES IN RESPECT OF GOODWILL****A. Admission of a Partner**

When a new partner is admitted to partnership, adjustments of goodwill is necessary because goodwill has been built up by the old partners over a period of years for which they have worked hard and they would not like to just pass on a part of it to the new partner. The new partner also gets a share in profits of the firm from the date of his admission, which is sacrificed by the existing partners. The existing partners would not like to just pass on this benefit to the new partner without a consideration. Let us say A and B are partners sharing profits equally. They take C as partner with equal share. The position will be as under:

Partners	Old Ratio	New Ratio	Loss (Sacrifice)/Gain
A	1/2	1/3	-1/6
B	1/2	1/3	-1/6
C	Nil	1/3	+1/3

Sacrificing Ratio = Old ratio (-) New ratio.

*Entries to be passed for Goodwill:*

- When the new partner pays the goodwill privately:  
In this case, no entry is passed in the books of account.
- When the new partner brings in his share of goodwill and cash brought in as goodwill is retained in the business:
  - Cash/Bank a/c Dr.  
    To Goodwill a/c
  - Goodwill a/c Dr.  
    To Old partners' capital a/c In old  
    profit sharing or sacrificing ratio)
- If goodwill is brought in by way of cash and is withdrawn by old partners, then in addition to the two entries as above, the following third entry is passed:
  - Old partners' capital a/c Dr.  
    To Cash/bank a/c
- When the new partner does not bring cash for goodwill and goodwill is raised by the old partners and shown as an asset in the Balance Sheet:
  - Goodwill a/c Dr.  
    To Old partners' capital a/c  
    (In old profit sharing ratio)
- When new partner does not bring cash for goodwill but goodwill is raised and written off immediately:
  - Goodwill a/c Dr.  
    To Old partners' Capital a/c  
    (In old profit sharing ratio)

- (b) All partners' capital a/c Dr. (including new one)  
       To Goodwill a/c (In new  
       profit sharing ratio)

### B. Retirement or Death of a Partner

On retirement or death of any partner, the portion of goodwill of the firm belonging to the retiring partner or the partner who died, has to be paid by the continuing/surviving partners, to the retiring partner or the heirs of the deceased partner, as the case may be. As the continuing/surviving partners gain in terms of increase in share of profits due to death/retirement of a partner, they bear this amount of goodwill paid, in the gain ratio.

*Entries to be passed for Goodwill:*

1. When the goodwill is raised at full value in the books of the firm and goodwill account is retained so that it appears on the assets side of the balance sheet:

- (a) Goodwill a/c Dr.  
       To Old partners capital a/c (In old profit sharing ratio) (Being goodwill  
       account raised and credited to partners' capital accounts).

2. When Goodwill is raised at full value and then immediately written off:

- (a) Goodwill a/c Dr.  
       To old partners' capital a/c [In old profit sharing ratio] (Being goodwill  
       account raised and credited to old partners capital accounts).

- (b) Continuing partners' capital a/c Dr.  
       To Goodwill a/c [In new profit sharing ratio] (Being goodwill  
       account written off in new profit sharing ratio)

3. When only the retiring or deceased partners' share is raised and written off:

- (a) Goodwill a/c Dr.  
       To Retiring/deceased partners a/c (Being goodwill raised to the extent of  
       retiring/deceased partner's share)

- (b) Continuing partner's capital a/c Dr.  
       To Goodwill a/c (Being goodwill a/c written off in  
       the gaining ratio)

### Illustration 3

A, B and C are equal partners. C retires. Goodwill on the date of his death is Rs. 90,000. Then, C's Share  $\frac{1}{3} \times \text{Rs. } 90,000 = \text{Rs. } 30,000$

The chart below depicts gain of the continuing partners.



Partners	Old Ratio	New Ratio	Gain
A	1/3	1/2	+ 1/6
B	1/3	1/2	+1/6
C	1/3	Nil	(1/3)

Entries, if only C's share of goodwill is raised for above, will be:

(a) Goodwill a/c	Dr.	Rs. 30,000	
To C's Capital a/c			Rs. 30,000
(b) A's Capital a/c	Dr.	Rs. 15,000	
B's Capital a/c	Dr.	Rs. 15,000	
To Goodwill a/c			Rs. 30,000

### 23.6 ADMISSION OF A PARTNER

A new partner may be admitted into an existing partnership for the purpose of securing additional capital or additional skill or for any other purpose. When a new partner is admitted in an existing firm, the new partner will get certain benefits such as:

- Share in the assets and liabilities of the firm.
- Share in the profit/loss of the firm.
- Share in the goodwill enjoyed by the firm.

All *these* advantages are derived by the new partner at the initial sacrifice of the old partners. Thus, at the time of admission of a new partner, the following steps are required to be taken by the firm:

1. Revaluation of assets and liabilities
2. Treatment of goodwill
3. Decision regarding amount of capital to be brought in by the new partner
4. Adjustment regarding accumulated losses and reserves
5. Capital accounts of the partner.

#### 1. Revaluation of Assets and Liabilities

A *new* partner, admitted into a partnership, gets a share in the profits as well as the assets of the business. On the date of admission of the new partner, the real value of assets of the firm may be more or less than the value appearing in the books of account. This increase or decrease in value belongs entirely to the old partners and hence, has to be adjusted before the admission of the new partner. Similarly, the liabilities existing on the date of admission of the new partner may also need revision.

When the asset value increases, there is a profit and when it goes down, there is a loss. When liabilities increase, there is a loss and when liabilities decrease, there is a profit. This increase or decrease in assets and liabilities is adjusted to the accounts of the old partners through an account called the '**Revaluation Account**' or '**Profit and loss Adjustment Account**'. The entries recorded in this account are on the principle that when there is a loss, debit profit and loss adjustment account and when there is a gain, credit profit and loss adjustment account. The difference in the two sides of this account will show either profit or loss, which is transferred to the accounts of the old partners in old profit sharing ratio.

The entries to be passed in this connection are:

For increase in the value of assets

Asset a/c Dr.  
     To Revaluation a/c (Being increase in the value of  
 asset brought in books)

For decrease in the value of assets

Revaluation a/c Dr.  
     To Asset a/c (Being decrease in the value of assets  
 brought in books)

For increase in liabilities

Revaluation a/c Dr.  
     To Liability a/c (Being increase in the value of liability  
 brought in books)

For decrease in liabilities

Liability a/c Dr.  
     To Revaluation a/c (Being decrease in the  
 liability brought in books)

For profit on revaluation of assets and liabilities

Revaluation a/c Dr.  
     To Old Partners' Capital a/c (In  
 old profit sharing ratio)

(Being the profit on revaluation of assets and liabilities transferred to partners' capital accounts)

For Loss on revaluation of assets and liabilities

Old Partners Capital a/c Dr.  
     To Revaluation a/c (Being the loss on revaluation of assets and liabilities transferred to  
 partners' capital accounts)

## 2. Treatment of Goodwill

For treatment of goodwill on admission of a partner, refer to paragraph A of 23.5 above under the heading 'Entries in respect of Goodwill.'

## 3. Capital to be brought in by a New Partner

The new partner brings in capital, in addition to goodwill, to get a share in the firm's assets, liabilities and profits. If the new partner, admitted to a business, brings his share of contribution in the form of cash, the event is recorded as follows:

Cash a/c Dr.  
     To New Partners' Capital a/c (Being  
 capital brought in by the new partner)

Sometimes, the new partner brings in capital in the form of assets, the entry for which is as under:

Sundry Assets a/c Dr.  
     To New Partner's Capital a/c (Being capital brought in the form of  
 sundry assets by the new partner)

**Illustration 4**

Shri Satish transfers the following assets and liabilities to the firm in which he is to be admitted as a new partner. Building Rs. 1,50,000, Stock Rs. 30,000, Debtors Rs. 50,000 (subject to a provision for doubtful debts @ 10% ) Cash Rs. 25,000, Creditors Rs. 30,000, and bills payable Rs. 20,000.

The entries in the books of the firm will be as follows:

		Rs.	Rs.
Building a/c	Dr.	1,50,000	
Debtors a/c	Dr.	50,000	
Stock a/c	Dr.	30,000	
Cash a/c	Dr.	25,000	
To Creditors a/c			30,000
To Bills Payable a/c			20,000
To Provision for Doubtful Debts a/c			5,000
To Satish's Capital a/c (Balancing figure)			2,00,000

(Being various assets and liabilities brought in by Satish at agreed values towards his contribution as capital)

**4. Adjustment Regarding Accumulated Losses and Reserves**

Normally, the profits of the partnership are divided between the partners at the end of each year. In case, a part of the profits is kept in reserve, to take advantage of it in bad times, then the old partners would not like the newly admitted partner to share the benefit of this reserve or undistributed profits. Therefore, the said amount is divided by the old partners amongst themselves in the old profit sharing ratio. The entry for the same is:

General Reserve or Profit and Loss a/c	Dr.
To Old Partners' Capital a/c (Being distribution of profit/reserve in the old profit sharing ratio)	

Sometimes, losses of the earlier years are carried by the partnership under the head profit and loss account. They also belong entirely to the old partners and the new partner would definitely not bear this loss. The losses are written off by passing the following entry:

Old Partners' Capital a/c	Dr.
To Profit and Loss a/c (Being sharing of loss in old profit sharing ratio)	

**5. Adjustment of Capital Accounts of Partners**

Sometimes, it may be decided that after the admission of a new partner, the old partners' capitals should also be adjusted according to the new profit sharing ratio. This is because old partners' capital balances may have changed considerably due to revaluation of assets and liabilities, transfer of reserves, adjustment of goodwill, etc. For this purpose, generally, the new partner's capital and his share of profit are taken as the basis for calculation and the old partners' capitals are ascertained according to the future profit sharing ratio. The amounts so arrived at are compared with the capitals standing to the credit of their capital accounts. Excess may be paid off by the firm to the old partners and deficiency, if any, may be required to be made up by them by bringing in additional cash.

### 3.7 RETIREMENT AND DEATH OF A PARTNER

#### A. Retirement of a Partner

Retirement of a partner means that the partner breaks off his/her relations with all other partners and withdraws himself/herself from the firm.

##### *Reasons of Retirement*

- (a) Due to old age
- (b) Retiring partner may not have faith in the future prospects of the firm or in other partners
- (c) Difference of opinion with other partners
- (d) Retiring partner may migrate or shift from the place of business
- (e) Voluntarily decides to retire
- (f) As per terms of partnership deed.

According to Section 32 of the Indian Partnership Act, 1932, a partner may retire:

- (a) with the consent of all the partners.
- (b) in accordance with the terms of the partnership agreement, or
- (c) by giving a notice to all the partners of his intention to retire, when the partnership is 'At Will'.

In case of retirement, a retiring partner is interested in collecting his share in the various activities of the business of which he was a part owner till the date of his retirement.

#### B. Death of a Partner

In retirement, a partner breaks off his/her relation with the firm voluntarily, i.e. on his own. Death of a partner automatically terminates such relationship. Unlike retirement, which is on a specific convenient date mutually agreed upon with other partners, death of a partner can occur at any time during the accounting year.

#### C. New Profit Sharing Ratio of Continuing Partners

After retirement or death of a particular partner, the continuing partners may agree to share the profits in the same old ratio or in a new agreed ratio. The ratio in which the continuing partners gain or benefit from the share of the retiring or dead partner is called the 'Gaining ratio'. Gaining ratio is equal to the new ratio minus the old ratio.

- (a) Let us suppose A, B and C are partners sharing profits and losses in the ratio of 5: 3: 2. A retires and B and C agree to continue at the ratio of 3: 2. In this case, the position will be as follows:

	Old Ratio	New Ratio	Net Gain/Loss
A	5/10	Nil	(-) 5/10, i.e. 1/2 +
B	3/10	3/5	3/10(3/5-3/10) +
C	2/10	2/5	2/10(2/5-2/10)

Gain ratio will be 3: 2.

(b) Let us now suppose B and C change their ratio to 5: 3; then the position will be as follows:

	Old Ratio	New Ratio	Net Gain/Loss
A	5/10		(-) 5/10, i.e. 1/2
	3/10	5/8	+ 13/40(5/8-3/10)
B	2/10	3/8	+ 7/40(3/8-2/10)
C			

Gain ratio will be 13/40: 7/40, i.e. 13: 7.

#### D. Accounting Treatment

The accounting issues, arising on retirement and death, are more or less similar, except that unlike retirement wherein the dues are to be paid to the retiring partner, in the case of death, they are to be paid to the legal heirs of the deceased partner.

The accounting adjustment in case of death or retirement consists of the following items:

1. Treatment of balance in his capital and current accounts.
2. Treatment of his share of goodwill.
3. Treatment of his share of profits and reserves.
4. Treatment of his share on revaluation of assets and liabilities.
5. Treatment of share of profit till the date of retirement or death and other items such as interest on capital, drawings, salary, etc.

##### 1. Treatment of balances in his capital and current accounts

The balance in capital and current accounts of the retiring or deceased partner can either be immediately paid off or transferred to a loan account.

##### 2. Treatment of his/her share of goodwill

For treatment of goodwill on retirement/death of partner, refer to paragraph B of 23.5 above under heading 'Entries in respect of goodwill'.

##### 3. Treatment of his/her share of profits and reserves

Reserves, profit and loss account, etc., are credited to partners' capital accounts or alternatively only deceased/retiring partner's share is transferred to his capital account.

##### 4. Treatment of his/her share on revaluation of assets and liabilities

On death/retirement of a partner, revaluation of assets and liabilities is required to be made in the same manner as in the case of admission of a partner. Profits and losses on revaluation are distributed among all the partners in their old profit and loss sharing ratio.

##### 5. Treatment of share of profit till the date of retirement or death and other items such as interest on capital, drawings, salary, etc.

If the retirement or death takes place during the middle of the accounting year then the retiring or deceased partner is entitled to his share in profit or loss up to the date of his retirement/death. Profit or loss is normally determined by preparing final accounts up to date. However, it is not always possible to prepare accounts up to the middle of the year. In such a case, an estimated share in profit or loss is determined on the basis of preceding year. Profits till the date of retirement or death

can be calculated on the basis of sales of the previous year or on time basis or on the average of the two.

### E. Joint Life Policy

In order to provide for the cash in contingency like the death of a partner, etc., a firm may decide to take a joint life policy on the lives of partners so that the proceeds received from the insurance company may be utilised to make payments of the dues of a deceased partner and the firm is saved from financial hardship.

The accounting treatment for the premium paid on any joint life policy may be made in any of the following two ways:

- (i) When premium paid is treated as an expense and accordingly transferred to the profit and loss a/c like other expenses: in such a case, the amount received from the insurance company, either on surrender of the policy or on the death of a partner, is treated as income and transferred to partners' capital a/c. Accounting entries in this case are as follows:

On payment of premium:

Insurance Premium a/c (Expenses Revenue)	Dr.
--	-----

To Cash a/c

Transfer Entry: P and L a/c

To Insurance Premium a/c	Dr.
--------------------------	-----

(Being payment of insurance premium transferred to profit and loss account) On

receipt of Policy Amount:

Bank a/c	Dr.
----------	-----

To Partners' Capital a/c

(Being the proceeds treated as revenue receipt directly credited to all the partners in profit sharing ratio)

- (ii) Alternatively, premium paid is treated as an asset by opening a joint life policy account. At the end of every year, the difference between the surrender value and book value is transferred to the profit and loss a/c either as a profit or a loss. If the amount received from the insurance company is more than the surrender value of the policy, the excess is treated as gain and transferred to the capital a/c of the partners in their profit sharing ratio.
- (iii) Another alternative method is the creation of a 'Joint Policy Reserve Account' by transferring an amount equal to the premium from the profit and loss appropriation account. The policy is shown at surrender value and the difference between the book value and surrender value is written off to the joint policy reserve account. Thus, joint policy account at surrender value appears on the assets side of the balance sheet and the joint policy reserve account also at surrender value appears on the liabilities side.

On receipt of the proceeds of the policy amount, the joint policy reserve account is transferred to the joint policy account and the policy amount is transferred to the partners' capital accounts.

### 23.8 SLEEPING PARTNER AND QUASI PARTNER

#### Sleeping Partner

In a partnership, very often, some partners agree to work while others are interested in merely investing the capital and getting a share of profits. Such partners are normally not interested in the day-to-day working of the partnership and are called sleeping partners. The other partners who work for the business of the firm are called working partners or active partners. However, it must be noted that law makes no difference between a sleeping partner and a working partner and the sleeping partner will be equally responsible to the third parties for all acts or omissions of a working partner.

#### Quasi or Nominal Partner

Sometimes, some prominent persons lend their names to a firm in order to allow the firm to enjoy their goodwill in furtherance of its business. Likewise, in some cases, a person's name may be used by the partnership firm showing him/her to be a partner, whereas the person is, in fact, not a partner in the firm. In such cases, although no relationship of partnership exists, the law stops a person from disclaiming his/her status as partner vis-a-vis third parties, if he/she keeps quiet, in spite of being fully aware of the fact that his/her name is utilised as partner. Such a quasi-partnership protects the third parties who may make a non-partner liable in these circumstances.

### 23.9 MODEL PROBLEMS IN PARTNERSHIP

#### Illustration 5 (Admission of a Partner)

Following is the balance sheet of A and B who share profits in the ratio of 70 per cent and 30 per cent respectively as on 31st December, 2003. C was admitted as a partner with effect from 1st January 2004 and he brought into business sundry debtors Rs. 5,000 (subject to 10% provision for bad debts), creditors Rs. 1,600 and goodwill Rs. 4,000. He agreed to maintain his capital at Rs. 20,000 for a one-fifth share in the profits of the firm.

Balance Sheet of A and B as on 31st December, 2003

Liabilities	Amount	Assets	Amount
Creditors	10,600	Cash	3,800
Bank Overdraft	9,000	Debtors	14,000
General Reserve	5,400	Stock	21,200
A's Capital	45,000	Building	26,000
B's Capital	19,000	Other Assets	7,000
		Truck	17,000
	89,000		89,000

The assets were adjusted as follows. Stock increased by Rs. 5,200, Building and Truck were increased by 10 per cent, and other assets were decreased by Rs. 800. A Reserve for doubtful debt was created at 5 per cent on Debtors. It was agreed to adjust the Partners' Capital in Profit sharing ratio.

Give journal entries for making the above adjustments and prepare a balance sheet after making the adjustments.

**Solution**

Date	Particulars		Rs.	Rs.
Jan. 2004	Sundry debtors a/c	Dr.	5,000	
	Goodwill a/c	Dr.	4,000	
	Cash a/c	Dr.	13,100	
	(balancing figure)			
	To Creditors a/c			1,600
	To Provision for bad debts			500
	To C's capital a/c			20,000
	(Being various assets brought by C towards his capital recorded in books)			
Jan 2004	Stock a/c	Dr.	5,200	
	Truck a/c	Dr.	1,700	
	Building a/c	Dr.	2,600	
	To Revaluation a/c			9,500
	(Being increase in value of assets recorded)			
	Revaluation a/c	Dr.	1,500	
	To Others Assets a/c			800
	To Provision for Doubtful Debts a/c			700
	(Being decrease in other assets and provision for doubtful debts recorded)			
	Revaluation a/c	Dr.	8,000	
	(9,500 - 1,500)			
	To A's Capital a/c			5,600
	To B's Capital a/c			2,400
	(Being profit on revaluation distributed in old profit sharing ratio)			
	General Reserve a/c	Dr.	5,400	
	To A's Capital a/c			3,780
	To B's Capital a/c			1,620
	(Being general reserve distributed in old profit sharing ratio)			
	Cash a/c	Dr.	2,600	
	To A's Capital a/c			1,620
	To B's Capital a/c			980
	(Being cash brought in by old partners)			



Working note

## Partners' Capital a/c

Dr.				Cr.			
Particulars	A	B	C	Particulars	A	B	C
To Balance b/f	56,000	24,000	20,000	By Balance b/f	45,000	19,000	Nil
				By Sundry Assets a/c	-	-	20,000
				By Revaluation/ P and L Adjustment a/c	5,600	2,400	-
				By General Reserve a/c	3,780	1,620	-
				By Cash (balancing figures) a/c	1,620	980	-
Total	56,000	24,000	20,000	Total	56,000	24,000	20,000

(a) C = Rs. 20,000 = 1/5 share.

(b) Therefore total Capital of the firm = Rs. 20,000 \* 5 = Rs. 1,00,000

(c) Out of total Capital of Rs. 1,00,000, C contributes Rs. 20,000 and balance of Rs. 80,000 will be contributed by A and B in their old ratio of 7: 3. So capital of A and B will be as under:

$$A = \text{Rs. } 80,000 \times \frac{7}{10} = 56,000 \quad B$$

$$= \text{Rs. } 80,000 \times \frac{3}{10} = 24,000$$

## Revaluation a/c

Dr.			Cr.	
	Rs.			Rs.
To Other Assets a/c To	800	1,500	By Stock a/c	5,200
Provision for DD a/c	700		By Truck a/c	1,700
To A's Capital a/c	5600	8,000	By Building a/c	2,600
To B's Capital a/c	2400			
		9,500		9,500

## Balance Sheet of the Reconstituted Firm as on 1-1-2004

Liabilities	Amt.	Assets	Amt.
Creditors (10,600+ 1,600)	12,200	Cash in Hand (3,800+ 1,620 + 980+ 13,100)	19,500
Bank Overdraft	9,000	Sundry Debtors (5,000 + 14,000 = 19,000)	
Capital a/cs		Less: Provisions (500 + 700 = 26,400)	17,800
A's Capital	56,000	Stock (21,200+ 5,200)	26,400
B's Capital	24,000	Other Assets (7,000 - 800)	6,200
C's Capital	20,000	Truck (17,000+ 1,700)	18,700
		Building (26,000 + 2,600)	28,600
		Goodwill	4,000
	1,21,200		1,21,200

**Illustration 6** (Admission of a partner - Memorandum Revaluation Account)

In the above example, if assets are to be kept at book value:

The entries for profit will be as follows:

		Rs.	Rs.
(a) Memorandum Revaluation a/c	Dr.	8,000	
To A's Capital a/c			5,600
To B's Capital a/c			2,400

(Being profit on revaluation transferred to old partners in old ratio)

(b) A's Capital a/c	Dr.	4,480	
B's Capital a/c	Dr.	1,920	
C's Capital a/c	Dr.	1,600	
To Memorandum Revaluation a/c			8,000

(Being the balance of memorandum revaluation account transferred to all partners in new ratio)

Alternatively, one single entry may be passed:

C's Capital a/c	Dr.	1,600	
To A's Capital a/c		1,120	
To B's Capital a/c		480	

(Being one-fifth share of C in profit on revaluation of Rs. 8,000 credited to old partners in their sacrifice ratio and debited to C since entitled therefore subsequently)

**Illustration 7**

P and Q are partners in a firm sharing profits and losses as P = 75% and Q = 25% . On 1st January, 2004, their position was as under:

Liabilities	Rs.	Assets	Rs.
Capital Accounts: P	50,000	Goodwill	10,000
Q Sundry Creditors	30,000	Plant	30,000
	20,000	Stock	10,000
		Debtors	30,000
		Cash	20,000
	1,00,000		1,00,000

R is now to join the firm for Vi share. He agrees to pay the partners Rs. 20,000 by way of goodwill and introduce Vz of the combined capitals of two existing partners after depreciating plant and stock at 20% and 10% respectively and raising a reserve of 10% against sundry debtors.

Record the above transactions and give resultant balance sheet assuming that the partners decide not to allow goodwill to appear in balance sheet.

## Solution

## Balance Sheet after Admission

Liabilities	Rs.	Assets		Rs.
Capital Accounts: P	50,000	Plant Less:	30,000	24,000
		Depreciation	6,000	
Q	30,000	Stock Less:	10,000	9,000
R	40,000	Depreciation	1,000	
Sundry Creditors	20,000	Debtors Less:	30,000	27,000
		R.D.D.	3,000	
		Cash		80,000
	1,40,000			1,40,000

## Profit and Loss Adjustment a/c

To Plant a/c To	6,000	By Net Loss transferred	7,500
Stock a/c To	1,000	P's Capital a/c Q's	2,500
RD.D. a/c	3,000	Capital a/c	
	10,000		10,000

## Capital Accounts of the Partners

Dr.				Cr.
	P	Q	R	
To P and L Adjust, a/c	7,500	2,500	40,000	By Opening balance
To Goodwill a/c To	7,500	2,500		By Cash a/c By
Closing balance	50,000	30,000		Goodwill a/c
	65,000	(35,000)	40,000	

## Cash a/c

Dr.			Cr.
To Opening balance	20,000	By Closing balance	80,000
To R's Capital a/c To	40,000		
Goodwill a/c	20,000		
	80,000		80,000

Combined Capital of P and Q at the beginning (50,000 + 30,000)	80,000
Less: Loss on revaluation Goodwill written off	10,000
	10,000
Add: Amount brought in by R Towards goodwill	60,000
Combined Capital of P and Q at the end R brings 1/2 of the combined capital, i.e. 1/2 of 80,000 = 40,000	20,000
	80,000

**Illustration 8**

Given below is the Balance Sheet of X and Y as on 31st December, 2003. The partners share Profit and Loss in the ratio of 2 : 1.

Balance Sheet

Liabilities	Rs.	Assets	Rs.
Sundry Creditors	15,000	Plants	15,000
General Reserve	5,000	Furniture and Fitting	12,000
Capital Accounts		Sundry Debtors	10,000
X	20,000	Stock in Trade	12,000
Y	15,000	Cash at Bank	6,000
	55,000		55,000

The partners agree to admit Z into the firm on the following terms:

- Z will pay Rs. 20,000 as his capital for 40% of the future profits of the firm.
  - The assets of the firm were revalued before the admission as under:
    - Furniture to be reduced by Rs. 1000
    - Plant to be depreciated by 10%
    - A provision of 5% is to be made for doubtful debts.
    - Stock to be appreciated to Rs. 12,500.
  - Goodwill account is to be raised in the firm's books for Rs. 5,000.
- Show necessary ledger accounts and Balance Sheet of new firm.

**Solution**

Balance Sheet

Liabilities	Rs.	Assets	Rs.
Capital Accounts: 25,000		Plant <i>Less:</i> 15,000	13,500
X		Depreciation 1,500	
Y 17,500	62,500	Furniture <i>Less:</i> 12,000	11,000
Z 20,000		depreciation 1,000	
Creditors	15,000	Sundry Debtors ** 10,000	9,500
		<i>Less:</i> R.D.D. 500	
		Stock <i>Add:</i> 12,000	12,500
		Appreciation 500	
		Cash at Bank	26,000
		Goodwill	5,000
	77,500		77,500

## Profit and Loss Adjustment a/c

Dr.	Rs.	Cr.	Rs.
To Furniture a/c	1,000	By Stock a/c	500
To Plant a/c	1,500	Loss on Revaluation	
To R.D.D. a/c	500	X's Capital a/c	1,666
		Y's Capital a/c	834
	3,000		3,000

## Capital Accounts of the Partners

Dr.	X	Y	Z	Cr.	X	Y	Z
To P and L Adjus.	1,666	834	20,000	By Op. balance	20,000	15,000	20,000
To Closing balance	25,000	,500		By Goodwill By	3,333	1,667	
				Reserve By Bank	3,333	1,667	
	26,666	18,334	20,000		26,666	18,334	20,000

## Bank a/c

Dr.	Rs.	Cr.	Rs.
To Opening Balance	6,000	By Closing Balance	26,000
To Z's Capital	20,000		
	26,000		26,000

## Goodwill a/c

Dr.	Rs.	Cr.	Rs.
To X's capital	3,333	By Closing Balance	5,000
To Y's capital	1,667		
	5,000		5,000

**Illustration 9** (Retirement of a partner)

A, B and C are partners sharing profits and losses in the ratio 3:2: 1. C retires on 31 st March, 2003. The Balance Sheet of the firm as on 31st December, 2002 was as follows:

Liabilities	Rs.	Assets	Rs.
Creditors	10,000	Cash	1,000
Bank Overdraft	1,000	Stock	2,000
Reserves	2,250	Debtors	7,500
Capital a/c:		Less: Provision	500
A	12,500	Motor Car	9,000
B	7,500	Investment	2,250
C	5,000	Building	9,500
		Machinery	7,500
	38,250		38,250

On C's retirement, motor car was valued at Rs. 10,000, while investment and building were valued at 80% of their book value. Debtors were treated as good and no provision was thought necessary. Machinery was kept at book value. Goodwill was valued at Rs. 12,000. The amount was fully paid off. Profit for 3 months was estimated at Rs. 1,050. Prepare Revaluation Account and C's Capital a/c.

### Solution

#### Revaluation a/c

Dr.	Rs.		Cr.
			Rs.
To Investment a/c	450	By Motor Car a/c	1,000
To Building a/c	1,900	By Provision for doubtful debts a/c	500
		By A's capital a/c	425
		By B's capital a/c	283
		By C's capital a/c (Note 1)	142
	2,350		2,350

**Note 1:** Loss on revaluation transferred to capital account of partners in the ratio of 3: 2: 1.

#### C's Capital a/c

Dr.	Rs	/	Cr.
			Rs.
April 2003:		April 2003:	
To Revaluation a/c	142	By Balance b/f	5,000
To Bank a/c	7,408	By Goodwill (1/6 x 12,000) a/c	2,000
		By Profit and Loss Adjustment a/c (1050 x 1/6)	175
		By Reserve Fund (2250 * 1/6) a/c	375
	7,550		7,550

Note 2:

- (a) Goodwill of Rs. 2,000 credited to C's capital account is 1/6th of the total goodwill of Rs. 12,000. The same will be debited to A's account and B's capital account Rs. 1,200 and Rs. 800 respectively.

(b) Reserve fund balance is Rs. 2,250 created out of past profit. Therefore, the share of C is credited to his capital account on his retirement.

**Illustration 10** (Retirement of Partner)

From the above example, prepare C's accounts assuming that the payments are made as follows:

it

Rs. 408 on April 1 and balance in two equal half yearly (principal) instalments plus interest payable on September 30, 2003 and March 31, 2004. Calculate interest @ 10% at half-yearly intervals.

**Solution**

**C's Capital Account**

Dr.			Cr.		
Date	Particular	Rs.	Date	Particular	Rs.
April 2003	To Cash a/c To C's loan a/c	408 7,000	April 2003	By Balance (as above)	7,408
		7,408			7,408

**C's Loan a/c**

Dr.			Cr.		
Date	Particulars	Rs.	Date	Particulars	Rs.
Sept. 2003	To Cash a/c (3,500 + 350)	3,850	April. 2003	By C's capital a/c	7,000
Dec. 2003	To Balance c/f	3,588	Sept. 30, 2003	By Interest a/c	350
Dec. 31-03				By Interest for 3 months (3,500 x 10/100x3/12) a/c	88
		7,438			7,438
March 31, 2004	To Cash a/c	3,675	Jan. 1,2004	By Balance b/f	3,588
			March 3, 2004	By Interest b/c (3 Months)	87
		3,675			3,675

Note: Since the firm closes books as on 31st December every year, interest up to 31st December is calculated.

**Illustration 11** (Joint Life Policy)

A firm takes a policy of its 3 partners A, B and C for Rs. 25,000 on January 2, 2001 by paying premium of Rs. 3,000. Its surrender value on 31 st December 2001, 2002, 2003 was NIL, Rs. 1,500 and Rs. 3,500 respectively. B dies on 1st January 2004. Make necessary Accounts.

A. Under Method A: (Premium treated as expenses)

## Insurance Premium Account

Dr.			Cr.		
Date	Particulars	Rs.	Date	Particulars	Rs.
Jan. 2, 2001	To Bank	3,000	Dec. 31,2001	By P and L a/c	3,000
Jan. 2, 2002	To Bank	3,000	Dec.31,2002	By P and L a/c	3,000
Jan. 2, 2003	To Bank	3,000	Dec. 31,2003	By P and L a/c	3,000

## Profit and Loss a/c (Abstract only)

Debit Side		Rs.
Dec. 31,2001	To Ins. Premium	3,000
Dec. 31,2002	To Ins. Premium	3,000
Dec. 31,2003	To Ins. Premium	3,000

## Joint Life Insurance Policy a/c

Dr.			Cr.		
Date	Particulars	Rs.	Date	Particulars	Rs.
Jan. 1,2004	By c/s: A B C	8,333	Jan. 1,2004	By Bank a/c	25,000
		8,333			
		8,334			
		25,000			25,000

## B. Under method B: (Treating Premium as asset)

## Joint Life Insurance Policy a/c

Dr.			Cr.		
Date	Particulars	Rs.	Date	Particulars	Rs.
Jan. 2,2001	To Bank a/c	3,000	Dec. 31,2001	By P and L a/c	3,000 <sup>1</sup>
Jan. 2, 2002	To Bank a/c	3,000	Dec. 31,2002	By P and L a/c	1,500
			Dec. 31,2002	By Balance c/f	1,500
		6,000			6,000
Jan. 2, 2003	To Balance b/f	1,500	Dec. 31,2003	By P and L a/c	1,000
	To Bank a/c	3,000		By Balance c/f	3,500
		4,500			4,500
Jan. 2, 2004	To Balance b/f	3,500	Jan. 1, 2004	By Bank a/c	25,000

(contd.)



Date	Particulars	Rs.	Date	Particulars	Rs.
	To Partners' Captive a/c				
	A	7,167			
	B	7,167			
	C	7,166			
		25,000			25,000

## Abstract of Profit and Loss a/c

Debit Side		' R7
Dec. 31,2001	To Jt. Life Ins. Policy a/c	3,000
Dec. 31,2002	To Jt. Life Ins. Policy a/c	1,500
Dec. 31,2003	To Jt. Life Ins. Policy a/c	1,000

C. Under Method C:

## Joint Life Policy a/c

Dr.			Cr.		
Date	Particulars	Rs.	Date	Particulars	Rs.
Jan. 2, 2001	To Bank a/c	3,000	Dec. 31,2001	By Jt. Policy Reserve a/c	3000
Jan. 2, 2002	To Bank a/c	3,000	Dec.31,2002	By Jt. Policy Reserve a/c	1,500
		3,000		By Balance c/f	1,500
Jan. 2, 2003	To Bank b/f	1,500	Dec. 31,2003	By Jt. Policy Reserve a/c	1,000
	To Bank a/c	3,000		, By Balance c/f	3,500
		4,500			4,500
Jan. 2, 2004	To Balance b/f	3,500	Jan. I, 2004	By Jt. Policy Reserve a/c	3,500
	To Capital a/c A	8,333		By Bank a/c	25,000
	To Capital a/c B	8,333	Jan 1, 2004		
	To Capital a/c C	8,334			
		28,500			28,500

## Joint Policy Reserve a/c

Dr.							
Date	Particulars	Rs.	Date			Particulars	Rs.
Dec.31,2001	To Jt. Life Policy a/c	3,000	Dec. 31	2001		By P and L App. a/c	3,000
Dec.31,2002	To Jt. Life Policy a/c	1,500	Dec. 31	2002		By P and L App. a/c	3,000
	To Balance c/f	1,500					
		3,000					3,000
Dec. 31,2003	To Jt. Life Policy a/c	1,000	Dec. 31	2003		By Balance b/f a/c	1,500
	To Balance c/f	3,500				By P and L App	3,000
		4,500					4,500
Jan.2,2004	To Jt. Life Policy a/c	3,500	Jan. 1,2004			By Balance b/f	3,500
		__A500					3,500

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**Illustration No. 12**

Vijay & Co. is a partnership firm with partners A, Band C sharing profits and losses in the ratio of 5: 3: 2. Their Balance Sheet as on 30th June, 2003 was as under:

Balance Sheet			
Liabilities	Rs.	Assets	Rs.
Capital Accounts		Land and Building	2,10,000
A : 80,000		Plant and Machinery	1,30,000
B : 20,000		Furniture and Fittings	40,000
C : 30,000	1,30,000	Investments	12,000
Unappropriated Profit	20,000	Stock	1,26,000
Long-term Loan	3,00,000	Debtors	1,39,000
Bank Overdraft	44,000		
Trade Creditors	1,63,000		
	6,57,000		6,57,000

It was mutually agreed that Mr B will retire and in his place Mr D will be admitted as a partner with effect from 1 st July, 2003. For this purpose, following adjustments are to be made:

1. Goodwill is to be valued at Rs. 1,00,000 but the same will not appear as an asset in the books of new firm.
2. Land and building and plant and machinery are to be depreciated by 10% and 5% respectively. Investments are to be taken over by the retiring partner at Rs. 15,000. Provision of 20% is to be made on the debtors to cover doubtful debts.
3. Total capital of the new firm will be Rs. 2,00,000 which will be contributed by A, C and D in their new profit sharing ratio which is 2 : 2 : 1.
4. The surplus funds, if any, will be used for repaying bank overdraft.
5. The amount due to retiring partner shall be transferred to his loan account.

You are required to show revaluation a/c, capital a/c, bank a/c and balance sheet of the new firm.

**Solution****Revaluation a/c**

Dr.		Cr.	
Particulars	Rs.	Particulars	Rs.
To Land and Building a/c	21,000	By Investments a/c	3,000
To Plant and Machinery a/c	6,500	By Loss on Revaluation	
To R.D.D.	27,800	transfer for capital a/c	
		A: 26,150	
		B: 15,690	
		C: 10,460	52,300
	55,300		55,300

## Bank a/c

Dr.		Cr.	
Particulars	Rs.	Particulars	Rs.
To Capital a/c	6,150	By Balance (Overdraft)	44,000
A: B: C:	76,460	By Closing balance c/f	98,610
	60,000		
	1,42,610		1,42,610

## Capital a/c

Particulars	A	B	C	D	Particulars	A	B	C	D
To Revaluation a/c	26,150	15,690	10,460	—	By Opening balance	80,000	20,000	30,000	
To Goodwill w/off a/c	40,000		40,000	20,000	By Goodwill a/c	50,000	30,000	20,000	
To Investments	-	15,000	-	-	By Reserve a/c	10,000	6,000	4,000	
To Loan a/c	-	25,310	-	-	By bank a/c	6,150	-	76,460	60,000
To Closing balance	80,000	-	80,000	40,000					
	1,46,150	1,56,000	1,30,460	60,000	<b>1</b>	1,46,150	56,000	1,30,460	60,000

## Balance of New Firm

Liabilities	Rs.	Assets	Rs.
Capital Accounts	80,000	Land and Building	2,10,000
A		Less: Depreciation	21,000
C	80,000	Plant and Machinery	1,30,000
D	40,000	Less: Depreciation	6,500
Long-term Loan	3,00,000	Furniture and Fixtures	1,39,000
Trade Creditors	1,63,000	Stock Debtors Less:	27,800
B's Loan	25,310	Provision	
		Cash at Bank	98,610
	6,88,310		6,88,310

## Illustration 13

The Balance Sheet of A, B and C, who were sharing profits and losses in proportion of their capitals, i.e. 4: 3: 2, stood as follows as on 31st December 2003.

Balance Sheet

Liabilities	Rs.		Assets		Rs.
Sundry Creditors	20,000	6,900	Cash at Bank Sundry	5,000	5,500
Capital Accounts	15,000		Debtor Less:	100	4,900
A B C	10,000		Provision Stock Plant		8,000
			and Machinery Land		8,500
			and Building		25,000
		51,900			51,900

On 31st December 2003, B retires and the following readjustments of assets and liabilities have been agreed upon before the ascertainment of the amount payable by the firm to B.

1. The stock to be written off by 6% .
2. The provision for doubtful debts be brought up to 5% on debtors.
3. The land and building be appreciated by 20% .
4. A provision of Rs. 770 be made in respect of outstanding legal charges.
5. The Goodwill of the firm be fixed at Rs. 10,800 and B's share of the same be adjusted in the accounts of A and C who are going to share in future in the proportion of 5/8 and 3/8 respectively. (No goodwill amount is to be raised.)
6. The entire capital of the firm, as newly constituted be fixed at Rs. 28,000 between A and C in the proportion of 5/8 and 3/8 after passing entries in the accounts for goodwill (i.e. actual cash to be paid off to or to be brought in by the continuing partners, as the case may be).

Pass Journal entries to give effect to the above arrangements and prepare the Balance sheet of A and C transferring B's share of capital and goodwill to a separate loan account.

Journal Entries

Date 2003	Particulars	L.F.	Debit Rs.	Credit Rs.
31st Dec.	Profit and Loss Adjustment a/c <span style="float: right;">Dr.</span> To Stock a/c To R.D.D. a/c To Outstanding Legal Charges a/c (Being adjustment in the value of stock, outstanding legal charges and provision for Doubtful Debts)		1,400	480 150 770
31 st Dec.	Land and Building a/c <span style="float: right;">Dr.</span> To Profit and Loss Adjustment a/c (Being appreciation in the value of land and building adjusted)		5,000	5,000

31st Dec.	Profit and Loss Adjustment a/c To A's Capital a/c To B's Capital a/c To C's Capital a/c (Being profit on revaluation transferred to Capital a/c)	Dr.		3,600	----- 1,600 1,200 800
31st Dec.	A's Capital a/c C's Capital a/c To B's Capital a/c (Being B's share in Goodwill adjusted for continuing partners)	Dr. Dr.		1,950 1,650	3,600
31st Dec.	B's Capital a/c To B's Loan a/c (Being amount payable to B transferred to his loan account)	Dr.		19,800	19,800
31st Dec.	Bank a/c To C's Capital a/c (Being amount brought in by C)	Dr.		1,350	1,350
31st Dec.	A's Capital a/c To Bank a/c (Being excess capital over his proportion returned to him)	Dr.		2,150	2,150
Capital of New Firm:			A	C	Total
Closing Balance			17,500	10,500	28,000
Net Balances in a/c after Adjustment			19,650	9,150	
Adjusted in Cash			(-) 2,150	1,350	
Adjustments of Goodwill:					
Old Partners			A	B	C
Goodwill-Credit (10,800)			4,800	3,600	2,400
Goodwill written - off Adjusted to Continuing Partners - Debit			6,750	-	4,050
			(-)1,950	3,600	H1.650

## Capital a/c

Dr.

Cr.

Particulars	A	B	C	Particulars	A	B	C
To B's Loan a/c	-	19,800	-	By Opening Balance	20,000	15,000	10,000
To B's Capital a/c (Goodwill)	1,950	-	1,650	By PandLadj. a/c	1,600	1,200	800
To Bank a/c	2,150	-	-	By A and C			
				Capital a/c (Goodwill)	-	3,600	-
To Closing Balance	17,500	-	10,500	By Bank	-	-	1,350
	21,600	19,800	12,150		21,600	19,800	12,150

## Balance Sheet as on 1st January 2004

Liabilities	Rs.	Rs.	Assets	Rs.	Rs.
Sundry Creditors O/s	17,500	6,900	Cash at Bank	5,000	
Legal Expenses	10,500	770	Sundry Debtors	250	4,700
Capital Accounts			Less: R.D.		
A		28,000	Stock in Trade	8,000	7,520
B			Less: Written-off	480	
B's Loan a/c		19,800	Plant and Machinery	25,000	
			Land and Building	5,000	8,500
		55,470	Add: Appreciation		
					55,470

Partnership is 'the relationship between persons who have agreed to share the profits of a business carried on by all or by anyone of them acting for all'. Partners are collectively called as the 'firm' and individually as the 'partner'. A partnership deed is not required to be in writing but it is always preferable to put it in writing.

In the absence of any provision in the agreement, no interest is allowed on capital, no interest is charged on drawings, nor any commission as well as salary is paid to the partners. In the absence of any provision in the agreement, partners' loans carry interest @ six per cent per annum.

There are two methods of maintaining partners' capital accounts, viz., Fixed and Fluctuating Methods. Under the Fixed Capital Method, two accounts are maintained for each partner, viz., Current Account and Capital Account. The capital account always shows a fixed balance, while the transactions like the interest on capital, share of profits, etc., are recorded in the current account. Under the Fluctuating Capital Method, all the transactions are recorded in the capital account only.

Goodwill is the value of an established business over and above the value represented by its intangible assets. It is also the value attached to the super profit earning capacity of the business arising from its wide connections, reputation and long standing in the business.

The methods of valuation of goodwill are:

- Average profit method (Average may be simple or weighted)

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- Super profit method
- Profit capitalisation method

On admission of a partner, the following steps are required to be taken:

1. Revaluation of assets and liabilities
2. Treatment of goodwill
3. Capital to be brought in by new partner
4. Adjustment regarding accumulated losses and reserves
5. Adjustment of capital accounts of partners.

Retirement and death are almost similar situations where one of the partners goes out suo-moto (in case of retirement) or by an act of God (in case of death). The following adjustments are necessary on retirement or death of a partner:

1. Treatment of balance in his capital and current accounts
2. Treatment of his share of goodwill
3. Treatment of his share of profits and reserves
4. Treatment of his share on revaluation of assets and liabilities.
5. Treatment of share of profit till the date of retirement or death and other items such as interest on capital, drawings, salary, etc.

Sleeping partner is one who does not participate in the day-to-day administration of the firm. Generally, such a partner is only an investor.

Quasi partnership is a situation where a person, not being a partner, keeps quiet on his being represented as a partner, knowingly, and based on the principle of estoppel, liability devolves on such a person.

Limited partnership is a type of partnership where liabilities of some of the partners are limited to the extent of their contributions in the firm and only the general partners are liable in total to the third parties.

### 23.11 KEYWORDS

**Partnership:** It is the relationship between persons who have agreed to share the profits of a business carried on by all or by anyone of them acting for all. **Firm:** Partners are collectively called as the 'firm'.

**Partner:** The persons who have agreed to share the profits of the business are called the partners.

**Fluctuating Capital Method:** Under the fluctuating capital method, all the transactions are recorded in one capital account only.

**Fixed Capital Method:** Under the fixed capital method, two accounts are maintained for each partner, viz., current account and capital account. The capital account always shows a fixed balance, the transactions like the interest on capital, share of profits, etc., are recorded in the current account.

**Goodwill:** Goodwill is the value of an established business over and above the value represented by its intangible assets. It is also the value attached to the super profit earning capacity of a firm arising from its wide connections, reputation and long standing in the business.

**23.12 TERMINAL QUESTIONS**

1. Define partnership and explain its features.
2. What is partnership deed? Why it is advisable to keep a partnership deed in writing?
3. What are the methods of maintaining capital accounts?
4. What are the provisions normally contained in a partnership deed?
5. What is goodwill? How is it valued?
6. State whether the following statements are True or False:
  - (a) Partnership is a separate legal entity.
  - (b) There should be at least two persons to form a partnership.
  - (c) In partnership, profits of the partnership have to be shared by all, though loss may be borne by only one or few partners only.
  - (d) According to the Indian Partnership Act, there is no maximum limit of partners in the partnership
  - (e) If the partnership deed is silent on certain points, then in such a case, the relevant provisions of the Partnership Act will apply.
7. Fill in the blanks:
  - (a) \_\_\_\_\_ is the value of an established business over and above the value represented by its tangible assets. It is also the value attached to the super profit earning capacity of business arising from its wide connections, reputation and long standing in the business.
  - (b) \_\_\_\_\_ of a partner means joining of a new person into an existing partnership as a
  - (c) partner.  
\_\_\_\_\_ of a partner means that a partner breaks off his relations with all other partners and withdraws himself from the firm.
  - (d) Under the \_\_\_\_\_ capital method, all the transactions are recorded in the capital account only.
  - (e) Under the \_\_\_\_\_ capital method, two accounts are maintained for each partner, viz., current account and capital account.
- 8 State whether the following statements are True or False:
  - (a) If the partnership deed does not mention any method of maintaining capital accounts then the fixed capital account method has to be followed.
  - (b) If the partnership firm is following the fixed capital account method salary payable to a partner is credited to the partners' current account.
  - (c) Drawings made by partners are never entered in the profit and loss appropriation account.
  - (d) Old firms must have goodwill account in their books of account.
  - (e) While calculating average profit of previous years, loss incurred in one of those years is to be ignored.
  - (f) The share which the new partner is entitled to is called the sacrifice ratio.
  - (g) Adjustment for goodwill can be made privately by the partners without passing any entries in books of account.
- (h) The additional share in the profits by the continuing partners is called gain ratio, (i) The deceased partner cannot be given share in the profits till his death. 9. A combined problem on retirement and admission:  
A and B are equal partners. A, by agreement, retires and C joins the firm on the basis of the third share of profits on 1st April 2004. The balances of the books as on 31st December 2003 were:



	Dr. (Rs.)	Cr. (Rs.)
Goodwill	10,000	
Fixed Assets - at cost	1,20,000	
Current Assets:		
Stock	60,000	
Debtors	40,000	
Bank Balance	8,000	
Creditors		20,000
Provision for Depreciation		12,000
Capital Accounts:		
A		1,04,000
B		1,02,000
	2,38,000	2,38,000

Goodwill and fixed assets were valued at Rs. 30,000 and Rs. 1,40,000 respectively and it was agreed to be written up accordingly before admission of C as partner. Sufficient money is to be introduced so as to enable A to be paid off and leave Rs. 5,000 as cash at bank; Band C are to provide such sums so as to make their capitals proportionate with their share of profit. Assuming the agreement was carried out, show the journal entries required and prepare the balance sheet after admission of C. [Adapted from C.A. Exam.]

#### Answers to Terminal Questions

6. (a) False; (b) True; (c) True; (d) True; (e) True.
7. (a) Goodwill; (b) Admission; (c) Retirement; (d) Fluctuating; (e) Fixed.
8. (a) False; (b) True; (c) True; (d) False; (e) False; (f) False; (g) True; (h) True; (i) False



# UNIT 24

## FINAL ACCOUNTS OF BANKING COMPANIES

### STRUCTURE

- 24.0 Objectives
- 24.1 Introduction
- 24.2 Definition and Functions of a Bank
- 24.3 Requirements of Banking Companies as to Accounts and Audit
- 24.4 Significant Features of Accounting Systems of Banks
- 24.5 Principal Books of Account
- 24.6 Preparation and Presentation of Financial Statements of Banks
- 24.7 Accounting Treatment of Specific Items
- 24.8 Preparation of Profit and Loss Account
- 24.9 Comments on Profit and Loss Account Items
- 24.10 Important Items of Balance Sheet
- 24.11 Disclosure Requirements of Banks to be Added as Notes to Accounts
- 24.12 Additional Disclosures Prescribed by RBI
- 24.13 Let Us Sum Up
- 24.14 Keywords
- 24.15 Terminal Questions

## **24.0 OBJECTIVES**

After studying this unit, you will be able to:

- Know books of accounts maintained by banks
- Prepare profit and loss account and balance sheet of a bank

## **24.1 INTRODUCTION**

A banking company means and includes any company which carries on the business or which transacts business of banking in India. A banking company is generally governed by the provisions of the Companies Act, 1956 and specifically by the Banking Regulation Act. The Banking Regulation Act of 1949 came into force on 16th March, 1949 as a result of the long-felt need to regulate the banking business in India and protect the interests of number of depositors.

The existence of a well-organised, regulated and efficient banking system is a pre-requisite for economic growth. Banks are agencies responsible for mobilising and channelling of funds, in any country. The major institutions carrying on banking business, in India, include:

- (a) Nationalised banks
- (b) State Bank of India and its Associate banks
- (c) Foreign banks having branches in India
- (d) Co-operative banks
- (e) Rural banks and
- (f) Private sector banks.

## **24.2 DEFINITION AND FUNCTIONS OF A BANK**

Banking has been defined by Section 5 of the Banking Regulation Act and means:

- (a) accepting of deposits of money from the public,
- (b) for the purpose of lending or investment and the deposits are repayable on demand or otherwise by cheque, draft, order or otherwise. It should be noted that a company which is engaged in manufacturing goods and for the purpose of financing its business accepts deposits from the public should not be deemed to transact business of banking.

In addition to banking business, a bank is permitted under Section 6 of the Banking Regulation Act to engage in certain classes of business which are incidental to the business of banking. Section 8 of the Banking Regulation Act prohibits a bank from buying, selling or dealing in goods except in connection with the realisation of a security held by it or in connection with the business of collections or negotiating bills of exchange.

Some of the main functions of modern commercial banks are:

- (a) Accepting money on deposits and providing facilities to depositors for payment by cheques.
- (b) Granting loans and advances (cash credits, overdraft, term loan, etc.).
- (c) Dealing in securities on its own account or on behalf of its customers.
- (d) Opening letters of credit.
- (e) Issuing guarantees.

- (f) Dealing in foreign exchange.
- (g) Transferring money from one place to another through demand draft, telegraphic transfers, travellers cheques, bills, etc.
- (h) Acting as trustees and executors.
- (i) Merchant banking, i.e. acting as managers to a public issue, etc.

### **24.3 REQUIREMENTS OF BANKING COMPANIES AS TO ACCOUNTS AND AUDIT**

#### **Preparation of Financial Statements and Accounting Date (Section 29)**

A Company registered under the Companies Act, 1956 is required to present its financial statements, i.e. balance sheet and profit and loss account in the format laid down in the Schedule VI annexed to the Companies Act. Similarly, banking company, (since it is a company) is also required to prepare and submit its accounts in a specified format. The Banking Regulation Act gives the format of the balance sheet and the profit and loss account in which the accounts of bank should be presented and this format is given in the third schedule annexed to the Banking Regulation Act. RBI has issued guidelines to follow the new form A (proforma balance sheet) and form B (proforma profit and loss account) by all banking companies doing business in India. The Government has notified that accounts of the banking companies shall be closed on 31st March every year as against 31st December earlier. In practice, banks also close books on 30th September for internal purposes.

#### **Audit (Section 30)**

Accounts must be audited by a person, duly qualified under any law, for the time being in force, to be an auditor of companies. However, every banking company is, before appointing, reappointing or removing any auditor, required to obtain the prior approval of the Reserve Bank of India.

#### **Submission of Accounts (Sees 31 and 32)**

Three copies of the balance sheet and profit and loss account prepared under Section 29 together with auditors' report under Section 30 must be submitted to the Reserve Bank of India within three months from the end of the period to which they refer. However, it can be extended up to a further period of three months by RBI.

#### **Publication of Accounts**

Rule 15 of the Banking Regulating (Companies) Rules, 1949 prescribes that accounts and auditors' report shall be published in a newspaper circulating in a place where a banking company has its principal office, within six months from the end of the period to which they relate.

### **24.4 SIGNIFICANT FEATURES OF ACCOUNTING SYSTEMS OF BANKS**

Banks, like most of the other large-sized institutions, follow the mercantile system of accounting. Thus, the system of recording classifying and summarising the transactions in a bank is in substance no different from that followed in other entities having similar volume of operations. However, in the case of banks, the need for the ledger accounts, especially those of customers, being accurate and up-to-date is much stronger than in most other types of enterprises. A bank cannot afford to ignore its ledgers particularly those containing the accounts of its customers and has to enter into the ledgers every transaction as soon as it takes place. In the case of banks, relatively lesser emphasis is placed on books

of prime entry such as cash books or journals. This is unlike most other types of enterprises where books of prime entry are generally kept up-to-date while ledgers, including the general ledger and subsidiary ledgers for debtors, creditors, etc. are written up afterwards.

Banks follow the accounting procedure of 'voucher posting' under which the vouchers are straightaway posted to the individual accounts in the subsidiary ledgers. At the end of each day, the debit and credit vouchers relating to a particular type of transactions (e.g. savings bank accounts, current accounts, demand loans, cash credit accounts, etc.) are entered on separate voucher summary sheets and the total thereof is posted to the respective control account in the general ledger. The general ledger trial balance is prepared every day.

### **Types of Transactions**

Transactions in a bank are of two types, cash and non-cash. In the case of the latter, also called 'transfer transactions', one or both of the accounts concerned may be of the customers or the internal accounts of the bank. For example, if 'A' deposits a cheque drawn in his favour by 'B', who is also a customer of the branch, the accounts of the two customers will be affected. On the other hand, if 'A' deposits draft drawn on the branch, the 'Draft' account, an internal account of the bank, will be debited. Likewise, on payment of interest on deposit accounts, the 'Interest Account' at the branch will be debited and many personal accounts credited.

### **Vouchers**

Both debit and credit operations on all accounts, either by customers or by the bank itself, are made by means of vouchers. There are two kinds of vouchers, one, which evidences only debit or credit to an account, and the other, which contains both debit and credit to different accounts. For the sake of convenience, the latter kinds of vouchers may be called 'composite vouchers'.

The debit vouchers are of many kinds, broadly the following:

1. Cheques issued by the customers.
2. Cheques/pay orders issued by the bank.
3. Withdrawal forms received from the savings bank account holders.
4. Drafts issued by other branches of the bank payable at the branch.
5. Drafts issued by other banks on the branch, in terms of an approved arrangement between the two banks.
6. Dividend/interest warrants issued by the bank's customers and payable by the branch in terms of an approved arrangement.
7. Traveller's cheques issued by any branch of the bank which are presented to the branch for payment.
8. Drafts/pay orders issued by the branch itself which are cancelled at the request of the customer and amount is refunded to him.
9. Instruments like traveller's cheques/gift cheques, etc., of other banks which are paid by the branch in terms of an approved arrangement.
10. Letters of authority signed by the customers, containing standing instructions
11. Debit vouchers prepared by the branch on its printed stationery which are authorised by a designated official of the bank and may also carry authority from the customers in some cases if the debit is to his account at the branch.

12. In respect of realisation of collection instrument sent to other branches of the bank, a debit advice (which may be known by different names in different banks) prepared by the other branch may itself as a debit voucher.
13. In case of remittance of funds by one branch to the other by means of telegraphic transfer or a mail transfer, the bank may treat the advice of transfer itself as debit voucher or may prepare a separate debit voucher.

The credit vouchers are also of many kinds, broadly the following:

1. Pay-in-slips filled by the customers (depositors as well as borrowers) for deposit of amounts in their accounts. Generally, the pay-in-slips are in a standard format adopted by the bank but there may be cases of a special kind of pay-in-slips in respect of some customers pursuant to a formal agreement between the bank and the customer.
2. Applications for issue of demand drafts, mail transfers, telegraphic transfers, banker's cheques, pay orders, gift cheques, traveller's cheques and other similar instruments. Some of these applications may be made on behalf of the branch itself for the payments it has to make.
3. Challans for deposits into the accounts of Central/State Government, e.g. on account of direct/indirect taxes or under schemes like public provident fund, etc.
4. Credit vouchers prepared by the branch on its printed stationery which are authorised by an official of the bank. Normally, these vouchers are signed on behalf of the branch only but there may be some instances where the customer concerned also signs on the voucher as evidence that the transaction actually pertains to him. Examples are: deposit of locker charges (credit to an income account of the bank), deposit of money with the bank for purchase of non-judicial stamps required for execution of documents in favour of the bank, etc.
5. On payment of collection instruments from other branches of the bank, a credit advice (which may be known by different names in different banks) or a copy of the collection schedule received from the other branch may itself be treated as a credit voucher.

It may be stated here that in case of debits or credits of similar nature to a large number of accounts in the same ledger or group of ledgers (e.g. debit on account of periodic interest, inspection charges etc. or credit on account of periodic payment of interest to depositors), it is a common practice among banks to prepare a consolidated voucher on their stationery and enclose thereto a list containing details of accounts debited/credited and the amount of debit/credit.

As stated earlier, apart from debit vouchers and credit vouchers, there is also a category of 'composite vouchers'. These vouchers record the particulars of both debit and credit accounts. Most of the transactions covered by composite vouchers pertain to the internal accounts of the bank, i.e. non-customer accounts. Examples are: bills received for collection, letters of credit issued by the branch, guarantees issued by the branch, etc. Such vouchers may also be prepared to rectify an error while debiting or crediting an account. For example, in case the current account is debited in general ledger instead of cash credit account by mistake, the composite voucher will show debit to cash credit account with a corresponding credit to current account.

All entries in the personal ledgers and the summary sheets are checked by persons other than those who have made the entries. Most clerical errors are thus detected immediately.

A trial balance of the personal ledgers is prepared periodically, usually every two weeks, and agreed with general ledger control accounts. In banking parlance, this exercise is referred to as 'balancing of books'.

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### Bankers' Books

According to Section 2 (3) of the Bankers' Books Evidence Act. 'Bankers' Books' include ledgers, day book, cash books, account books and all other books used in the ordinary business of a bank. Generally the following books are maintained by bank to keep up-to-date records of its customers.

### Cash Book

All cash receipts and payments are recorded in the receiving cashier's cash book and paying cashier's cash book respectively. After this, on the basis of pay-in slips received by the receiving cashier and cheques and withdrawals slips by the paying cashier, these transactions are entered first in the accounts of customers and after that Day Books are written. This is called the 'Slip System' of posting.

### Ledger Book

General Ledger contains the total accounts of each ledger. Besides the GL, the following ledger books are maintained:

1. Current Accounts Ledger
2. FD Accounts Ledger
3. RD Accounts Ledger
4. Loan Ledger
5. Investment Ledger
6. Bills discounted and purchased Ledger

### Other Books

1. Clearing Register
2. Securities Register
3. Draft Register
4. Bills for collection Register
5. Safe deposit vault Register
6. Dishonoured cheques Register
7. Letter of credit Register

## 24.5 PRINCIPAL BOOKS OF ACCOUNT

The principal books of account, subsidiary books and statistical records generally maintained by banks are described in the following paragraphs. It may, however, be emphasised that the exact nature of such books may differ from one bank to another, depending upon the individual requirements of each bank.

### General Ledger

The general ledger contains the control accounts of all personal ledgers, the profit and loss account and different asset and liability accounts. There are certain additional accounts also (known as contra accounts) which are kept with a view to keeping control over transactions which have no direct effect on the assets and liabilities of the bank and represent the agency business handled by the bank on which it earns service charges, e.g. letters of credit opened, bills received or sent for collection, guarantees given, etc.

### Profit and Loss Ledger

Some banks maintain a profit and loss account in the general ledger and maintain separate books for each revenue or expense head/sub-head. Some banks maintain columnar books having separate columns for each revenue and expense head/sub-head, while others maintain separate books for revenue and expense heads/sub-heads. These books are prepared from vouchers. The totals of debits and credits each day are posted to the profit and loss account in the general ledger from voucher summary sheets. In some banks, the revenue accounts too are maintained in the general ledger itself, while in others, broad revenue heads are kept in the general ledger and their details are kept in subsidiary ledgers.

For managerial purposes, the account heads in the profit and loss ledgers are more detailed than those shown in the published profit and loss accounts of banks. For example, there are separate accounts for basic salary, dearness allowance and various other allowances, which are grouped together in the published accounts. Similarly, various accounts comprising general charges, interest paid, interest received, etc. are maintained separately in the profit and loss ledgers.

### Subsidiary Books

#### Personal Ledgers

Each control account in the general ledger is supported by a subsidiary ledger (or more than one subsidiary ledger if the number of accounts is large). Thus, in respect of control accounts relating to accounts of customers, subsidiary ledgers are maintained for:

- a) various types of deposit accounts (savings bank, current account, recurring deposits, etc.) which contain accounts of individual customers. Each account holder is allotted a separate folio in the ledger;
- b) various types of loan and related accounts (cash credit, term loans, demand loans, bills purchased and discounted, letters of credit, bank guarantees issued etc.) wherein the liability of each customer is reflected. Generally, there is no separate ledger for overdraft accounts which are granted in a current account. However, some branches may maintain these accounts also in separate ledgers depending upon the number of regular borrowers under the facility.

Separate registers are maintained to record the particulars of term deposits (including derivatives like call deposits, certificates of deposits, etc.). Banks generally do not allot separate folios to each customer. The register is divided into various sections, each section for a particular period of deposit and/or the rate of interest payable on deposits. As mentioned earlier, postings to these registers are made directly from vouchers, and all the vouchers entered in each ledger/register in a day are summarised into voucher summary sheets. The voucher summary sheets are prepared in the department which originates the transactions, by persons other than those who write the ledgers. They are subsequently checked with the vouchers by persons generally unconnected with the writing of ledgers/registers or the voucher summary sheets.

#### Bills Registers

Details of different types of bills are kept in separate registers which have suitable columns. For example, bills purchased, inward bills for collection, outward bills for collection etc. are entered serially on a daily basis in separate registers. In the case of bills purchased or discounted, party-wise details are also kept in a normal ledger form. This is done to ensure that the sanctioned limits of parties are not exceeded.

Entries in these registers are made by reference to the original documents. A voucher for the total amount of the transactions of each day is prepared in respect of each register. This voucher is entered in



the day book. When a bill is realised or returned, its original entry in the register is marked off. A daily summary of such realisations or returns is prepared in separate registers whose totals are taken to vouchers which are posted in the day book.

In respect of bills for collection, contra vouchers reflecting both sides of the transaction are prepared at the time of the original entry, and this entry is reversed on realisation.

Outstanding entries are summarised at stipulated intervals and their totals agreed with the balances of the respective control accounts in the general ledger.

### Other Registers/Records

There are different registers/records to record detailed particulars of various types of transactions. These registers/records do not form part of the books of account but support the entries/balances in the various accounts. Some of the important registers/records relate to the following:

- (a) Drafts issued (separate registers may be maintained for drafts issued by the branch on other branches of the same bank and those on the branches of its correspondents in India or abroad). Depending upon the volume of business, some branches may have separate registers on some other basis also, like whether the drafts issued advice is prepared is not, registers, exclusively for some high volume customers of the bank, the range, within which the amount of draft falls, e.g. below Rs. 1 lakh, Rs. 1-10 lakh, Rs. 10-100 lakh, etc.
- (b) Drafts paid (separate registers may be maintained on the same pattern as in the case of drafts issued).
- (c) Issue and payment of:
  1. Telegraphic transfers
  2. Mail transfers
  3. Bankers cheques/Pay orders/Traveller's cheques/Gift cheques
  4. Letters of credit.
  5. Letters of guarantee.

Entries in these registers are made from original documents which are also summarised on vouchers every day. These vouchers are posted into the day book.

Outstanding entries are summarised at stipulated intervals and their totals agreed with the respective control accounts in the general ledger.

There are frequent transactions amongst the branches of the bank which are settled through the mechanism of inter-office accounts. The examples of such transactions include payment/realisation of bills/cheques, etc. sent for collection by one branch to the other, movement of cash between them, transfer of funds where one branch acts as an agent of the other, e.g. for government-related business. All such transfers of funds are channelised through a nodal account (this account has different names in different banks, e.g. Head Office Account, Inter-office Account, and so on). This is a crucial account for banks as well as the auditors for two reasons; first, many frauds have been perpetrated on banks through this account and second, banks are now required to make provision for entries routed through this account which remain unreconciled beyond a time period specified by the Reserve Bank of India.

Banks maintain a Suspense Ledger to record Various suspense accounts. As mentioned earlier, a trial balance is prepared in banks every day. Sometimes, due to clerical errors, e.g. in preparing the voucher summary sheets the trial balance may not tally. In such a situation, the difference is temporarily transferred to a suspense account (in case of short debit) or to a sundry deposits account (in case of short credit).

Similarly, transactions of a transitory nature, e.g. travel advances to employees, are also recorded in a suspense account pending their adjustment in the related expense/income account. Some banks maintain separate ledgers for suspense accounts and sundry deposits accounts. The amounts lying in these accounts need regular monitoring to clear them.

Suitable registers with back-up registers to record classification under numerous sub-heads are maintained for:

- a) Establishment expenses
- b) Interest and discount income
- c) Incomes by way of commission
- d) Interest expenditure
- e) Provision for interest accrued but not due on deposits
- f) Fixed assets
- g) Stationery consumed/in hand
- h) Interest payable to, and receivable from head office, in respect of advances and deposits respectively.  
A peculiar feature of accounting systems of banks is that the branches, notionally, have no funds of their own. All deposits accepted at the branch are deemed to have been passed on to the bank's head office and all loans made at the branch are deemed to have been made out of funds received from the head office. The head office pays interest to the branch for its deposits and charges interest from the branch for its advances. The rates of such interest charged and paid by head office are decided by the head office during the course of the year and are an important factor in calculating the profit or loss of a branch. The mechanism may be known by different names in different banks. All calculations in this regard are done at the branches only and suitable entries are passed, generally at the yearend. These entries, however, get offset in the process of consolidation of accounts and have no effect on the financial statements of the bank as a whole.
- i) Instruments received from customers for payment/collection by the branch. Clearing of locally payable instruments is an important function of banks. Some banks maintain separate registers to record details of various types of instruments lodged by customers whereas some other banks use a common book to record all kinds of instruments lodged by customers.

Separate registers are maintained to record and summarise the transactions relating to a particular head of account like Current Account, Savings Bank, Cash Credit, Term Loans. Such books may be called 'Log Books', 'Day Books', etc. The totals in this book are carried over to the Cash Book.

## **24.6 PREPARATION AND PRESENTATION OF FINANCIAL STATEMENTS OF BANKS**

A banking company is not required to prepare financial statements in accordance with Schedule VI of the Companies Act, 1956.

Form A of the third schedule gives the format of a balance sheet and form B gives the format of a profit and loss account. These forms have been revised w.e.f. 1st April, 1991 and the profit and loss account and balance sheet of a banking company for the year ended 31st March 1992 and onwards have to be prepared in the new form. These are discussed below.

## 1. Preparation of Balance Sheet

**Third Schedule: Form 'A'**  
Form of Balance Sheet Balance  
Sheet as on 31st **March**,...

Capital and Liabilities.	Schedule No.	Rs.
Capital	1	
Reserves and Surplus	2	
Deposits	3	
Borrowings	4	
Other Liabilities and Provisions	5	
Total		

Assets	Schedule No.	1	Rs.
Cash and Balance with RBI	6		
Balances with Banks and Money at Call and Short Notice	7		
Investments	8		
Advances	9		
Fixed Assets	10		
Other Assets	11		
Total			
Contingent Liabilities	12		

The following schedules are required to be furnished with the balance sheet:

**Schedule 1: Capital**

I. For Nationalised banks:

Capital (Fully owned by Central Government) II.

For banks Incorporated outside India:

(i) Capital (the amount brought in by banks by way of start-up capital as prescribed by RBI should be shown under this head)

(ii) Amount of deposit kept with RBI under Section 11(2) of the Banking Regulation Act, 1949. Total III. For other banks:

Authorised capital (... shares of Rs ..... each)

Issued capital (... shares of Rs ..... each)

Subscribed capital (... shares of Rs..... each)

Rs.

Called-up capital (... shares of Rs.....each)

Less: Calls unpaid Add: Forfeited

shares **Schedule 2: Reserves and**

**Surplus**

Rs.

(I) Statutory reserves Opening balance

Additions during the year Deductions

during the year (II) Capital reserves

Opening balance Additions during the

year Deductions during the year

(III) Share premium

Opening balance

Addition during the year

Deduction during the year

(IV) Revenue and other reserves

Opening balance

Additions during the year

Deductions during the year

(V) Balance in profit and loss account

Total (I + II + III + IV + V)

**Schedule 3: Deposits**

A. (I) Demand deposits

(i) From banks (ii) From

others (II) Savings bank

deposits: (III) Term deposits (i)

From banks (ii) From others

Total (I, II and III)

Rs.

B. (i) Deposits of branches in India

(ii) Deposits of branches outside India

**Schedule 4: Borrowings**

- (I) Borrowings in India
  - (i) Reserve Bank of India (ii) Other banks
  - (iii) Other institutions and agencies (II)
- Borrowings outside India Total (I and II)
- Secured borrowings in I and II above:

Rs.

**Schedule 5: Other Liabilities and Provisions**

- (I) Bills payable (II) Inter-office adjustments (net)
- (III) Interest accrued
- (IV) Others (including provisions):
- Total:

Rs.

**Schedule 6: Cash and Balances with RBI**

- (I) Cash in hand (including foreign currency notes) (II) Balances with RBI in: (i) Current account (ii) Other accounts Total (I and II)

Rs.

**Schedule 7: Balance with Banks and Money at Call and Short Notice**

- (I) In India (i) Balance with banks:
  - (a) in Current accounts
  - (b) In other deposit accounts
- (ii) Money at call and short notice:
  - (a) With banks
  - (b) With other institutions
- Total (I and II)
- (II) Outside India
  - (i) In current accounts (ii) In other deposit accounts (iii) Money at call and short notice Total (i, ii and iii) Grand Total (I and II)

Rs.

## Schedule 8: Investments

Rs.

- (I) Investments in India in (i)
  - Govt. securities (ii) Other approved securities (iii) Shares
- (iv) Debentures and bonds ■ (v) Subsidiaries and/or joint ventures (vi) Others (to be specified) Total: (II) Investment outside India in
  - (i) Govt. Securities (incl. local authorities)
  - (ii) Subsidiaries and/or joint ventures abroad
  - (iii) Other investment (to be specified) Total: Grand Total (I and II)

**Schedul 9: Advances**

Rs.

- A. (i) Bills discounted and purchased
  - 00 Cash credits, overdrafts and loans payable on
  - (iii) Term loans
  - Total:
- B. (i) Secured by tangible assets
  - 00 Covered by bank/Govt. guarantees
  - (iii) Unsecured
  - Total:
- C. I. Advances in India:
  - (>) Priority sectors
  - (ii) Public sector
  - (iii) Banks
  - (iv) Others
  - Total:
- II. Advances outside India:
  - (i) Due from banks
  - (ii) Due from others:
    - (a) Bills purchased and discounted
    - (b) Syndicated loans
    - (c) Others
    - Total:
  - Grand Total (C.I and C.II)

**Schedule 10: Fixed Assets**

**Rs.**

- (I) Premises
  - At cost as on 31st March of the preceding year
  - Additions during the year
  - Deductions during the year
  - Depreciation to date
- (II) Other fixed assets (incl. furniture and fixture) At cost on 31st March of the preceding year
  - Additions during the year
  - Deductions during the year
  - Depreciation to Date
- Total (I and II)

**Schedule 11: Other Assets**

**Rs.**

- (I) Inter-office adjustments (net)
- (II) Interest accrued
- (III) Tax paid in advance/tax deducted at source
- (IV) Stationery and stamps
- (V) Non-banking assets acquired in satisfaction of claims
- (VI) Others\* Total:

\* In case there is any unadjusted balance of loss (i.e. when the loss exceeds the aggregate of capital, reserves and surplus), the same may be shown under this item under appropriate footnote.

**Schedule 12: Contingent Liabilities**

**Rs.**

- (I) Claims against the bank not acknowledged as debts
- (II) Liability for partly paid investments
- (III) Liability on account of outstanding forward exchange contracts
- (IV) Guarantees given on behalf of constituents:
  - (i) In India
  - (ii) Outside India
- (V) Acceptances, endorsements and other obligations
- (VI) Other items for which the bank is contingently liable
- Total:

Nsc  
Si  
A

## 2. Comments on Balance Sheet Items

### Schedule 1: Capital

#### (I) Nationalised Banks

- (a) Capital (fully owned by Central Government): The capital owned by Central Government as on the date of the balance sheet including contribution from the Government, if any, for participating in World Bank Projects should be shown.
- (b) Banking companies incorporated outside India:
  - (i) The amount brought in by banks by way of start-up capital as prescribed by the RBI should be shown under this head.
  - (ii) The amount of deposit kept with the RBI, under the sub-section 2 of Section 11 of the Banking Regulation Act, 1949 should also be shown.

#### (II) Other Banks (Indian)

Authorised, issued subscribed, called-up capital should be given separately. Calls-in-arrears will be deducted from the called-up capital while the paid-up value of the forfeited shares should be added thus arriving at the paid-up capital. Where necessary, items, which can be combined, should be shown under one head for instance 'Issued and Subscribed Capital'.

Notes: General: The changes in above items, if any, during the year, say, fresh contribution made by the Government, fresh issue of capital, capitalisation of reserves, etc. may be explained in the notes.

### Schedule 2: Reserves and Surplus

- (I) *Statutory reserves*: Reserves created in terms of Section 17, or any other Section of the Banking Regulation Act must be separately disclosed.
- (II) *Capital reserves*: The expression 'Capital Reserves' shall not include any amount regarded as free for distribution through the profit and loss account. Surplus on revaluation should be treated as capital reserves. Surplus on translation of the financial statements of foreign branches (which includes fixed assets also) is not a revaluation reserve.
- (III) *Share premium*: Premium on issue of share capital may be shown separately under this head.
- (IV) *Revenue and other reserves*: The expression 'Revenue Reserve' shall mean any reserve other than capital reserve. This item will include all reserves, other than those separately classified. The expression 'reserve' shall not include any amount written-off or retained by way of providing for depreciation, renewals or diminution in value of assets or retained by way of providing for any known liability.
- (V) *Balance of profit*: Includes balance of profit after appropriations. In case of loss the balance may be shown as a deduction.

Notes: *General*: Movement in various categories of reserves should be shown as indicated in the schedule.

### Schedule 3: Deposits

#### A (I) Demand Deposits (i)

From banks

- (ii) From others: Includes all bank deposits, repayable on demand, of the non-bank sectors. Credit balance in overdrafts, cash credit accounts, deposits, payable at call, overdue



deposits, inoperative current accounts, matured time deposits and cash certificates, certificates of deposits, etc. are to be included under this category.

A (II) *Savings Bank Deposits*: Includes all savings bank deposits including inoperative savings bank accounts.

A (III) Term Deposits:

(i) *From Banks*: Includes all types of bank deposits repayable after a specified term.

(ii) *From Others*: Includes all types of deposits of the non-bank sector repayable after a specified term. Fixed deposits, cumulative and recurring deposits, cash certificates, certificates of deposits, annuity deposits, deposits mobilised under various schemes, ordinary staff deposits, foreign currency non-resident deposits accounts, etc. are to be included under this category.

B (I) Deposits of branches in India, and

(II) Deposits of branches outside India: The total of these two items will agree with the total deposits.

Notes: *General*:

- (a) Interest payable on deposits which is accrued but not due should not be shown under other liabilities.
- (b) Matured time deposits and cash certificates, etc. should be treated as demand deposits.
- (c) Deposits under special schemes should be included under term deposits if they are not payable on demand. When such deposits have matured for payment they should be shown under demand deposits.
- (d) Deposits from banks will include deposits from the banking system in India, co-operative banks, foreign banks which may or may not have a presence in India.

#### **Schedule 4: Borrowings**

(I) *Borrowings in India*

(i) *Reserve Bank of India*: Includes borrowings/refinance obtained from Reserve Bank of India.

(ii) *Other Banks*: Includes borrowings/refinance obtained from commercial banks (including cooperative banks).

(iii) *Other Institutions and Agencies*: Includes borrowings/refinance obtained from Industrial Development Bank of India, Export-import Bank of India, National Bank for Agriculture and Rural Development and other institutions, agencies (including liability against participation certificates, if any).

(II) *Borrowings outside India*: It includes borrowings of Indian branches abroad as well as borrowing of foreign branches.

Secured borrowings included above. This item will be shown separately. Includes secured borrowings/refinance in India and outside India.

Notes: *General*:

- (i) The total of I and II will agree with the total borrowings shown in the balance sheet, (ii) Inter-office transactions should not be shown as borrowings.
- (iii) Funds raised by foreign branches by way of certificates of deposits, notes, bonds, etc. should be classified depending upon documentation, as 'deposits' borrowings', etc.
- (iv) Refinance obtained by banks from the Reserve Bank of India and various Institutions are being

brought under the head 'borrowing'. Hence, advances will be shown at the gross amount on the assets side.

#### **Schedule 5: Other Liabilities and Provisions**

- (I) *Bills Payable*: The bank provides the facility of remitting funds from one place to another by means of bank drafts, telegraphic transfer, circular notes, pay orders, etc. The person intending to remit the money has to deposit the money with the bank and get a pay order or bank draft in exchange for the money deposited. Alternatively, he may request the bank for making a telegraphic transfer from his account to the account of the person to whom he wants to remit the money. The paying bank is reimbursed by the bank who issues such draft or instructions. The banks also issues travellers and gift cheques for carrying or remitting money. If any such drafts, cheques, etc., remain uncashed on the day of preparation of final accounts, they are shown under the heading 'Bills Payable' in the Balance Sheet.
- (II) *Inter Office (or Branch) Adjustments (Net)*: This item represents the difference on account of incomplete recording of transactions between one branch and another branch or between one branch and the head office.
- It may have a debit or a credit balance. In case of a credit balance, it should be shown under this head. It may be noted that only net portion is to be shown of inter office accounts, inland as well as foreign.
- (III) *Interest Accrued*: It includes accrued but not due on deposits and borrowings.
- (IV) *Others (Including Provisions)*: It includes net provision for income tax and other taxes like interest tax (less advance payment, tax deducted at source, etc.), surplus in aggregate in provisions for bad debts provision account, surplus in aggregate in provisions for depreciation in securities, contingency funds which are not disclosed as reserves but are actually in the nature of reserves, proposed dividend/transfer to Government, other liabilities which are not disclosed under any of the major heads such as unclaimed dividend provisions and funds kept for specific purposes, unexpired discount, outstanding charges like rent, conveyance, etc.. Certain types of deposits like staff security deposits, margin deposits, etc., where the repayment is not free, should also be included under this head.

Notes: *General*:

- (i) For arriving at the net balance of inter-office adjustments all connected inter-office accounts should be aggregated and the net balance only will be shown, representing mostly items in transit and unadjusted items.
- (ii) The interest accruing on all deposits, whether the payment is due or not, should be treated as a liability.
- (iii) It is proposed to show only pure deposits under this head 'deposits' and hence, all surplus provisions for bad and doubtful debts contingency funds, secret reserves, etc., which are not netted off against the relative assets, should be brought under the head "Others' (including provisions).

#### **Schedule 6: Cash and Balance with the Reserve Bank of India**

(I) Cash in hand (including foreign currency notes); (II)

Balance with the RBI:

- (a) in current account;
- (b) in other accounts.

Includes cash in hand including foreign currency notes and also of foreign branches in the case of banks having such branches.

#### **Schedule 7: Balances with Other Banks and Money at Call and Short Notice**

##### **(I) In India**

###### **(i) Balance with banks:**

- (a) in Current accounts;
- (b) in other deposit accounts: includes all balances with banks in India (including co-operative banks). Balances in current accounts and deposit accounts should be shown separately.

###### **(ii) Money at call and short notice: (a)**

With Banks;

- (b) With other Institutions. This item mainly represents the loans given by one bank to another for a short period. Call loans are repayable at any time the banker recalls them while short notice advances are repayable within a short notice of (say) 24 hours. The maximum notice period is usually of two weeks.

This includes deposits repayable within fifteen days or less than fifteen days notice lent in the inter-bank call money market.

##### **(II) Outside India**

###### **(i) Current accounts and**

- (ii) *Deposits accounts:* includes balances held by foreign branches and balances held by Indian branches of the banks outside India. Balance held with the foreign branch by other branches of the bank should not be shown under this head but should be included in inter-branch accounts. The amounts held in 'Current Accounts' and 'Deposit Accounts' should be shown separately.

- (iii) *Money at call and short notice:* Includes deposits usually classified in foreign countries as money at call and short notice.

#### **Schedule 8: Investment**

##### **(I) Investments in India**

- (i) *Government securities:* Includes Central and State Government securities and Government treasury bills. These securities should be shown at the book value. However, the difference between the book value and market value should be given in the notes to the balance sheet.
- (ii) *Other approved securities:* Securities, other than Government Securities which according to the Banking Regulation Act, 1949 are treated as approved securities, should be included here.
- (iii) *Shares:* Investments in shares of companies and corporations not included in item (ii) above should be included here.
- (iv) *Debentures and bonds:* Investments in debentures and bonds of companies and corporations not included in item (ii) should be included here.
- (v) *Investment in Subsidiaries/joint ventures:* Investments in subsidiaries/joint ventures (including RRBs) should be included here.
- (vi) *Others:* Includes residual investment, if any, like gold, commercial paper and other instruments in the nature of shares/debentures/ bonds.

## (II) Investment outside of India

- (i) *Government Securities (including local authorities)*: All foreign Government securities including securities issued by local authorities may be classified under this head.
- (ii) *Subsidiaries and/or Joint ventures abroad*: All investments made in the share capital of subsidiaries floated outside India and/or joint ventures abroad should be classified under this head.
- (iii) *Others*: All other investments outside India may be shown under this head.

**Schedule 9: Advances**(A) (i) *Bills Discounted and Purchased*

The banks also give advances to their customers by discounting their bills. Net amount after deducting the amount of discount is credited to the account of customer. The banks may discount the bills with or without any security from the debtor in addition to one or more persons already liable on the bill.

(ii) *Cash-credits, Overdrafts and Loans Repayable on Demand.*

*Cash-credits*: A cash credit is an arrangement by which a banker allows his customer to borrow money up to a certain limit. Cash credit arrangements are usually made against the security of commodities hypothecated or pledged with the bank.

In case of a cash credit facility the borrower need not borrow at once the whole of the amount he is likely to require, but draw, such amounts as and when required. He/She can put back any surplus amount which he may find with him for the time being. Interest on cash credit account has to be paid on the amount actually drawn at any time and not on the full amount of the credit allowed.

*Overdrafts*: The customer may be allowed to overdraw his/ her current account with or without security if he/she requires temporary accommodation. These arrangements like cash credit is advantageous from the customer's point of view, as he/she is required to pay interest on the actual amount used by him/her.

*Loans*: A loan is a kind of advance made with or without security. In case of loan the bank makes a lump sum payment to the borrower or credits his deposit account with the money advanced. Repayments may be made in instalments or at the expiry of a certain period. The customer has to pay interest on the total advance whether he withdraws the money from his account (credited with the loan) or not. A loan once repaid in full or in part cannot be drawn again by the borrower unless the banker sanctions a fresh loan.

*Term Loans*: A loan may be in the form of a demand loan. Demand loan is payable on demand. It is usually for a short period not exceeding a year, while the term loan is given for a fixed term usually exceeding a year.

In classification under Section 'A', all outstanding-in India as well as outside-less provisions made, will be classified under three heads indicated above and both secured and unsecured advances will be included under these heads. Term loans should be mentioned including overdue instalments.

B. (i) *Secured by Tangible Assets*

All advances or part of advances which are secured by tangible assets may be shown here. The item will include advances in India and outside India.

(ii) *Covered by Bank/Government Guarantee*

Advances in India and outside India, to the extent they are covered by the guarantees of the Indian and foreign Governments and Indian and foreign banks, DICGC, ECGC, Indian and foreign banks, are to be included.

*Unsecured*

## (iii)

All advances not classified under (i) and (ii) will be included here. Total of 'A' should tally with the total of 'B'

## C. (I) Advances in India (Priority Sectors; Public Sector; Banks and Others)

Advances should be broadly classified into 'Advances in India' and 'Advances outside India'. Advances in India will be further classified on sectoral basis as indicated. Advances to sectors, which for the time being are classified as priority sectors according to the instructions of the Reserve Bank are classified under the head 'Priority Sectors'. Such advances should be excluded from the item (ii), i.e. advances to public sector. Advances to Central and State Government and other Government undertakings including Government Companies and corporations which are, according to the statutes, to be treated public sector companies are to be included in the category 'Public Sector'.

All advances to the banking sector including co-operative banks will come under the head 'Banks'. All the remaining advances will be included under the head 'Others' and typically this category will include non-priority advances to the private, joint and co-operative sectors.

Notes: *General:*

- (i) The gross amount of advances including refinance and rediscounts but excluding provisions made to the satisfaction of auditors should be shown as advances.
- (ii) Term loans will be loans not repayable on demand, (iii) Consortium advances would be shown net of share from other participating banks/institutions.

## Schedule 10: Fixed Assets

## (I) Premises

- (i) At cost as on 31st March of the preceding year; (ii) Additions during the year; (iii) Deductions during the year; (iv) Depreciation to date.

Premises wholly or partly owned by the banking company for the purpose of business including residential premises should be shown against 'Premises'. In the case of premises and other fixed assets, the previous balance, additions thereto and deductions therefrom during the year, as also the total depreciation written off, should be shown. Where sums have been written off on reduction of capital or revaluation of assets, every balance sheet after the first balance sheet subsequent to the reduction or revaluation should show the revised figures for a period of five years with the date and amount of revision made.

## (II) Other fixed assets (including Furniture and Fixtures) (i)

- At cost on 31st March of the preceding year; (ii) Additions during the year; (iii) Deduction during the year;

(iv) Depreciation to date.

Motor vehicles and all other fixed assets other than premises but including furniture and fixtures should be shown under this head.

#### **Schedule 11: Other Assets**

They include the following:

- (I) *Inter/Office Adjustment (Net)*: The inter-office adjustment balance, if in debit, should be shown under this head. Only net position of inter-office accounts, inland as well as foreign, should be shown here. For arriving at the net balance of inter-office accounts should be aggregated and the net balance, if in debit, only should be shown representing mostly items in transit and unadjusted items.
- (II) *Interest Accrued*: Interest accrued but not due on investment and advances, and interest due but not collected on investments, will be the main components of this item. As bank normally debits the borrower's account with interest due on the balance sheet date, usually there may not be any amount of interest due on advances. Only such interest, as can be realised in the ordinary course, should be shown under this head.
- (III) *Tax paid in advance/deducted at source*: The amount of tax deducted at source on securities, advance tax paid, etc., the extent that these items are not set off against relative tax provisions should be shown against this item.
- (IV) *Stationery and Stamps*: Only exceptional items of expenditure on stationery like bulk purchase of security paper, loose leaf or other ledger, etc., which are shown as quasi-assets are to be written off over a period of time should be shown here. The value should be on a realistic basis and cost escalation should not be taken into account, as these items are for internal use.
- (V) *Non-banking assets acquired in satisfaction of claims*: Immovable properties/tangible assets acquired in satisfaction of claims are to be shown under this head.
- (VI) *Others*: This will include items like claims which have not been met, for instance, clearing items, debit items representing additions to assets or reduction in liabilities which have not been adjusted for technical reasons, want of particulars, etc., advances given to staff by a bank as employer and not as a banker, etc. Items which are in the nature of expenses, which are pending adjustments, should be provided for and the provision netted against this item so that only the realisable value is shown under this head. Accrued income other than interest may also be included here.

#### **Schedule.12: Contingent Liabilities**

- (I) Claims against the bank not acknowledged as debts.
- (II) *Liability for partly paid investments*: Liabilities on partly paid shares, debentures, etc., will be included in this head.
- (III) *Liability on account of outstanding forward exchange contracts*: Outstanding forwards exchange contracts may be included here.
- (IV) *Guarantees given on behalf of constituents*: (a) In India; (b) Outside India; Guarantees given for constituents in India and outside India may be shown separately.
- (V) *Acceptances, Endorsements and Other Obligations*: This item will include letters of credit and bills accepted by the bank on behalf of customers. In such cases the bank takes upon itself the responsibility for payment.  
In order to keep a proper record of such liability, the bank maintains customer acceptances,

endorsements and guarantee register. All obligations undertaken by the bank as a result of guarantees, endorsements, acceptances, etc., are recorded here. At the end of the accounting year, if some of these obligations remain undisbursed, they are to be shown as contingent liabilities under this head.

(VI) *Other Items for which the Bank is Contingently Liable:* Arrears of cumulative dividends, bills rediscounted under underwriting contracts, estimated amounts of contracts remaining to be executed on capital account and not provided for, etc., are to be included here.

### **Bills for Collection**

A banking company receives a large number of bills of exchange for collection purposes. So, in order to keep a systematic record of such bills, it maintains a book called 'Bills for Collection Register'. On receipt of a bill for collection, an entry is made in this register. On collection of the bill of exchange, besides making a note of this fact in the bills for collection register, the following accounting entry is also passed by the banker:

Cash Account (with the amount of bill collected)	Dr.
To Customer's Account (with the amount of bill collected less commission charges)	
To Commission Account	

At the end of the accounting period, the amount of bills yet to be collected is ascertained from the bills for collection register. The total amount of such bills is shown here.

### **Compulsory Deposits**

In case certain persons are required to make compulsory deposits with a bank as per income tax, excise rules, etc., these deposits have been received by the concerned bank on behalf of the concerned authority. They may be included in the category of Demand Deposits and shown in the Balance Sheet accordingly.

### **Notes and Instructions for Compilation**

#### **General Instructions**

1. The formats of balance sheet and profit and loss account cover all items likely to appear in these statements. In case a bank does not have any particular item to report, it may be omitted from the formats.
2. Corresponding comparative figures for the previous year are to be disclosed as indicated in the formats. The words 'current year' and 'previous year' used in the formats are only to indicate the order of presentation and may not appear in the accounts.
3. Figures should be rounded off to the nearest thousand rupees. Thus, a sum of Rs. 19,75,921.20 will appear in the balance sheet as Rs. 19.76.

## **24.7 ACCOUNTING TREATMENT OF SPECIFIC ITEMS**

Accounting treatment of some specific items in the profit and loss account and balance sheet are being explained in the following pages.

### **A. Bad Debts and Provisions for Doubtful Debts**

The amount of bad debts and provision for bad debts has to be charged under the heading 'Provision

and Contingencies' in the Profit and Loss account. In the Balance Sheet, the advances are shown after deducting both bad debts and provision for bad debts. It may be noted that the banks collect from their branches information regarding bad and doubtful debts also. The Schedule of Advances to be filled in by the branches contains a separate column regarding doubtful debts in respect of 'bills purchased and discounted', cash-credits and overdrafts, and unsecured loans. However, while consolidating the Schedule of Advances at the head office level, for balance sheet purposes, the advances are shown net of any bad or doubtful debts.

### B. Provision for Taxation

The amount of provision for taxation has to be charged to the Profit and Loss Account under the heading 'Provisions and Contingencies', in the Balance Sheet, it will be shown under the heading 'Other Liabilities and Provisions', on the Liabilities side.

### C. Rebate on Bills Discounted

This refers to unexpired discount. A banking company charges discount in advance for the full period of the bill of exchange or promissory note discounted with it. The accounting entry made is as follows:

Bills discounted and purchased a/c	Dr.
To Customers' a/c	
To Discount a/c	

Customer's account is credited with the net amount remaining after deducting the amount of discount. The amount credited to the discount account represents the earning of the bank. However, it may be possible that the bills discounted may mature after the close of the financial year. It will not be appropriate to take to the credit of the Profit and Loss account, that part of the discount charged, which relates to next year. An accounting entry is, therefore, passed for unearned discount in the following manner:

Discount a/c	Dr.
To Rebate on Bills Discounted a/c (with the amount of unearned discount relating to the next period)	

Rebate on bills discounted, if already appears in the trial balance, is taken to the balance sheet on the 'liabilities side'. However, if an adjustment has to be done after the preparation of the trial balance, in respect of rebate on bills discounted, the amount of such rebate (i.e. the unearned discount) will be deducted from the total discount in the profit and loss account and will also appear as a liability in the balance sheet.

## **24.8 PREPARATION OF PROFIT AND LOSS ACCOUNT**

Form 'B' Third  
Schedule  
Form of Profit and Loss Account Profit and Loss Account for  
the Year Ended 31st March, 19....

	Schedule Number	Year Ended (Rs.)
I Income: Interest	13	
Earned Other Income	14	



	Schedule Number	Year Ended (Rs.Jj)
11. Expenditure:		
Interest Expended	15	
Operating Expenses	16	
Provisions and Contingencies		
Total		
III. Profit/Loss:		
Net Profit/(Loss) of the Year		
Total		
IV. Appropriations:		
Transfer to Statutory Reserves		
Transfer to other Reserves		
Transfer to Government Proposed Dividend		
Balance Carried over to Balance Sheet		
Total		

**Schedules to be annexed with Profit and Loss Account**

**Schedule 13: Interest Earned**

Us.

(I) Interest/Discount on Advances/Bills (II)

—

Income on Investments

—

(III) Interest on balances with RBI and other Inter-bank funds

—

(IV) Others

—

Total

—

**Schedule 14: Other Incomes**

Rs.

(I) Commission, Exchange and Brokerage

(II) Profit on Sale of Investments Less:

Loss on Sale of Investments

(III) Profit on Revaluation of Investments

Less: Loss on Revaluation of Investments

(IV) Profit on Sale of Land/Building and other Assets

Less: Loss on Sale of Land, Building and other Assets

(V) Profit on Exchange transactions

Less: Loss on Exchange transactions

(VI) Income earned by way of dividends, etc., from subsidiaries

Companies and/or joint ventures abroad/in India

(VII) Misc. Income	.....
Total	.....
Note: Under Items II to V loss figures be shown in brackets.	
Schedule 15: Interest Expended	Rs.
(I) Interest on Deposits	.....
(11) Interest on RBI/Inter-Bank Borrowings	.....
(III) Others	.....
Total	
Schedule 16: Operating Expenses	Rs.
(I) Payments to and Provisions for Employees	.....
(II) Rent, Taxes and Lighting	.....
(III) Printing and Stationery	.....
(IV) Advertisement and Publicity	.....
(V) Depreciation on Bank's Property	.....
(VI) Directors' Fees, Allowances and Expenses	.....
(VII) Auditors' Fees and Expenses (Including Branch Auditors)	.....
(VIII) Law Charges	.....
(IX) Postages, Telegrams, Telephones, etc.	.....
(X) Repairs and Maintenance	.....
(XI) Insurance	.....
(XII) Other Expenditure	.....
Total	.....

Note: Corresponding figures for the immediately preceding financial year should be shown in separate columns.

## **24.9 COMMENTS ON PROFIT AND LOSS ACCOUNT ITEMS**

### **Schedule 13: A. Interest Earned**

1. Interest/Discount on Advances/Bills: includes interest and discount on all types of loans and advances like cash credit, demand loans, overdrafts, export loans, term loans, domestic and foreign bills purchased and discounted (including those rediscounted), overdue interest and also interest subsidy, if any, relating to such advances/ bills.
2. Income on Investments: Includes all income derived from the investment portfolio by way of interest and dividend.
3. Interest on balances with the Reserve Bank of India and other inter-bank funds: Includes the interest on balances with the Reserve Bank and other banks, call loans, money market placements, etc.

4. Others: Includes any other interest/discount income not included in the above heads.

#### **Schedule 14: B. Other Incomes**

1. *Commission, Exchange and Brokerage*: Includes all remuneration on services such as commission on collection, commission/exchange on remittances and transfers, commission on letters of credit, letting out of lockers and guarantees, commission on Government business, commission on the other permitted agency business including consultancy and other services, brokerage, etc., on securities. It does not include foreign exchange income.
2. *Profit on sale of investments*: Less-loss on sale of investments;
3. *Profit on revaluation of investments*: Less-loss on revaluation of investments;
4. *Profit on sale of land, buildings and other assets*: Less-loss on sale of land, buildings and other assets. Includes profit/loss on the sale of securities, furniture, land and buildings, motor vehicle, gold, silver, etc. Only the net position should be shown. If the net position is a loss, the amount should be shown as a deduction. The net profit/loss on revaluation of assets may also be shown under this item.
5. *Profit on Exchange transaction: Less-Loss on Exchange Transaction*: Includes profit/loss on dealing in foreign exchange, all income earned by way of foreign exchange, commission and charges on foreign exchange transactions excluding interest which will be shown under interest. Only the net position should be shown. If the net position is a loss, it is to be shown as a deduction.
6. *Income earned by way of dividends, etc., from subsidiaries, companies, joint ventures abroad/in India*.
7. *Miscellaneous Income*: Includes recoveries from constituents for godown rents, income from the bank's properties, security charges, insurance, etc., and any other miscellaneous income. In case any item under this head exceeds one percentage of the total income, particulars may be given in the notes.

#### **Schedule 15: C. Interest Expenses**

1. *Interest on Deposits*: Includes interest paid on all types of deposits from banks and other institutions.
2. *Interest on RBI/Inter-Bank Borrowings*: Include discounts/interest on all borrowings and refinance from the Reserve Bank of India and other banks.
3. *Others*: Includes discount/interest on all borrowings/refinance, penal interest paid, etc., may also be included here.

#### **Schedule 16: 0. Operating Expenses**

1. *Payments to and provisions for employees* include staff salaries/wages, allowances, bonus, other staff benefits like provident fund, pension, gratuity, leave fare concessions, staff welfare medical allowance to staff, etc.
2. *Rent, taxes and lighting* includes rent paid by the banks on buildings and municipal and other taxes paid excluding income tax and interest tax, electricity and other similar charges and levies. House rent allowance and other similar payments to staff should appear under the head 'Payments to and Provisions for Employees'.
3. *Printing and stationery* includes books and forms and stationery used by the bank and other printing charges which are not incurred by way of publicity expenditure.
4. *Advertisement and publicity* includes expenditure incurred by the bank for advertisement and publicity purposes including printing charges of publicity matter.

5. *Depreciation on bank's property* includes depreciation on bank's own property, motor cars and other vehicles, furniture, electric fittings, vaults, lifts, leasehold properties, non-banking assets, etc.
6. *Directors' fees, allowances and expenses* include sitting fees and all other items of expenditure incurred on behalf of directors. It includes the daily allowance, hotel charges, conveyance charges, etc., which though in the nature of reimbursement of expenses incurred may be included under this head. Similar expenses of local committee members may also be included under this head.
7. *Auditors' fees and expenses* (including branch auditors' fees and expenses) includes the fees paid to the statutory auditors and branch auditors for professional services rendered and all expenses for performing their duties, even though they may be in the nature of reimbursement of expenses. If external auditors have been appointed by the banks themselves for internal inspection and audits and other services, the expenses incurred in that context including fees may not be included under this head but shown under 'other expenditure'.
8. *Law charges* all legal expenses and reimbursement of expenses incurred in connection with legal services are to be included here.
9. *Postage, telegrams, telephones, etc.*, includes all postage charges like stamps, telegram, telephones, teleprinters, etc.
10. *Repairs and maintenance* includes repairs to bank's property, their maintenance charges, etc.
11. *Insurance* includes insurance charges on bank's property, insurance premium paid to DICGC, etc., to the extent they are not recovered from the concerned parties.
12. *Other expenditure* all expenses other than those not included in any of the other heads like, license fees, donations, subscriptions to papers, periodicals, entertainment expenses, travel expenses, etc., may be included under this head. In case any particular item under this head exceeds one percentage of the total income particulars may be given in the notes.

### **E. Provisions and Contingencies**

Includes all provisions made for bad and doubtful debts, provisions for taxation, provisions for diminution in the value of investments, transfers to contingencies and other similar items.

## **24.10 IMPORTANT ITEMS OF BALANCE SHEET**

Let us consider some of the peculiar items of assets and liabilities appearing in the bank's balance sheet.

### **Balance Sheet: Assets Side**

The various items of assets in the balance sheet are arranged according to liquidity order. 1.

#### **Money at Call and Short Notice**

These are related to inter-bank transactions. Under this arrangement money is borrowed by one bank from another bank usually for one to fourteen days. Banks having surplus money advance such loans. Banks having short supply of money, contact the banks having surplus funds or the vice versa for this purpose. Alternatively, they may approach the primary dealers in the money market for deploying their surplus funds or making good the deficit. The rate of interest on which money is supplied fluctuates every day and even within the day.

## 2. Advances

Under this head, the following items are covered:

- (i) loans
- (ii) cash credit and
- (iii) overdraft.

Let us try to understand the meanings of these terms. **Loan:** A loan is an advance of a fixed amount given to a customer for a specified period.

**Cash credit:** It is an arrangement by which the bank agrees to lend money up to a fixed limit against pledge or hypothecation of some securities. Customers need not draw the whole amount at one time.

**Overdraft:** Under this arrangement, the customer is permitted to overdraw money from his current account up to a certain limit against some specified securities like L.I.C. policy, bank's fixed deposit receipts, national saving certificates, quoted shares, etc.

## 3. Bills Receivable being Bills for Collection as Per Contra

Customers deposit into bank the draft and bills for collection and credit to their accounts. The bank keeps a register for recording the bills for collection. On collection, cash account is debited and customer's account is credited. At the end of the accounting year, when some bills are left uncollected, the following entry is passed:

Bills received being bills for collection a/c	Dr.
---	-----

To bills for collection being bills receivable account

It is a contra item in the balance sheet. The first account denotes the amounts receivable and it is shown on assets side. The second one denotes the amount payable to the customer and is shown on the liabilities side of the Balance sheet.

## 4. Acceptance Endorsements and Other Obligations

They represent the liabilities which the bank has assumed on behalf of its customers, the bank may accommodate his customer in the following ways:

- (i) by opening letters of credit (ii) by accepting bills on behalf of the customers
- (iii) by making endorsements on promissory notes prepared by the customers (iv) by issuing letters of guarantee to make payments if the customers fail to pay.

In all these cases, the bank is liable to third parties. Hence, it is a liability. While undertaking such liabilities, the bank obtains counter guarantee from its customers which enables it to claim the amounts from its customers. Therefore, it is an asset. At the end of the accounting year, the following entry is passed for recording the unmatured bills:

Constituents' Liability for Acceptances, Endorsements or Other Obligations a/c	Dr. To
--	--------

Acceptances, Endorsements and Other Obligations.

It is a contra item in the balance sheet. The first account appears on the assets side while the other on the liabilities side.

### 5. Non-Banking Assets

A bank cannot acquire certain assets but it can always lend against the security of such assets. This means that some times, in case of failure on the part of the loanee to repay the loans, the bank may have to take possession of such assets. Profit or loss on disposal of such assets should be disclosed separately in the profit and loss account.

### 6. Gold and Silver

Gold appears under 'Investment' and silver appears under 'other assets'.

### 7. Lockers or Safe Deposit Vaults

These are assets and are included under furniture.

### 8. Branch Adjustment Account

There are many transactions that take place between the head office and the branches and between one branch and another towards the end of the financial year. When such transactions occur, they are properly recorded in the books of the branch or head office where the transactions take place but in the absence of any advice or completion of the transactions, they remain unrecorded in the books of the other party. Because of these transactions, there is always some balance left in the branch account in the head office books. This balance is called the 'Branch adjustment account'. This appears on the assets side of the balance sheet if it has a debit balance and on the liabilities side if it has a credit balance.

## Balance Sheet: Liabilities Side

### 9. Share Capital

Under this head, authorised, subscribed and issued and paid up capital are shown separately. As in the case of any other limited company, calls in arrears are reduced from paid up capital and forfeited shares amount is added to it.

### 10. Reserve Fund and Other Reserves

Every banking company incorporated in India shall before declaring a dividend, transfer a sum equal to twenty per cent of net profit of each year (as per profit and loss account) to a reserve fund.

### 11. Deposits and Other Accounts

These are the amounts lying in the credit of customers' accounts. Fixed deposits are for a fixed period whereas savings bank and current accounts balances are repayable on demand. Contingency accounts, include the provision for contingencies, provision for taxation, etc. These are merged with current accounts.

### 12. Bills for Collection and Acceptances and Endorsements are Contra Items

These are explained in the above points numbered 3 and 4.

## **24.11 DISCLOSURE REQUIREMENTS OF BANKS TO BE ADDED AS NOTES TO ACCOUNTS (in Schedule 17)**

### 1. Non-performing Assets (NPA)

Banking companies are required to make additional disclosures in the Schedule 17 on 'Notes on Accounts' regarding movement of the provisions for NPA (excluding provision on standard assets) and depreciation on investments as per the following format:

**2. Movement of provisions held towards NPA**

Particulars	Ason31-3-200x (Current year)	Ason31-3-200x (Previous year)
Opening Balance		
Add: Provisions made during the year		
Sub-total		
Less: Write off of bad debts/write Back of excess provisions Closing Balance		

**3. Movement of Provisions held towards Depreciation on Investments**

Particulars	Ason31-3-200x (Current year)	Ason31-3-200x (Previous year)
Opening Balance		
<b>Add:</b>		
(a) Appropriation from Investment Fluctuation Reserve during the year		
(b) Provision made during the year		
Less:		
(c) Transfer to Investment Fluctuation Reserve during the year		
(d) Provision made during the year		
Closing Balance		

**4. Asset Classification, Income Recognition and Provisioning Norms****(a) Asset Classification**

A bank's advances are divided between performing and non performing assets. An advance giving income on continuous basis is called a performing asset. A non-performing asset, on the other hand, is one which remains out of order for ninety days.

A term loan is treated as NPA, if the interest instalment remains overdue for more than 180 days while a cash credit/overdraft account is treated as NPA, if the outstanding amount remains over and above sanctioned limits/drawing power for more than ninety days.

The bill purchased/discounted is treated as NPA, if bill remains overdue and unpaid for ninety days. In other cases (i.e. where the outstanding amount is less than the drawing power), it is treated as NPA if there is either no credit to the account or the credit is less than the debit to the account on account of interest, during ninety days preceding the date of the balance sheet.

**(b) Income Recognition**

The income from performing assets is recognised on accrual basis and interest income from non-performing assets is recognised on cash basis. In case interest on NPA is already recognised in the books on accrual basis, the same should be adjusted by making provision for income recorded but not received on NPA.

## (c) Asset classification for provisioning requirement

The rules regarding classification and provisioning requirements are listed below:

Category	Standard Asset	Sub-Standard Asset	Doubtful Asset	Loss Asset
Definitional requirement	A performing asset with just normal risk attached	Which has remained NPA for a period not exceeding eighteen months	Which has remained NPA for a period exceeding eighteen months	
Provisioning requirement	0.40%	10% of total outstanding	Unsecured portion -100% Secured portion - Debt doubtful 20% up to one year 1 to 3 years 30% More than 3 years - 50%	100% of total outstanding

## (d) Investment Classification

Investments by banks include as under:

- (a) Government securities
- (b) Approved securities
- (c) Shares
- (d) Debentures and bonds
- (e) Subsidiaries/joint ventures
- (f) Others (commercial paper, units of mutual funds, etc.)

The first two, viz., Government securities and Approved securities, are generally used for meeting statutory liquidity ratio and are called SLR securities. The remaining securities are called non-SLR securities.

The banks were required to bifurcate their SLR securities into 'current' and 'permanent' categories. The minimum ratio prescribed most recently was 75; 25 for current and permanent investments. The current SLR securities and entire of non-SLR securities were to be written down to their market value. This leads to depreciation being shown in account. The permanent securities were carried at cost.

As per new guidelines, both SLR and non-SLR securities are to be divided in three categories, viz.,

- (I) Held to maturity,
- (II) Available for sale and
- (III) Held for trading.

Category (I) is like old permanent category and (II) and (III) are like current category. The investment under 'held to maturity' should not exceed twenty-five per cent of bank's total investment. The banks have the freedom to decide on extent of holdings under 'available for sale' and 'held for trading' category.

The securities acquired by banks with the intention to hold them up to maturity are classified as held to maturity. The securities, acquired by banks with the intention of trading, by taking advantage of short term price/interest rate movement, is classified under 'held for trading'. The remaining securities are classified under the category 'available for sale'. The securities held for trading are to be sold within



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ninety days. The profit and loss on securities 'held to maturity' is to be transferred to Profit and Loss account. The profit is subsequently transferred to the Capital Reserve Account. The profit/loss on sale of investments in remaining two categories is taken to Profit and Loss Account. The securities 'held to maturity' need not be marked to market. The remaining two categories are marked to market.

**Illustration 1**

From the following particulars, prepare the profit and loss account of Andhra Bank Ltd., for the year ended 31st March, 2003.

Income	Rs.	Expenses	Rs.
Commission charged	7,000		
Discount on bills discounted	1,65,000	Interest on overdrafts	60,000
Audit fees	5,000	Interest on savings bank accounts	72,000
Establishment expenses	60,000	Postage telegram	2,000
Interest on loan	2,80,000	Printing and stationery	3,000
Interest on fixed deposits	2,98,000	Unexpired discount on bills discounted	55,000
Interest on cash credits	2,40,000	Rent and taxes	22,000
		Sundry expenses	2,000

Make a provision of Rs. 30,000 for doubtful debts.

**Solution****Andhra Bank Ltd.**

Profit & Loss Account for the year ended 31st March, 2003

Dr.	Schedule No.	Cr. Rs.
I. Income		
Interest Earned	13	6,90,000
Other Income	14	7,000
Total		6,97,000
II. Expenditure		
Interest Expended	15	3,70,000
Operating Expenses	16	94,000
Provision for Contingencies		30,000
Total		4,94,000
III. Profit:		
Net profit for the year		2,03,000

Schedules to be annexed with Profit & Loss Account

**Schedule 13: Interest Earned**

Discount on Bills discounted		1,65,000
Interest on:		
Loans	2,80,000	
Cash Credits	2,40,000	
Overdrafts Less: Unexpired Discount on	60,000	5,80,000
Bills Discounted		<u>55,000</u>



Schedule 14: Other Income	
Commission Charged	7,000
Schedule 15: Interest Expended	
Interest paid on: Fixed	
Deposits Savings Bank	2,98,000
Accounts	72,000
	4,15,000
Schedule 16: Operating Expenses	
Establishment Expenses Audit	60,000
Fees Rent and Taxes Postage	5,000
and Telegrams Printing and	22,000
Stationery Sundry Expenses	2,000
	3,000
	2,000
Illustration 2	94,000

Prepare the Profit and Loss account of Modern Bank Ltd. for the year ended 31st March, 2003, from the following:

	Rs.
Interest on Fixed Deposits	1,62,410
Rebate on Bills discounted	29,000
Interest on Loans	45,000
Commission Charged to Customers	62,500
Establishment	15,000
Discount on Bills Discounted	89,000
Interest on Cash Credit	24,000
Amount Charged against Current Accounts	71,500
Directors' Fees	10,000
Audit Fees	20,000
Postage and Telegram	2,000
Printing and Stationery	4,000
Rent and Taxes	22,500
Interest on Overdrafts	71,000
Sundry Charges	1,500
Interest on Savings Bank Deposits	57,780

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**Solution**

**Modern Bank Ltd.**

**Profit & Loss Account for the year ended 31st March, 2003**

	Schedule No.	Rs.
Income: Interest	13	2,71,500
Earned Other Income	14	62,500
Total		3,34,000
Expenditure: Interest Expended	15	2,20,190
Operating Expenses Provision for Contingencies	16	75,000
Total		2,95,190
Profit: Net Profit for the year		38,810

**Schedules to be annexed with Profit and Loss Account**

**Schedule 13: Interest Earned**

Interest on:

Loan	45,000	1,40,000
Cash Credit	24,000	
Overdrafts	71,000	
Discount on Bills discounted Less:	89,000	60,000
Rebate on Bill Discounted Amount charged against current accounts	29,000	71,500
		2,71,500

**Schedule 14: Other Income**

Commission charged to customer	62,500
--------------------------------	--------

**Schedule 15: Interest Expended**

Interest paid on: Fixed

Deposits Savings Bank	1,62,410
Deposits	57,780
	2,20,190

**Schedule 16: Operating Expenses**

Establishment Expenses	15,000
Director's Fees Audit Fees	10,000
Rent and Taxes Postage and Telegrams Printing and Stationery	20,000
	22,500
	2,000
	4,000

Sundry Expenses	1,500
	<u>75,000</u>

**Illustration 3**

The following are details of advances of Punjab Bank Ltd.,

Bills Purchased and Discounted	15,00,000
Cash Credits, Overdrafts and Loans Repayable on Demand	20,00,000
Term Loans	5,00,000

The following are the other details of the above advances:

Secured by Tangible Assets	30,00,000
Covered by Bank, Government and ECGC Guarantees	6,00,000
Unsecured	2,00,000
Doubtful Debts	2,00,000

Show how these items will appear in the Bank's Final Accounts

**Solution****Schedule 9: Advances**

	Rs.
A. 1. Bills Purchased and Discounted	15,00,000
2. Cash Credits, Overdrafts and Loans Repayable on Demand	18,00,000
3. Unsecured	5,00,000
Total (1, 2 and 3)	38,00,000
B. 1. Secured by Tangible Assets	30,00,000
2. Covered by Bank Guarantee and ECGC Guarantee	6,00,000
3. Unsecured	2,00,000
Total (1,2 and 3)	38,00,000

**Profit & Loss Account as on .....**

I. Income	_____
II. Expenditure	_____
Provision and Contingencies	2,00,000

**Illustration 4**

From the following information relating to Vijaya Bank Ltd., prepare a Profit and Loss account and Balance Sheet as at the end of 31 st March, 2003 in the forms prescribed by the Banking Regulation Act, 1949.

	Rs.
Share Capital (Shares of Rs. 100 each fully subscribed)	2,00,000
Statutory Reserve Fund (fully invested in 5% Govt. Securities at par)	1,20,000
Bad Debts	12,875

Establishment Expenses	1,27,725
Current Deposits	13,65,227
Interest Paid	7,48,440
Savings Accounts	17,20,000
Acceptances for Customer (Contingent Liability)	47,500
Discount	4,95,000
Profit and Loss Account (2001-02) - Credit	8,20,400
Fixed Deposits	8,75,000
Commission and Exchanges	2,92,900
Premises	4,80,000
Cash in Hand	650
Balance with Reserve Bank of India	22,000
Interest Received	12,86,400
Investments in Shares (Market value - Rs. 2,00,000)	92,500
Cash with Banks in India	2,84,500
Term Loans in India	10,00,000
Cash Credit - Hypothecation in India	12,64,000
Cash Credit - Pledge in India	9,44,000
Bills Purchased	16,00,000
Loans to Employees for Purchase of Vehicles	40,770
Salaries, Allowances, Bonus, Provident Fund	4,45,467
Govt. Securities	1,20,000
Dividend Received on Investments	8,000

1. The chief executive of the Bank draws a remuneration of Rs. 40,000 p.a. Director's fees and allowances are Rs. 8,000. All these are included in Salaries and Allowances, etc.

2. Unexpired discount as on 31st March, 2003 was Rs. 48,000.

3. Establishment expenses include:

Advertisements	10,000
Stationery	63,000
Rent	18,000
Lighting	3,000
Audit Fees	8,000
Postage and Telegrams	4,600
Revenue Stamps	400
Stamp Papers	1,500

4. An advance of Rs. 8,000 included in Cash Credit hypothecation above is considered doubtful and needs to be fully provided for.

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5. Provide for taxation at 35%.
6. Make necessary appropriation for stationery reserve.

**Solution****Vijaya Bank Ltd.****Profit & Loss Account for the year ended 31st March, 2003**

	Schedule No.	Rs.
<b>I. Income:</b>		
Interest Earned	13	17,33,400
Other Income	14	3,00,900
Total		20,34,300
<b>II. Expenditure:</b>		
Interest Expended	15	7,48,440
Operating Expenses	16	5,73,192
Provision for Contingencies		2,63,003
Total		15,84,635
<b>III. Profit:</b>		
Net profit for the year		4,49,665
<b>IV. Appropriations:</b>		
Transferred to Statutory Reserve		89,933
Taken to Balance Sheet		3,59,732

**Schedules to be annexed with Profit & Loss Account****Schedule 13: Interest Earned**

		R
Interest Received	12,86,400	S
Discount	4,95,000	.
Less: Unexpired Discount	48,000	

**Schedule 14: Other Income**

	4,47,000
Commission and Exchange	17,33,400
Dividend on Investments	

**Schedule 15: Interest Expended**

	8,000
Interest paid Schedule 16:	3,00,900

**Operating Expenses**

I. Payment to and Provision for Employees	7,48,440
II. Rent, Taxes and Lighting	Rs.
III. Printing and Stationery	4,37,467
IV. Advertisement and Publicity	21,000
	63,000
	10,000

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V. Director's Fees and Expenses	8,000
VI. Auditors' Fees and Expenses	8,000
VII. Law Charges	1,500
VIII. Postage, Telegrams and Telephones, etc.	5,000
IX. Other Expenditures	19,225
	5,73,192

*II or king Motes:*

1. As per Trial Balance:

Total Operating Expenses are: Establishment Expenses Salaries, Allowances

Rs.  
1,27,725  
4,45,467  
5,73,192

Other expenditure is balancing amount after showing all other expenses.

2. *Provisions and Contingencies:*

Bad Debts

Provision for Bad Debts Provision for Income Tax

Rs.  
12,875  
8,000

*Provision for Tax: Income*

Less: Interest Expended Operating Expenses Bad Debts and Provision

Profit before Tax

Income Tax @ 35 per cent on Rs. 6,91,793 Net Profit after Tax

Transfer to Statutory Reserve 20 per cent of 4,49,665 Balance Sheet carries

forward

20,34,300 2,92,128  
7,48,440 2,63,003  
5,73,192 13,42,507  
20,875 6,91,793  
2,24,128  
4,49,665  
89,933  
3,59,732

Vijay Bank Ltd. Balance Sheet as on 31st March, 2003

	Schedule No.	Rs.
Capital & Liabilities:		
Capital	1	2,00,000
Reserve and Surplus	2	13,90,065
Deposits	3	39,60,227
Borrowings	4	-
Other Liabilities and Provisions	5	2,98,128
		58,42,010

Assets:		1
Cash and Balances with RBI	6	22,650
Balance with Banks and Money at Call and Short Notice	7	2,84,500
Investments	8	2,12,500
Advances	9	48,08,000
Fixed Assets	10	4,80,000
Other Assets	11	40,770
		58,48,420
Contingent Liabilities	12	47,500

## Schedule 1: Capital

As on 31-3-2003

(Rs.)

A. Authorised Capital		
20,000 shares of Rs. 100 each		20,00,000
B. Issued Capital		
2,000 shares of Rs. 100 each		2,00,000
C. Subscribed Capital		
2,000 shares of Rs. 100 each		2,00,000
D. Called up & Paid up Capital		
200 shares of Rs. 100 each		2,00,000

## Schedule 2: Reserve &amp; Surplus

As on 31-3-2003

(Rs.)

I. Statutory Reserve:		
Opening Balance	1,20,000	
Add: Additions during the year	89,933	2,09,933
II. Capital Reserve		Nil
III. Share Premium		Nil
IV. Revenue and Other Reserves		Nil
V. Balance of Profit		11,80,132
		<u>13,90,065</u>

## Schedule 3: Deposits

As on 31-3-2003

(Rs.)

A. I. Demand Deposits: (i)		
from Banks (ii) from		
others		13,65,227



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II. Savings Bank Deposits:	17,20,000
III. Term Deposits:	
(i) from Banks	
(ii) from others	8,75,000
Total (I, II & III)	39,60,227
B. I. Deposits of Branches in India II.	39,60,227
Deposits of Branches outside India	
	<hr/>
	39,60,227

### Schedule 4: Borrowings

As on 31-3-2003  
(Rs.)

- I. Borrowings of Branches in India
- II. Borrowings of Branches outside India

### Schedule 5: Other Liabilities & Provisions

As on 31-3-2003  
(Rs.)

I. Bills payable	
II. Inter Office Adjustments	
III. Interest Accrued	
IV. Others	2,98,128
	<hr/>
	2,98,128

### Schedule 6: Cash and Balances with

As on 31-3-2003  
(Rs.)

I. Cash in Hand	650
II. Balance with RBI	22,000
	<hr/>
	22,650

### Schedule 7: Balance with Banks and Money at Call and Short Notice

As on 31-3-2003  
(Rs.)

I. In India	
II. Outside India	2,84,500

### Schedule 8: Investments

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2,84,500

As on 31-3-2003  
(Rs.)

I. Investments in India in:	
(i) Govt. Securities	1,20,000

(ii) Other Approved Securities (iii) Shares	92,500
(iv) Debentures and Bonds (v) Subsidiaries and/or Joint Ventures (vi) Others II. Investments outside India	
	<u>2,12,500</u>

## Schedule 9: Advance

	As on 31-3-2003
	(Rs.)
I. Bills Purchased and Discounted	16,00,000
II. Cash Credits, Overdrafts and Loans Repayable on demand	22,08,000
III. Term Loans	10,00,000
	<u>48,08,000</u>

## Schedule 10: Fixed Assets

	As on 31-3-2003
	(Rs.)
I. Premises	4,80,000
II. Other Fixed Assets	
	<u>4,80,000</u>

## Schedule 11: Other Assets

I. Inter-Office Adjustments	
II. Interest Accrued	As on 31-3-2003
III. Taxes Paid in Advance and Taxes Deducted at Source	
IV. Stationery & Stamps	
V. Non-Banking Assets Acquired in Satisfaction of Claims	40,770
VI. Others-Loan to Employees	40,770

## Schedule 12: Contingent Liabilities

	As on 31-3-2003
	(Rs.)
Acceptance, Endorsement and other Obligations	47,500

**24.12 ADDITIONAL DISCLOSURES PRESCRIBED BY RBI**

In addition to the disclosures to be made in the balance sheet and profit and loss account, in pursuance of the requirements of the Third Schedule to the Act, the RBI has directed, through Circular NO.DBOD.

BP.BC. No.59/21.04.018/2005-06, dated January 30, 2006 that the following information should be disclosed by way of notes on accounts:

**List of Disclosure Items**

- Capital adequacy ratio
- Capital adequacy ratio-tier I capital
- Capital adequacy ratio-tier II capital
- Percentage of shareholding of the Government of India in the nationalised banks.
- Amount of subordinated debt raised as tier II capital
- Gross value of investments, etc.
- Provisions made towards depreciation in the value of investments
- Movement of provisions held towards depreciation on investments
- Repo transactions
- Non-SLR investment portfolio
- Forward rate agreement/interest rate swap
- Exchange traded interest rate derivatives
- Disclosures on risk exposure in derivatives
- Percentage of net NPAs to net advances
- Movement in NPAs
- Amount of provisions made towards NPAs
- Movement of provisions made towards NPAs
- Details of Loan assets subjected to restructuring
- Restructuring under CDR
- Details of financial assets sold to a SC/RC for asset reconstruction
- Provision on standard assets
- Interest income as a percentage to working funds
- Non-interest Income as a percentage to working funds
- Operating profit as a percentage to working funds
- Return on assets
- Business (deposits plus advances) per employee
- Profit per employee
- Maturity pattern of loans and advances
- Maturity pattern of investment securities
- Maturity pattern of deposits
- Maturity pattern of borrowings
- Foreign currency assets and liabilities
- Exposure to real estate sector
- Exposure to capital market: investment in equity shares, etc.
- Bank financing for margin trading

- Exposure to country risk
- Details of single borrower/group borrower limit exceeded by the bank
- Provision made towards income tax during the year
- Disclosure of penalties imposed by RBI
- Consolidated financial statements -AS 21
- Segment reporting - AS 17
- Related party disclosure - AS 18
- Other disclosures as required under the relevant accounting standards

### **24.13 LET US SUM UP**

A banking company accepts deposits and provides facilities to depositors for payment by cheques. Section 8 of the Banking Regulation Act prohibits a bank from buying, selling or dealing in goods. Forms A and B of the third schedule of the Banking Regulations Act give the formats of Balance Sheet and Profit and Loss account. Before declaring a dividend, every Banking Company has to transfer twenty per cent of the current year's profit to the Statutory Reserve. The slip system is followed by banks while posting in the ledgers. The words 'To' and 'By' are not used in profit and loss account. Profit and Loss Appropriation account is not prepared and appropriation and transfer to statutory reserve is shown in the balance sheet.

### **24.14 KEYWORDS**

**Money at Call and Short Notice:** Money borrowed by one bank from another bank.

**Loan:** Advance of a fixed amount given to a customer for a specified period.

**Overdraft:** Under this arrangement, a customer is permitted to overdraw money from current account up to a certain limit against pledge of any specified securities.

**Rebate on Bills Discounted:** This relates to unearned discount in respect of those bills maturing after balance sheet date.

**Fixed Deposits:** Amount kept with a bank for a fixed period.

**Current Deposits:** These deposits are repayable on demand.

### **24.15 TERMINAL QUESTIONS**

I. The trial balance of National Bank Ltd. as on 31st December, 1997 stood as follows:

	Rs.		Rs.
Paid-up capital	10,00,000	Reserve Fund	3,85,000
Local Bills Discounted	9,00,000	Cash Credits and Overdrafts	23,00,000
Current and Savings Deposits	25,00,000	Furniture	20,000
Fixed Deposits	20,00,000	Profit and Loss Account	
Stamps and Stationery	5,000	(Credit Balance)	1,10,000
Cash in Hand	2,50,000	Cash at Bank	6,50,000
Investments at Cost	4,75,000		

Out of the total debts, debts of Rs. 2,85,000 were considered doubtful and the balance was considered good. Out of the good debts, debts amounting to Rs. 24,00,000 were fully secured and for debts amounting to Rs. 4,00,000 (including Rs. 1,15,000 due by a director) the bank held personal securities of one or more persons over and above the personal securities of the debtors and for the balance the bank held no other security than the personal security of the debtors. The directors require the bank investments to be shown in the balance sheet at market value on 31st December, 1997 which is Rs. 5,25,000.

Prepare the balance sheet of the Bank as on 31st December, 1997 in the prescribed form.

**2. Fill in the blanks.**

- (a) The form of balance sheet and profit and loss account of a banking company is prescribed in Forms A and B of \_\_\_\_\_ schedule of the Banking Regulation Act, 1949.
  - (b) The various items of assets in the balance sheet are arranged according to \_\_\_\_\_ order.
  - (c) \_\_\_\_\_ of posting is peculiar of banking company accounts.
3. Name the major institutions carrying on banking business in India.
  4. State the main functions of a modern commercial bank.
  5. Name the items which appear on both the sides of the balance sheet.

**Answers to Terminal Questions:**

2. (a) Third; (b) Liquidity; (c) Slip System
3. (i) Reserve Bank of India; (ii) State Bank of India; (iii) Central Bank of India; (iv) Punjab National Bank; (v) Dena Bank; (vi) Bank of India.
4. Main functions of a Modern Commercial Bank:
  - (i) Accepting money on deposits
  - (ii) Extending facilities of loans and advances to trade and industries
  - (iii) Providing facilities to depositors for payment by cheques
  - (iv) Opening letters of credit
  - (v) Issuing letters or guarantee
  - (vi) Dealing in foreign exchange
  - (vii) Acting as a trustees and executors
  - (viii) Merchant banking
5. Items appearing on both sides of the balance sheet:
  - (i) Constituents' liabilities for acceptance, endorsement and other obligations,
  - (ii) Bills receivable being bills for collection.



# COMPANY ACCOUNTS -1

## **STRUCTURE**

- 25.0 Objectives
- 25.1 Introduction
- 25.2 Definition and "types of Companies
- 25.3 Distinction between Partnership and Limited Liability Company
- 25.4 Classes of Share Capital
- 25.5 Issue of Shares
- 25.6 General Illustrations
- 25.7 Non-voting Shares
- 25.8 Let Us Sum Up
- 25.9 Keywords
- 25.10 Terminal Questions

## **25.0 OBJECTIVES**

After studying this unit, you will be able to:

- Understand the need to form a company.
- Know the difference between a partnership firm and a company.
- Know different classes of shares issued by a company.
- Understand the entries to be passed in the books of a company.

## **25.1 INTRODUCTION**

Capital of the business depends upon the form of the business organisation. There are different forms of business organisations. Proprietary firms are suitable where the capital requirement is very small. When business expands, one person may not be in a position to attend to all functions of business such as production, marketing, finance and so on. Under these circumstances, a new form of business organisation takes place, i.e. 'Partnership firm'. Partnership is a relationship between two or more persons, who have come together, to share the profits of a business carried on by all or anyone of them acting for all.

Capital requirements of the business can be met by the persons (partners) who have come together. Managerial functions can be distributed amongst the partners. Under the partnership firm, the liability of each partner is unlimited. In case of dissolution of the firm, if the firm's assets are not sufficient to discharge its liabilities, private property of the individual partners can be applied to clear the firm's debts. Partnership form of business is also not suitable where large investment is required, e.g. setting up of a cement factory, fertiliser plant, etc. This gave rise to a new form of business organisation, viz., joint stock companies.

## **25.2 DEFINITION AND TYPES OF COMPANIES**

A company is an association of persons who contribute money or money's worth to a common stock and uses it for a common purpose. It is created by law and effected by law. It is a legal person just as much as an individual but with no physical existence.

Section 3(1) (i) of the Companies Act, 1956, defines a company as *A company formed and registered under this Act, or an existing company*. An existing company means a company formed and registered under any of the previous Companies Act.

### **Features of a Joint Stock Company**

1. *Incorporated association*: A company is a registered body of individuals. According to the Companies Act, 1956, it is compulsory to register a joint stock company.
2. *Artificial person*: It is an artificial person created by law. It is different from its members. It can enter into contracts, purchase and sell the properties, can sue and be sued upon. Even a member can enter into contract with the company.
3. *Perpetual succession*: A company has a perpetual succession. Death or insolvency of any shareholder does not affect existence of the company.
4. *Common seal*: As the company is an artificial person created by law, it cannot sign its name. So it has a common seal on which the company's name is engraved. The common seal is treated as the company's signature and is affixed on all important documents and contracts as per the resolutions passed by the Board.

5. *Limited liability*: The liability of the members of the joint stock company is limited to the face value of shares held by them. Companies (Amendment) Bill 2003 states that if a company, private or public, fails to enhance its minimum paid up capital (i.e. One Lakh rupees or Five Lakh rupees, as the case may be) each director or manager or shareholder will have unlimited liability.
6. *Separation of management from ownership*: Even though the shareholders are true owners, they do not participate in the management of the company. They elect their representatives known as Board of Directors.
7. *Transferability of shares*: The shares of a company are freely transferable subject to restrictions placed on transfer of private limited company's shares.
8. *Separate legal status*: A company has an independent legal status and as such, the shareholders or the owners are not liable for the acts of the company.
9. *Large membership*: A company is owned by a large number of members. In the case of private limited company the minimum number of members is two and the maximum is fifty. In the case of public limited company, the minimum number of members is seven and there is no maximum limit on the number of members.

### Types of Companies

There are different types of companies. They may be classified on the basis of their incorporation, ownership and liability of members.

Types of Companies

(A)	(B)	(C)
Based on Incorporation	Based on Ownership	Based on Liability
1. Chartered Company	1. Private Company	1. Company Limited by Shares
2. Statutory Company	2. Public Company	2. Company Limited by Guarantee
3. Registered Company	3. Government Company	3. Company with Unlimited Liability
4. Foreign Company	4. Holding Company	4. Subsidiary Company

#### A. On the Basis of Incorporation

1. *Chartered company*: A chartered company is one that is established under a special charter issued by the King or Emperor or a Head of State. Such companies are not found in India. Chartered companies established in European countries are East India Company, Bank of England.
2. *Statutory company*: A statutory company is one that is created or incorporated by a special Act passed by the Central or State Legislature. The Statutory companies are owned by Government and are given independent legal status, e.g. Life Insurance Corporation of India, Air India, Food Corporation of India, etc.
3. *Registered company*: A company registered under the provisions of Companies Act is known as a registered company. In India, companies registered under the Indian Companies Act, 1956 are Tata Consultancy Services Ltd., WIPRO Ltd., Vediocon International Ltd., Reliance Industries Ltd., and so on.
4. *Foreign company*: Foreign company is a company which is incorporated outside India but has a place of business in India, e.g. Hongkong and Shanghai Banking Corporation Ltd.



### B. On the Basis of Ownership

1. *Private company*: A private company is a company that by its articles restricts:
  - (a) maximum number of members to fifty,
  - (b) the right of transfer of shares, and
  - (c) an invitation to the public to subscribe for the shares.
2. *Public company*: Section 3(i) (iv) of the Indian Companies Act, 1956, defines a public company as a company which is not a private company. This means there is no restriction on the number of members and shares are freely transferable.
3. *Government company*: Any company in which not less than 51 per cent of the paid-up share capital is held by the Central Government or by any State Government or partly by Central Government and partly by one or more State Governments, is a Government Company.
4. *Holding company*: It is a company which holds a large majority of shares (not less than 51 per cent) of the other company.
5. *Subsidiary company*: It is a company which is controlled by another company, called the Holding Company.

### C. On the basis of Liability

1. *Company limited by shares*: It is a company in which liability of its members is restricted to the face value of the shares purchased by them. Most of the companies in India are companies with limited liability. Companies (Amendment) Bill 2003 states that if a company, private or public, fails to enhance its minimum paid up capital (i.e. One Lakh rupees or Five Lakh rupees, as the case may be) each director or manager or shareholder will have unlimited liability.
2. *Company limited by guarantee*: It is a company in which liability of a member is fixed to a certain amount and he is liable to pay that much amount in the event of winding up of the company. This amount is called the 'Guarantee'. Such companies are generally floated for the promotion of sports, education, religion, fine art, etc., and are essentially non-profit making organisations.
3. *Company with unlimited liability*: It is a company in which the liability of a member is unlimited. Companies (Amendment) Bill 2003 states that if a company, private or public, fails to enhance its minimum paid up capital (i.e. One Lakh rupees or Five Lakh rupees, as the case may be) each director or manager or shareholder will have unlimited liability.

## **25.3 DISTINCTION BETWEEN PARTNERSHIP AND LIMITED LIABILITY COMPANY**

Partnership and limited company can be distinguished on the following points:

1. *Formation*: The formation of partnership firm is relatively easy because of the limited legal formalities are involved. The formation of a limited company is difficult because too many legal formalities are involved.
2. *Registration*: Registration of a firm is not compulsory. Registration of a company is compulsory under the Indian Companies Act, 1956.
3. *Membership*: A firm can be formed with a minimum of two members and the maximum number is ten in case of banking and twenty in case of other business. A private company can be formed with a minimum of two members but the maximum number cannot exceed fifty. A public company can be formed with minimum of seven members but there is no restriction on maximum number.
4. *Liability*: Liability of partners of a firm is unlimited whereas liability of a shareholder is usually limited to the face value of shares held by him.

5. *Ownership and management:* In partnership, ownership and management rest with the partners. The property of the firm is owned by the partners themselves. In a company there is a separation of ownership and management. The property of the company is not the property of its members.
6. *Perpetual existence:* A partnership does not have a perpetual existence but a limited company enjoys perpetual existence.
7. *Transfer:* A share in the partnership cannot be transferred without the consent of other partners. The shares of a company are freely transferable.
8. *Government control:* There is limited Government control on partnership organisation but there is a strict government control on joint stock companies.

#### **25.4 CLASSES OF SHARE CAPITAL**

Share capital of a company limited by shares can be of two kinds only, viz., equity share capital and preference share capital. The law defines preference shares as that part of share capital of the company which enjoys the preferential right:

- (a) as to the payment of dividend at a fixed rate, and
- (b) as to the return of capital on winding up of the company.

Equity share capital means that part of share capital which is not preference share capital.

Preference shares can be further classified as under:

- (a) Cumulative
- (b) Redeemable
- (c) Participating

Dividend is declared out of profits of a company. Therefore, whenever there is no profit or inadequate profit, dividend cannot be declared. If preference shares are cumulative, then their rights to claim dividend do not lapse when there is no profit or inadequate profit, but it is carried forward to the next year. In subsequent years, when the company makes profit, arrears of preference dividend are cleared first before making any payment of dividend to equity shareholders.

Redeemable preference shares are those preference shares which can be redeemed, subject to fulfilment of certain conditions laid down in Section 80 of the Companies Act, 1956. The Companies Act prohibits the issue of any preference share that is irredeemable.

Participating preference shares are those preference shares which have a right to participate in the surplus remaining after payment of equity capital in case of winding up of the company. Preference shares are cumulative and non-participating unless expressly stated otherwise.

Share capital can be classified in a different way as to:

1. Authorised capital
2. Issued capital
3. Subscribed capital
4. Called up capital
5. Paid-up capital

1. *Authorised capital:* Capital which is stated in the 'Memorandum of Association'. This clause says how this capital is divided into equity share capital and preference share capital. The amount

stated as Authorised Capital is the amount up to which the company can raise the capital. This is also known as Nominal or Registered Capital.

2. *Issued capital:* Capital which has been issued by the company. Such shares may be issued to public or may be issued partly to vendors against the purchase consideration. The maximum limit up to which company can issue capital is the amount stated in the memorandum of association. Therefore, the issued capital of the company can be less than authorised capital or equal to its authorised capital.
3. *Subscribed capital:* It is that part of issued capital which has been actually subscribed by the public. It can be less than the issued capital or at the most equal to issued capital.
4. *Called up capital:* The amount which the company has asked its shareholders to pay.
5. *Paid-up capital:* That amount of capital which has actually been paid by the shareholders. It can never be more than the called up capital.

This classification of share capital will help us in preparing the final accounts of a limited company.

### **25.5 ISSUE OF SHARES**

Shares issued are of two classes, viz., preference and equity. The prospective shareholder applies for shares in a prescribed form. The total applications received may be for a larger number of shares than what the company proposes to issue. In such a case, the company cannot issue more shares than what it has offered through its prospectus. Such a situation is called oversubscription. If the company has good prospects and its directors are reputed persons, naturally the shares would be oversubscribed. If the shares are not fully subscribed but a minimum subscription is received, the Board of Directors of the company proceed with the acceptance of applications and allotment of shares.

#### ***Basis of Allotment***

In a public issue of shares, the regional stock exchange along with the post issue lead merchant banker and the registrars to the issue shall be responsible to ensure that the basis of allotment is finalised in a fair and proper manner in accordance with the following guidelines:

- (i) Applicants shall be categorised according to the number of shares applied for.
- (ii) The total number of shares to be allotted to each category as a whole shall be arrived at on a proportionate basis, i.e. total number of shares applied for in that category (number of applicants in the category X number of shares applied for) multiplied by the inverse of the oversubscription ratio.

When applications are rejected, the amounts received on such applications are refunded. In respect of applications accepted on a pro rata basis, the excess amount received is either refunded or adjusted towards future dues on shares, i.e. share allotment dues.

Amount due on shares is normally called up in following instalments:

- (i) Certain amount with application
- (ii) Certain amount on allotment and
- (iii) Balance amount on calls

The instalments after the allotment stage are known as calls. If the subscription money is proposed to be received in cash, the calls shall be structured in such a manner that the entire subscription money is called within twelve months from the date of allotment. If the issue size is above Rs. 500 crore, it shall not be necessary to call the entire subscription money within twelve months.

### 1. Issue of Shares at Par

1. In case of public issue at par, the minimum number of shares for which an application is to be made, shall be fixed at 200 shares of face value of Rs. 10 each when share applications are received, application monies are deposited into the bank. Share applications money does not become a part of share capital until shares are agreed to be allotted to the applicants. Share application money is, therefore, credited temporarily to an account called share applications account. The accounting entry is:

Bank a/c	Dr.
To Share Applications a/c (Being application money received on application for shares at Rs. . . . per share)	

2. After applications are received, the Board of Directors will proceed with the acceptance of applications and allotment of shares based on the basis of allotment finalised.

- A. If a minimum subscription is received, but number of shares applied for is not more than the shares offered through the prospectus, all applications received are accepted and application money is transferred to share capital account. The accounting entry is:

Share applications a/c	Dr.
To Share Capital a/c	
(Being amount received on share application transferred to share capital account as per Board's resolution dated . . . accepting the applications)	

- B. If the number of shares applied for is more than the shares offered, then the Board of Directors may:

- (i) Accept some applications in full by drawing lots and reject the remaining applications in full;

Or

- (ii) Accept all applications on a pro rata basis;

Or

- (iii) Reject some applications fully, accept some applications fully and allot shares to the remaining applicants on pro rata basis.

Entries in each of the above cases are as under:

- (i) When some applications are accepted in full by drawing lots and some are rejected in full, the amount received on applications accepted is transferred to share capital account. The amount received on rejected applications is refunded. The accounting entry is:

Share applications a/c	Dr.
To Share Capital a/c (Application money on accepted applications)	
To Bank a/c (Application money on rejected applications)	

(Being the amount of Rs. . . transferred to share capital account on accepted applications for . . . shares @ Rs. . . . per share and the amount of Rs. . . . refunded on rejected applications for . . . shares @ Rs. . . . per share.)

- (ii) Where all applications are accepted on a pro rata basis, the excess amount paid by applicants is either refunded or adjusted towards future dues on shares, i.e. on allotment. The accounting entry is:

Share Applications a/c  
 To Share Capital a/c  
 To Bank a/c (If excess  
 amount is refunded)

Dr.

Or

To Share Allotment a/c

(If excess amount is adjusted towards share allotment dues)

(Being . . . shares issued against applications for . . . shares on pro rata basis as per Board's resolution dated . . . . The excess amount is refunded/adjusted towards share allotment dues.)

If the excess amount received on applications is more than the full allotment dues, then the balance available after adjusting allotment dues may be either refunded or adjusted towards calls as per Board's decision taking into account the SEBI guidelines. If the excess is refunded, the bank account is suitably credited. If the same is adjusted towards future calls the same is credited to the First Call account and Second Call account as the case may be.

- (iii) Where some applications are accepted in full, some rejected in full and the remaining applications are accepted on a pro rata basis, the application money on the total shares issued is credited to the share capital account, application money on rejected applications is refunded and the excess amount paid by the applicants who have been allotted shares on pro-rata basis is either refunded or adjusted towards allotment dues. Let us take a simple illustration to understand this.

#### Illustration 1

A company offered for public subscription 1,000 shares of Rs. 100 each on which Rs. 50 are payable on application and balance amount of Rs. 50 on allotment.

Company received 3,000 applications. Board of Directors decided to allot shares as follows:

- (i) to accept applications for 100 shares in full;  
 (ii) to reject applications for 200 shares;  
 (iii) to allot the balance number of shares on a pro rata basis against the remaining applications; (iv) to adjust excess application money towards allotment dues.

Pass entries for: (i) receipt of application money, and (ii) adjustment of application money giving effect to the above.

#### Solution

Working	No. of shares applied for	No. of shares allotted
	3,000	1,000
Less: Accepted in full	100	100
Balance	2,900	900
Less: Rejected in full	200	-
Balance allotted on pro-rata basis, i.e. 1 share against 3 applied	2,700	900

Excess shares applied for by applicants who are allotted on pro rata basis are 1,800, i.e. 2,700 applied minus 900 allotted. The excess application amount received is therefore Rs. 90,000 (1,800 x Rs. 50).

*Entries*

When share application money is received:		Rs.	Rs.
Bank a/c	Dr.	1,50,000	
To Share Applications a/c			1,50,000
(3,000 x Rs. 50)			
(Being application money for 3,000 shares received @ Rs. 50 per share)			
When Board makes allotment:			
Share Applications a/c	Dr.	1,50,000	
To Share Capital a/c		(1,00 x Rs. 50)	50,000
To Bank a/c		(200 x Rs. 50)	10,000
To Share Allotment a/c		(1,80 x Rs. 50)	90,000

(Being 1000 shares issued and application money thereon transferred to share capital account; applications for 200 shares rejected and amount refunded thereon; excess amount of Rs. 90,000 paid by applicants who are allotted shares on pro rata basis now transferred to share allotment account as per Board's resolution dated . . .

After application monies are received, the next instalment due from shareholders is called allotment due. The Board decides when to call up this amount. When this amount is called up, share capital account is credited and share allotment account is debited which is as follows:

Share Allotment a/c	Dr.
To Share Capital a/c (No. of shares allotted <sup>x</sup>	

Allotment money per share)

(Being the allotment money on . . . shares @ Rs. . . . per share due as per Board's resolution dated \_\_\_\_).

This entry is passed for gross amount irrespective of the advance allotment money received. Excess application money has already been adjusted to the credit of share allotment account as seen above. Therefore, share allotment account would now show the net amount due from shareholders.

- When allotment money is received, bank account is debited and share allotment account is credited. If the entire amount due is received, the share allotment account will get squared off. However, if there is any default in payment of allotment dues, the share allotment account will show a debit balance. The debit balance in share allotment account will be as follows:  
Number of shares allotted to defaulters<sup>x</sup> Allotment money due per share.
- The balance amount due on shares after allotment is called up in one or more instalments. These instalments are known as "calls" and they are serially numbered, i.e. first call, second call and so on. The single call amount should not exceed 25 per cent of the face value of the share. The directors may, therefore, demand the entire amount remaining after allotment in one instalment, if such balance does not exceed 25 per cent of the face value. When entire balance amount is so demanded, it is called the first and final call because no money is demanded thereafter. However, if the balance amount on shares is more than 25 per cent of its face value, the amount is called in two or more instalments. When resolution for first call is passed by the directors, the share capital account is credited and the share first call account is debited with the amount called up. The accounting entry is:

Share First Call a/c

Dr.

To Share Capital a/c (No. of shares x call amount per share) (Being first call amount made @ Rs... on shares as per Board's resolution dated ...).

6. When first call amount is received, bank account is debited and first call account is credited. If the entire amount due on first call is received, the first call account will get squared off. If any shareholder does not pay his dues on first call, the first call account will show a debit balance to the extent of the amount unpaid. Suppose the first call of Rs. 5 is made on 1,000 shares and amount is received on 900 shares only, then journal entries will be:

- (i) On making the call:

Share First Call a/c	Dr.	5,000	
To Share Capital a/c			5,000
(Being first call made on 1,000 shares @ Rs. 5 per share as per Board's resolution)			

- (ii) On receipt of money:

Bank a/c	Dr.	4,500	
To Share First Call a/c			4,500
(Being amount received on 900 shares @ Rs. 5 per share by way of first call) Now, First Call account will show a balance of Rs. 500.			

7. Similarly, when second call is made by the Board, the share capital account is credited and corresponding debit is given to share second call account. The accounting entry is:

Share Second Call a/c

Dr.

To Share Capital a/c

(Number of shares \* amount of second call per share) (Being second call amount due @ Rs... on ... shares as per Board's resolution dated ...).

8. When second call money is received, bank account is debited and second call account is credited. Second call account will close if all dues are received. However, if any amount remains unpaid, second call account will show a debit balance. On receipt of money, the accounting entry is:

Bank a/c

Dr.

To Share Second Call a/c

(Being amount received on ... shares @ Rs. ... per share on second call)

9. The amount not received on calls may then be transferred from respective calls account to 'Calls in Arrear Account'. However, it is not legally required to open a call in arrear account and transfer the amount unpaid to such an account. If a company decides to open a 'Calls in Arrear Account', the various unpaid call accounts are credited and closed and corresponding debit is given to the 'Calls in Arrear Account'. The accounting entry is:

Calls in Arrear a/c

Dr.

To Share First Call a/c To

Share Second Call a/c

(Being unpaid amount on first and second Calls transferred from the respective accounts to the 'Calls in Arrear Account')

### *Calls in Advance*

The company may accept from its shareholders the uncalled amount on shares even before the amount is called up, provided the Articles of the company permit to do so. The amount so received in advance is called 'Call in Advance'. When the company receives such amounts in advance, they are credited to 'Calls in Advance Account' and this account should be shown separately between share capital and reserves and surplus in the balance sheet and not included in share capital. The company can pay interest on calls in advance as per the terms of its Articles. However, a company cannot pay interest more than 6 per cent per annum. The interest is paid for the period from the date of receipt of the call in advance till the date on which the call becomes due. When the call is made, the calls in advance account is adjusted, i.e. calls in advance account is debited and call account is credited. Thus, the calls in advance account will get closed.

Thus, there will be the following entries:

1. When call in advance is received:
 

Bank a/c	Dr.
To Calls in Advance a/c	
2. When call is made, calls in advance account is adjusted:
 

Calls in Advance a/c	Dr.
To Calls a/c	

### 2. Issue of Shares at a Premium

A company which has been successful in its operations can issue shares at a premium. When shares are issued at higher than the face value of the shares, they are said to be issued at a premium. The Companies Act does not prohibit the issue of shares at a premium. Amount of premium is decided by the Board of Directors as per guidelines issued by the SEBI. Premium amount can be utilised only for the following purposes:

- (a) Buy back of shares.
- (b) Issue of fully paid bonus shares.
- (c) Writing off preliminary expenses and discount or commission on issue of shares or debentures.
- (d) Paying premium on redemption of preference shares or debentures.

When a company issues shares at a premium, share premium account is credited with the amount of premium. It is recorded on liabilities side of balance sheet under the head 'Reserves and Surplus'. Share premium amount is a capital profit and hence not available for distribution as dividend. The journal entry will be as under:

Share Application/Allotment a/c	Dr.
To Share Capital a/c	
To Share Premium a/c	

### 3. Issue of Shares at a Discount

Normally, shares are not issued at a discount. However, such issues should be authorised by the members by passing a resolution in the general meeting. The Company Law Board's sanction for such an issue should be obtained. The resolution of members should specify the rate of discount which should not exceed 10 per cent of the face value of shares. The shares must be issued within two months or within



such extended time from the date of sanction of the Company Law Board. The shares to be issued must be of the same class which have already been issued. Moreover, a company cannot issue shares at a discount within one year from the date it commenced its business.

Where shares are issued at a discount, 'Discount on Issue of Shares a/c' is debited with the amount of discount. Normally, discount amount is adjusted into the books at the time of passing Journal entry for allotment money becoming due. Discount on issue of shares is recorded on asset side of the balance sheet under the head 'Miscellaneous Expenditure' and is generally written off over a period of time.

Share Allotment a/c	Dr.
Discount on Issue of Shares a/c	Dr.
To Share Capital a/c	

(Being amount adjusted towards allotment dues and discount on issue of shares as per Board's Resolution)

#### 4. Issue of Sweat Equity Shares

According to the Section 79A, inserted by the Companies (Amendment) Act, 1999, 'Sweat Equity' Shares means equity shares issued by the company to employees or directors at a discount or for consideration other than cash for providing know-how or making available right in the nature of intellectual property rights or value additions, by whatever name called. A company may issue sweat equity shares of a class of shares already issued if such issue is authorised by a special resolution passed by the company in general meeting and the sweat equity shares of a listed company are issued in accordance with the regulations made by the SEBI on this behalf.

#### 5. Employees Stock Option Scheme (ESOS)

ESOS means a scheme under which the company grants option (a right but not an obligation) to an employee to apply for shares of the company at a pre-determined price. This right is exercisable by the employee, during the specified period. The SEBI has issued guidelines for ESOS for listed companies.

#### 6. Forfeiture and Re-issue of Shares

When a shareholder does not pay dues on shares which he/she holds, the company sends reminders to him/her to pay the dues. If he/she continues to default, the company sends him/her a final notice that if he does not pay his dues within fourteen days, the Board can pass a resolution to forfeit his shares. Forfeiture means cancellation of the name of defaulting shareholder from the register of members and the amounts already paid by him are forfeited. The journal entry on forfeiture of shares will be as under:

Share Capital a/c	Dr.
(No. of shares forfeited * amount called up per share)	
To Calls in Arrears a/c	
(Amount remaining unpaid)	
To Forfeited Shares a/c	
(Amount already paid up)	

In case the shares were issued at a premium and the amount of share premium was not received on such forfeited shares, then while passing the above entry for forfeiture 'Share Premium' account should be debited with the amount of premium due but not received.

Forfeited shares can be re-issued by the company at any time. However, there is a restriction with regard to price at which they can be re-issued. Such shares cannot be re-issued at a price which is Inu/pr

than the amount in arrears. If the total amount received on re-issue of forfeited shares (i.e. amount received from new shareholder plus forfeited share amount) exceeds face value of the share, the excess amount is transferred to the capital reserve. For example, if a share of Rs. 100 fully called up, is forfeited due to non-payment of Rs. 40 and re-issued at Rs. 80 as fully paid-up, total amount received on this share will be Rs. 140 (Rs. 60 from old shareholder + Rs. 80 from new shareholder), Rs. 40 more than the face value. This excess is capital profit and will be transferred to the capital reserve. The journal entry to be passed will be as under:

		Rs.	Rs.
Bank a/c Forfeited Shares a/c	Dr.	80	
To Share Capital a/c	Dr.	60	
To Capital Reserve a/c			100
			40

### Illustration 2

Pass journal entries under the following circumstances:

1. A share of Rs. 10 each issued at 10% discount is forfeited for non-payment of first and final call @ Rs. 3 per share.
2. 500 shares of Rs. 20 each issued at 5% discount are forfeited for non-payment of allotment and final call money @ Rs. 9 and Rs. 5 respectively.
3. 100 shares of Rs. 100 each issued at 5% discount are forfeited for non-payment of allotment money @ Rs. 20 per share and first call money @ Rs. 20 per share. Second and final call payable @ Rs. 20 per share has not been made till the forfeiture of shares.
4. Y Ltd. issued shares of Rs. 10 each at 10% premium, payable on application Rs. 2, on allotment Rs. 3 (including premium), on first call Rs. 2 and on final call Rs. 4. Madhav, who was holding 50 shares did not pay his allotment and first call and his shares were forfeited. Suresh, who was holding 30 shares, did not pay first call and his shares were also forfeited.

### Solution 1

		Rs.	Rs.
Share Capital a/c (1 * 10)	Dr.	10	
To Forfeited Shares (1 * 6) a/c			6
To Share First and Final (1 * 3) a/c			3
To Discount on Issue of Shares a/c (Being forfeiture of 1 Share for non-payment of First and Final Call dues as per Board Resolution)			1

### Solution 2

		Rs.	Rs.
Share Capital a/c (500 * 20)	10,000 Dr.		4,500
To Share Allotment a/c (500 * 9)			2,500
To Share First and Final a/c (500 * 5)			500
To Discount on issue or Shares a/c (500 * 1)			2,500
To Forfeited Shares (500 x 5) a/c (Being forfeiture of 500 Share for non-payment of allotment and First and Final Call dues as per Board Resolution)			

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### Solution 3

		Rs.	Rs.
Share Capital a/c (100 * 80)	Dr.	8,000	
To Share Allotment a/c (100 * 20)			2,000
To Share First a/c (100 * 20)			2,000
To Discount on Issue of Shares a/c (100 x 5)			500
To Forfeited Shares a/c (1,000 x 35) (Being forfeiture of 100 Share for non-payment of allotment and First Call dues as per Board Resolution)			3,500

### Solution 4

		Rs.	Rs.
Share Capital (50 x 6) a/c	Dr.	300	
Share Premium (50 x 1) a/c	Dr.	50	
To Forfeited Shares (50 * 2) a/c			10
To Share Allotment (50 x 3) a/c			15
To Share 1st Call (50 x 2) a/c (Being forfeiture of 50 shares of Madhav for non-payment of allotment and 1st call as per Board Resolution)			10
Share Capital (30 x 6) a/c	Dr.	180	
To Forfeited Shares (30 x 4) a/c			120
To Share 1st Call (30 * 2) a/c (Being forfeiture of 30 shares for non-payment of first call as per Board Resolution)			60

### 7. Issue of Bonus Shares

The bonus issue refers to capitalisation of reserves and profit. It results, in conversion of the reserve and surplus into share capital. The company issues shares to its existing equity shareholders without any consideration and hence, these are called bonus shares. The capitalisation of profits by bonus issue may be done in two ways as given below:

- (a) Making partly paid up shares fully paid-up
- (b) Issue of bonus shares.

Under the following circumstances, a company can issue bonus shares:

1. If the articles of association of the company provide for issue of bonus shares.
2. If sanction of the SEBI is obtained.
3. When it has made good profits but does not have sufficient cash resources to pay dividend.
4. When it wishes to build up reserves for expansion or for repayment of long-term liabilities.
5. When it wishes to utilise certain reserves like share premium, capital redemption reserve, capital reserve, etc., which are not available for distribution by way of dividend.

Generally, a company utilises the capital redemption reserve, share premium and capital reserve first to issue bonus shares because these reserves are not free reserves and are available only for certain restricted purposes like issue of bonus shares. If balances in these accounts are fully utilised, then only balances from the sinking fund, general reserve and profit and loss account are used. However, the company is

free to decide as to which reserves are to be utilised in which order and to what extent for the purpose of issue of bonus shares. A company can issue bonus shares at par or at premium. Reserves other than capital redemption reserve and share premium can be used to make partly paid existing shares fully paid without receiving balance amount from shareholders.

'Disclosure and Investor's Protection Guidelines' issued by SEBI w.e.f. 27-1-2002 include certain guidelines for issue of bonus shares. The guidelines are as follows:

- (i) Issue of bonus shares after any public/rights issue is subject to the condition that no bonus issue shall be made which will dilute the value of the rights of the holders of debenture, convertible fully or partly.
- (ii) Reserves created by revaluation of fixed assets are not capitalised.
- (iii) The company has not defaulted in payment of interest or principal in respect of fixed deposits and interest on the existing debentures or principal on redemption thereof and has sufficient reason to believe that it has not defaulted in respect of the payment of statutory dues of the employees such as contribution to provident fund, gratuity, bonus, etc.
- (iv) A company which announces its bonus issue after the approval of the board of directors must implement the proposals within a period of six months from the date of such approval and shall not have the option of changing the decision.

### *Accounting Entries*

1. For making partly paid shares as fully paid:

Provision for bonus for this purpose is created from various reserves accounts except capital redemption reserve and share premium accounts. The entries will be as under:

- (a) *For transfer of reserves:*

Capital Reserve a/c	Dr.
Debentures Redemption Reserve a/c	Dr.
General Reserve a/c	Dr.
Profit and Loss a/c	Dr.

To Bonus to Shareholders a/c (Being transfer of above reserves for making partly paid-up shares fully paid as per board resolution)

- (b) *For making final call:*

Equity Share Final Call a/c	Dr.
To Equity Share Capital a/c (Being final call made as per Board resolution)	

- (c) *For adjusting final call against bonus to shareholders:*

Bonus to shareholders a/c	Dr.
To Equity Share Final Call a/c (Being final call adjusted against bonus to shareholders account as per Board resolution)	

For issue of fully paid bonus shares:

(i) For transfer of reserves:

Capital Redemption Reserve a/c	Dr.
Share Premium a/c	Dr.
Capital Reserve a/c	Dr.
Debenture Redemption Reserve a/c	Dr.
General Reserve a/c	Dr.
Profit and Loss a/c	Dr.

To Bonus to Shareholders a/c (Being amounts transferred to bonus to shareholders account from the various reserves as per Board resolution)

(ii) For issue of fully paid bonus shares:

Bonus to Shareholders a/c	Dr.
To Equity Share Capital a/c (Being issue of fully paid bonus shares as per Board resolution)	

### Illustration 3

#### Rahul Ltd.

Balance Sheet as on 31st December, 2003 is as follows

Liabilities	Rs.	Assets	Rs.
<i>Share Capital:</i> Authorised: 10,000 Equity Shares of Rs. 100 each Issued and paid up: 5,000 Equity Shares of Rs. 100 each fully paid-up Reserves and Surplus: Share Premium Capital Reserve General Reserve Profit and Loss Account	10,00,000 5,00,000 1,00,000 50,000	Fixed Assets Current Assets	6,00,000 6,50,000
<i>Current Liabilities:</i> Creditors	3,00,000 1,00,000 2,00,000		
	12,50,000		12,50,000

The Board of Directors decided to issue one fully-paid bonus share for each share held. For this purpose, it was decided to use minimum free reserve. Pass necessary journal entries and re-draft the Balance Sheet after issue of bonus shares.

**Solution****Journal entries in the books of Rahul Ltd.**

Date	Particulars	L.F.	Debit (Rs.)	Credit (Rs.)
1.	Share Premium a/c Dr. Capital Reserve a/c Dr. General Reserve a/c Dr. Profit and Loss a/c Dr. To Bonus to Shareholders a/c (Being provision for bonus issue made out of above reserves, as per Board Resolution)		1,00,000 50,000 3,00,000 50,000	5,00,000
2.	Bonus to Shareholders a/c Dr. To Equity Share Capital a/c (Being issue of 5000 fully paid bonus shares of Rs. 100 each in the ratio of 1:1 as per Board Resolution)		5,00,000	5,00,000

**Rahul Ltd 'Balance Sheet as on 31st December, 2003**

Liabilities	Rs.	Assets	Rs.
Authorised Share Capital		Fixed Assets	6,00,000
10,000 Equity Shares of Rs. 100 each	10,00,000	Current Assets	6,50,000
Issued and Paid up:			
10,000 Equity Shares of Rs. 100 each fully paid-up (Out of the above 5,000 shares are issued as fully paid bonus shares)	10,00,000		
<i>Reserves and Surplus:</i>			
Share Premium	1,00,000		
Capital Reserve	50,000		
General Reserve	3,00,000		
	4,50,000		
<i>Less: Utilised for Bonus</i>			
Shares	4,50,000	Nil	
Profit and Loss a/c	1,00,000		
<i>Less: Utilised for Bonus</i>			
Shares	50,000	50,000	
Current Liabilities:			
Creditors		2,00,000	
	12,50,000		12,50,000

The amounts available in general reserve and profit and loss account are free reserves. They are used only after using balances in share premium and capital reserve account. The amount of shortfall (Rs. 5,00,000 - Rs. 1,50,000 = Rs. 3,50,000) was utilised from general reserve (Rs. 3,00,000) and profit and loss account (Rs. 50,000).

### 25.6 GENERAL ILLUSTRATIONS

#### Illustration 4

A Ltd. Co. having a nominal capital of Rs. 20,00,000 in equity shares of Rs. 100 each invited applications for 10,000 shares, payable as under:

	Rs.
On Application	25
On Allotment	35
On First Call	20
On Second and Final Call	20

The Company received applications for 9,000 shares. All the applications were accepted. All the moneys due as stated above were received with the exception of second and final calls on 200 shares. These shares were forfeited and re-issued as fully paid @ Rs. 90 per share. Pass the necessary entries including cash entries in the books of the Company.

#### Solution

This type of problem can be solved easily if a table which will show amount due on various instalments, amount received and arrears, if any, is prepared at first. This table will also show the account heads to be debited or credited.

Issue of 10,000 shares of Rs. 100 each.

Applications received for 9,000 shares only.

	Rs.	Amount due	Amount received	Excess	Arrears
On Application	25	2,25,000(2)	2,25,000(1)	-	-
On Allotment	35	3,15,000(3)	3,15,000(4)	-	-
On 1st Call	20	1,80,000(5)	1,80,000(6)	-	-
On 2nd Call	20	1,80,000(7)	1,76,000(8)	-	4,000(9)
	100	9,00,000	8,96,000	-	4,000
		Credit Share Capital	Debit Bank	Credit Bank/ Allotment	Debit Calls in Arrear

III-

The above table shows amount due, amounts received and in arrear against each instalment of application, allotment and so on. Since the public has applied for 9,000 shares (under subscription) calculations are made with reference to 9,000 shares only. A company will receive application money first and hence 1st entry will be for amount due on application. Thereafter, entries are passed in the order of amount due, amount received and arrears, if any. On the last line, account heads to be credited and debited are given. Thus, once the table is prepared it will show all entries to be passed and the accounts to be debited and credited.

## Journal Entries in the Books of Ltd.

Date	Particulars	L.F.	Debit (Rs.)	Credit (Rs.)
1.	Bank a/c To Equity Share Applications a/c (Being amount received on 9,000 shares @ Rs. 25 per share)	Dr.	2,25,000	2,25,000
2.	Equity Share Applications a/c To Equity Share Capital a/c (Being application money transferred to share capital account on allotment of 9,000 shares as per Board Resolution)	Dr.	2,25,000	2,25,000
3.	Equity Share Allotment a/c To Equity Share Capital a/c (Being amount due on allotment transferred to Share Capital as per Board Resolution)	Dr.	3,15,000	3,15,000
4.	Bank a/c To Equity Share Allotment a/c (Being amount received on allotment)	Dr.	3,15,000	3,15,000
5.	Equity Share 1 st Call a/c To Equity Share Capital a/c (Being the amount due on 1st Call at the rate of Rs. 20 per share transferred to Share Capital a/c as per Board Resolution)	Dr.	1,80,000	1,80,000
6.	Bank a/c To Equity Share 1st Call a/c (Being amount received on 1st Call)	Dr.	1,80,000	1,80,000
7.	Equity Share 2nd and Final Call a/c To Equity Share Capital a/c (Being amount due on 2nd and final call at the rate of Rs. 20 per share transferred to Share Capital account as per Board Resolution)	Dr.	1,80,000	1,80,000

(Contd.)



Date	Particulars	L.F.	Debit (Rs.)	Credit (Rs.)
8.	Bank a/c Dr. To Equity Share 2nd and Final Call a/c (Being amount received on share 2nd and final call)		1,76,000	1,76,000
9.	Calls in Arrear Account Dr. To Equity Shares 2nd and Final Call a/c (Being amount due on 2nd call transferred to Calls in Arrear a/c)		4,000	4,000
10.	Equity Share Capital a/c Dr. (With No. of Shares, i.e. 200 x Amount called up) To Calls in Arrear a/c (Amount not received) To Forfeited Shares a/c (Amount received) (Being forfeiture of 200 shares for non-payment of final call as per Board Resolution)		20,000	4,000 16,000
11.	Bank a/c Dr. (With No. of Shares Re-issued * Amount 200 * 90) Forfeited Shares a/c Dr. (Amount received from old Shareholders) To Equity Share Capital a/c To Capital Reserve a/c (Being re-issue of 200 forfeited shares at Rs. 90 per share as per Board Resolution - profit on re-issue is transferred to Capital Reserve)		18,000 16,000	20,000 14,000

**Illustration 5**

Issue of Shares at premium and pro rata allotment:

The Maharaja Limited issued 1,000 Shares of Rs. 10 each at a premium of Rs. 2 per share payable as follows:

Rs.

On Application  
On Allotment (including Premium)  
On First call  
On Final call

Applications were received for 1,500 shares and allotment was made pro rata. Money overpaid with applications was adjusted to allotment dues. Mr Raja to whom 30 shares were allotted failed to pay final call and his shares were forfeited later on these shares were re-issued to Vijay at Rs. 9 per share. Show Journal entries in the books of the Company.

**Solution**

	Rs.	Amount due	Amount received	Excess	Arrears
On Application	2	2,000(2)	3,000(1)	1000(3)	—
On Allotment	3+2	3,000(4)	4,000(5) (2,000X4)	adjusted	1000
On 1st Call	3	3,000(6)	3,000(7)	-	-
On final Call	2	2,000(8)	1,940(9)	-	60(10)
	10+2				
		Credit Share Capital (Share Premium)	Debit Bank	Credit Bank/ Allotment	Debit Calls in Arrear

**Journal Entries in the Books of A Ltd.**

Date	Particulars	L.F.	Debit (Rs.)	Credit (Rs.)
1.	Bank a/c To Equity Share Applications a/c (Being amount received on 1500 shares @ 2 per share)	Dr.	3,000	3,000
2.	Equity Share Applications a/c To Equity Share Capital a/c To Equity Share Allotment a/c (Being amount due on application and excess received transferred to Share Capital and Share Allotment accounts as per Board Resolution.)	Dr.	3,000	2,000 1,000
3.	Equity Share Allotment a/c To Equity Share Capital a/c To Share Premium a/c (Being amount due on allotment including premium transferred to Share Capital and Share Premium as per Board Resolution)	Dr.	5,000	3,000 2,000
4.	Bank a/c To Equity Share Allotment a/c (Being amount received on allotment)	Dr.	4,000	4,000

(Contd.)

Date	Particulars	L.F.	Debit (Rs.)	Credit (Rs.)
5.	Equity Share 1st Call a/c To Equity Share Capital a/c (Being the amount due on 1st Call at the rate of Rs, 3 per share transferred to Share Capital a/c as per Board Resolution)	Dr.	3,000	3,000
6.	Bank a/c To Equity Share 1st Call a/c (Being amount received on 1st Call)	Dr.	3,000	3,000
7.	Equity Share Final Call a/c To Equity Share Capital a/c (Being amount due on final call at the rate of Rs. 2 per Share transferred to Share Capital as per Board Resolution)	Dr.	2,000	2,000
8.	Bank a/c To Equity Share Final Call a/c (Being amount received on final call)	Dr.	1,940	1,940
9.	Calls in Arrear a/c To Equity Shares Final Call a/c (Being amount due on final call transferred to calls in Arrear)	Dr.	60	60
	<i>Forfeiture of Shares:</i>			
10.	Equity Share Capital a/c (30 * 10) To Calls in Arrear a/c (Amount not received) To Forfeited Shares a/c (Amount received) (Being forfeiture of 30 shares for non-payment of final call as per Board Resolution)	Dr.	300	60 240
11.	Bank a/c (Re-issue of forfeited shares 30 * 9) Forfeited Shares a/c (Amount received from old shareholders) To Equity Share Capital a/c To Capital Reserve a/c (Being re-issue of 30 forfeited shares at Rs. 9 per share as per Board Resolution - profit on re-issue is transferred to Capital Reserve)	Dr. Dr.	270 240	300 210

**Illustration 6**

Bhagwan Ltd. issued 10,000 Equity shares of Rs. 10 each at a premium of Rs. 2 per share payable as under:

- Rs. 5 on application including premium
- Rs. 4 on allotment
- Rs. 2 on 1st Call
- Re. 1 on final call

Applications are received for 16,000 shares. Board of Directors decided to:

- (a) Accept applications for 1,000 shares in full.
- (b) Reject applications for 1,500 shares and refund amount received on them.
- (c) Accept remaining applications on pro rata basis and adjust excess application amount towards allotment dues.

Prakash, a shareholder who was allotted 100 shares on pro rata basis did not pay allotment and 1st call dues and his shares were forfeited before second call was made. Dinesh, a shareholder, who was allotted in full, 200 shares applied by him did not pay 1st and 2nd calls and as a result, his shares were also forfeited.

Out of the forfeited shares, 200 shares were re-issued as fully paid at Rs. 5 per share.

Pass the necessary journal entries.

**Solution**

	Applications received	Shares allotted
(a) (b) Remaining applications	1,000	1,000 Nil 9,000
(c)	1,500	remaining shares
	13,500	
Total	16,000	10,000

Thus, it will be observed that against 13,500 remaining applicants, 9,000 shares are allotted on pro rata basis which comes to 2 shares allotted for 3 shares applied.

Now, let us find out arrears from Prakash and Dinesh.

1. Prakash is allotted 100 shares which means his application must be for 150 ( $100 \times \frac{3}{2}$ ) shares.

Prakash paid on application for 150 shares $\times$ Rs. 5	Rs. 750
Amount due on application: 100 $\times$ Rs. 5	<u>500</u>
Allotment dues on 100 shares: 100 $\times$ Rs. 4	250
Excess on application adjusted	400
Allotment arrears	<u>250</u>
Arrears on 1st Call on 100 shares: 100 $\times$ Rs. 2	150
	<u>200</u>

2. Dinesh is allotted all the shares he applied for, i.e.	200
He failed to pay	400
1 st Call: 200 * Rs. 2	
Final Call: 200 * Re. 1	200

**Statement of Arrears**

Name	No. of Shares	Allotment	1st Call	2nd Call	Total
Prakash	100	150	200		350
Dinesh	200		400	200	600
	300	150	600	200	950

**Issue of Shares: Table**

10,000 Shares of Rs. 10 each at Rs. 2 Premium

	Rs.	Amount due	Amount received	Excess	Arrears
On Application	3+2	30,000(2)	80,000(1)	30,000 (3)	
		20,000		Refund 7,500 (3)	
On Allotment	4	40,000(4)	17,350(5)	Adjusted 22,500(3)	150(6)
On 1st Call	2	20,000(7)	19,400(8)		600(9)
On final Call	1	9,900(11)	9,700(12)		200(13)
(9,900 x 1)	10 + 2				
		Credit Share Capital (Share Premium)	Debit Bank	Credit Bank/Allotment	Debt Calls in Arrear

After the first call, Prakash's 100 Shares are forfeited. Hence, final call will be made on 9,900 (10,000 - 100) shares only.

Entry No. 10 will be for forfeiture of Prakash's share.

**Journal Entries in the Books of Maharaja Ltd.**

Date	Particulars	L.F.	Debit (Rs.)	Credit (Rs.)
1.	Bank a/c Dr. To Equity Share Applications a/c (Being amount received on 16,000 shares @ Rs. 5 per share)		80,000	80,000
2.	Equity Share Applications a/c Dr. To Equity Share Capital a/c To Share Premium a/c		50,000	30,000 20,000

Date	Particulars	L.F.	Debit (Rs.)	Credit (Rs.)
	(Being amount due on 10,000 shares at Rs. 5 per share including premium of Rs. 2 transferred to Share Capital and Share Premium accounts as per Board Resolution)			
3.	Equity Share Applications a/c Dr.		30,000	
	To Bank a/c			7,500
	To Equity Share Allotment a/c			22,500
	(Being amount received in excess returned to those applicants who were not allotted any shares and balance adjusted to Equity Share Allotment account as per Board Resolution)			
4.	Equity Share Allotment a/c Dr.		40,000	
	To Equity Share Capital a/c			40,000
	(Being amount due on 10,000 shares at Rs. 4 per share transferred to Share Capital account as per Board resolution)			
5.	Bank a/c Dr.		17,350	
	To Equity Share Allotment a/c			17,350
	(Being amount received on allotment)			
6.	Calls in Arrear a/c Dr.		150	
	To Equity Share Allotment a/c			150
	(Being arrears on share allotment transferred to calls in arrear account as per Board Resolution)			
7.	Equity Share 1st Call a/c Dr.		20,000	
	To Equity Share Capital a/c			20,000
	(Being the amount due on 1st Call at the rate of Rs. 2 per share transferred to Share Capital a/c as per Board Resolution)			
8.	Bank a/c Dr.		19,400	
	To Equity Share 1st Call a/c			19,400
	(Being amount received on 1st Call)			
9.	Calls in Arrear a/c Dr.		600	
	To Equity Share First Call a/c			600
	(Being first call arrear transferred to calls in arrear a/c as per Board Resolution)			

(Contd.)

Date	Particulars	L.F.	Debit (Rs.)	Credit (Rs.)
	Forfeiture of Prakash's Shares:			
10.	Equity Share Capital a/c (100 * 9) Dr. To Calls in Arrears a/c (In respect of Prakash's shares only) To Forfeited Shares a/c (Amount received on Capital account) (Being forfeiture of Prakash's 100 shares for non-payment of allotment and first call as per Board Resolution)		900	350 550
11.	Equity Share 2nd Call a/c Dr. To Equity Share Capital a/c (Being amount due on 2nd call on 9,900 shares @ Rs. 1 per share transferred to Share Capital a/c as per Board resolution)		9,900	9,900
12.	Bank a/c Dr. To Equity Share 2nd Call a/c (Being amount received on 2nd call)		9,700	9,700
13.	Calls in Arrear a/c Dr. To Equity Share 2nd Call a/c (Being arrears on 2nd call transferred to calls in arrears as per Board resolution)		200	200
	Forfeiture of Dinesh's Shares:			
14.	Share Capital a/c (200 x 10) Dr. To Calls in Arrear a/c To Forfeited Shares a/c (Being forfeiture of 200 shares of Dinesh for non-payment of 1st and 2nd calls as per Board resolution)		2000	600 1,400

#### *Re-issue of Forfeited Shares*

Out of the 300 shares, only 200 share, are re-issued. Let us presume that all shares of Prakash (i.e. 100 shares) and 100 out of Dinesh's shares are re-issued.

On re-issue of shares, forfeited shares account is adjusted.

Forfeited shares amount:

	Rs.
On Prakash's Shares	550
On Dinesh's Shares (1/2 of Rs. 1,400)	700

1,250

Now the journal entry for re-issue will be as under:

14. Bank (Rs. 200 x 5) a/c	Dr. 1,000	
Forfeited Shares a/c	Dr. 1,250	
To Share Capital (Rs. 200 x 10) a/c		2,000
To Capital reserve a/c		250
(Being re-issue of 200 shares at Rs. 5 per share all shares of Prakash and 100 shares of Dinesh included as per Board resolution)		

### Illustration 7

Nilofar Ltd. issued 1,000 shares of Rs. 10 each. The amounts payable were as under:

On Application	5
On Allotment	3
On Final Call	<u>2</u>
	10

Applications were received for 1,500 shares. The company allotted 1,000 shares and excess money received on applications was returned. Show necessary ledger accounts including Cash and show how these items will appear in the Balance Sheet.

### Solution

Issue of 1000 Shares of Rs. 10 each:

Date	Particulars	Rs.	Amount due	Amount received	Excess	Arrears
	On Application	5	5,000	7,500	2,500	-
	On Allotment	3	3,000	3,000	-	-
	Final Call	2	2,000	2,000	-	-
		10	Credit Share Capital	Debit Bank	Credit Bank	

### Bank a/c

Dr.

Cr.

Date	Particulars	L.F.	Amount	Date	Particulars	L.F.	Amount
	To Share Application a/c		7,500		By Share Applications a/c		2,500
	To Share Allotment a/c		3,000		By Closing Balance c/d		10,000
	To Share Final Call a/c		2,000				
	To Opening Balance b/d		12,500				12,500
			10,000				





**Nilofar Ltd.**

Balance Sheet of as on 31st December 2003 (Extract only)

Share Capital	Rs.	Current Assets	Rs.
Authorised: 5,000 Equity Shares of Rs. 10 each		Bank	10,000
Issued, subscribed and paid up: 1000 Equity Shares of Rs. 10 each fully paid up	50,000		
	10,000		
	10,000		10,000

**25.7 NON-VOTING SHARES**

Clause 78 of the Draft Companies Bill, 1997, provides that share capital of the company shall consist of the following:

1. Equity shares with voting rights
2. Equity shares without voting rights
3. Preference share capital

The demand for non-voting equity shares has been made by several sections of the industry basically on the ground that they do exist in many other countries and also provide a measure to the management to tap a class of investors who are interested in higher dividend against absence of voting rights. The main object of permitting the company to issue non-voting equity shares is to enable them to raise resources without losing management control. Conditions for issue of non-voting equity shares are as follows:

- (i) Issue of non-voting equity shares shall be authorised by the Articles of Association of the company and approved by the shareholders at their general body meeting by passing a special resolution.
- (ii) Special resolution must state the price at which the shares can be issued and higher rate of dividend which non-voting equity shares shall carry.
- (iii) Such shareholders are entitled to all rights and bonus shares but do not enjoy voting rights.
- (iv) Only 25 per cent of the paid-up capital of the company can be issued as equity shares without voting rights.
- (v) Only a public company limited by shares can issue non-voting equity shares.
- (vi) No company will be permitted to convert shares with voting rights into shares without voting rights.

**25.8 LET US SUM UP**

Proprietary and partnership forms of business are suitable where capital requirement is small. When a big industrial unit is to be set up and where capital requirement is very large, generally, a limited company is formed. Formation of a company is governed by the rules and regulations as contained in the Indian Companies Act. There are different types of companies such as Private Company, Public Company, Government Company, Holding Company, Subsidiary Company, Companies Limited by Guarantee, etc. A company is an artificial person. The public contributes towards its share capital. The persons who own the shares are called shareholders and they are owners of the company. They elect

their representatives to look after the day-to-day affairs of the company. There are two types of shares a company can issue, viz., equity and preference. Preference shareholders have a preference over equity shareholders as to payment of dividend and repayment of capital at the time of winding up of a company. Shares of a company are freely transferable, subject to certain restrictions in case of a Private Company. Liability of a shareholder is limited to the extent of shares held by him.

### **25.9 KEYWORDS**

**Private Company:** A company registered under the Companies Act which restricts maximum number of members to fifty.

**Government Company:** A company in which more than 51 per cent of the capital is owned by a State or Central Government or both.

**Holding Company:** A company which holds more than 51 per cent of the shares of another company.

**Chartered Company:** A company established by a special charter issued by a King or Emperor or a Head of State.

**Company limited by Guarantee:** A company in which liability of members is fixed to a certain amount.

**Issue of Shares at a Premium:** Where more than face value of a share is collected from the public.

**Issue of Shares at a Discount:** Where less than the face value of a share is collected from the public.

**Forfeiture of Shares:** Cancellation of shares for non-payment of certain calls.

**Bonus Shares:** Shares issued without any consideration to the existing shareholders

### **25.10 TERMINAL QUESTIONS**

1. A Ltd. Co. issued 10,000 shares of Rs. 10 each to the public. Amounts payable were: on application Rs. 2 per share, on allotment Rs. 3 per share, on first Call Rs. 3 and balance on second and final call. Public applied for 9,000 shares. With the exception of one shareholder holding 200 shares who failed to pay the final call on his shares, all monies were received by the company. Pass the necessary entries in the books of A Ltd.
2. Jay Bhavani Ltd. offered for public subscription 10,000 shares of Rs. 100 each at a premium of Rs. 10 per share payable as under:

On application	Rs. 40 per share (including premium of Rs. 10)
On allotment	Rs. 30 per share
On first call	Rs. 25 per share
On final call	balance amount

The company received 15,000 applications which were accepted on a pro rata basis. Excess application money was adjusted towards allotment. All the amounts due were received except Mr Madanlal a shareholder who did not pay final call on his 100 shares. His shares were forfeited and of these 50 shares were re-issued to Mr Rajaram at Rs. 80 per share as fully paid. Pass necessary entries and how the item will appear in the balance sheet.

3. Fill in the blanks with suitable words:
  - (a) Partnership is a \_\_\_\_\_ between two or more persons.
  - (b) In the partnership firm, liability of each partner is \_\_\_\_\_ .
  - (c) A limited company is an \_\_\_\_\_ person.
  - (d) A company has a perpetual \_\_\_\_\_ .
  - (e) The \_\_\_\_\_ is affixed on all important documents and contracts of a company.

State whether the following statements are True or False:

- (a) Shares are not freely transferable in private limited company.
- (b) The maximum number of members is fifty in case of a public company.
- (c) Shareholder's liability is limited in a public company.
- (d) The minimum number of members to form a partnership firm is seven.

Match the following:

A	B
A company incorporated by a special act	a. Public limited company
A company incorporated by a special charter	b. Private limited company
Minimum number of member is two	c. Statutory company
Limited liability	d. Chartered company
	e. Foreign company

6.

A company incorporated outside India

Fill in the blanks with suitable words:

- (a) Shares of a limited company can be classified into \_\_\_\_\_ and \_\_\_\_\_
- (b) \_\_\_\_\_ shares enjoy preference as to dividend and repayment of capital over shares.
- (c) \_\_\_\_\_ capital is the amount with which company is formed.
- (d) Capital subscribed by the public is called \_\_\_\_\_ capital.
- (e) Paid-up capital means amount of capital actually paid by \_\_\_\_\_ .

7. State whether the following statements are True or False:

- (a) Share premium amount can be distributed as dividend amongst the shareholders.
- (b) In the very first year of working of the company, shares can be issued at discount.
- (c) If calls on shares are not received, company can forfeit these shares.
- (d) The Company Law Board's permission is required for issue of shares at a discount.
- (e) Capital redemption reserve can be utilised for payment of dividend.

#### Answer to Terminal Questions

- 3. (a) Relationship; (b) Limited; (c) Artificial; (d) Succession; (e) Common Seal.
- 4. (a) True; (b) False; (c) True; (d) False.
- 5. 1. and (c); 2. and (d); 3. and (b); 4. and (a); 5. and (e).
- 6. (a) Equity, Preference; (b) Preference, Equity; (c) Authorised; (d) Subscribed Capital; (e) Shareholders.
- 7. (a) False; (b) False; (c) True; (d) True; (e) False.



# UNIT 26

## COMPANY ACCOUNTS - II

### STRUCTURE

- 26.0 Objectives
- 26.1 Introduction
- 26.2 Form of Balance Sheet
- 26.3 Legal Requirements for Assets
- 26.4 Legal Requirements for Liabilities
- 26.5 Legal Requirements for Profit and Loss Account
- 26.6 Preparation of Final Accounts
- 26.7 Let Us Sum Up
- 26.8 Keywords
- 26.9 Terminal Questions
- 26.10 Answers to Terminal Questions

## 26.0 OBJECTIVES

After studying this unit, you will be able to:

- State what is meant by Final Accounts of a company
- Know legal requirements relating to preparation of balance sheet of company
- Know legal requirements relating to preparation of profit and loss account of company
- Prepare Final Accounts of a company.

## 26.1 INTRODUCTION

In case of a sole proprietorship or partnership, the final accounts in the form of trading and profit and loss account and the balance sheet are always prepared to ascertain the earnings and financial position of the concern. It is desirable, though not compulsory by law, to prepare final accounts periodically, more particularly every year. However, in case of a limited company, it is compulsory to prepare the profit and loss account and the balance sheet every year. Under the Companies Act, 1956, Section 20.9 makes it compulsory for a company to keep certain books of account, while Section 210 governs the preparation of the final accounts. Section 211 of the Companies Act, 1956, requires that the balance sheet of the company should exhibit a true and fair view of the state of affairs of the company. This is to ensure that at the end of the financial year the profit and loss account exhibits a true and fair view of the profit or loss made by the company for the financial year. It further states that the balance sheet should be prepared in the forms set out in Part I of Schedule VI to the Act, and give due regard to general instructions and notes given in this schedule, provided that nothing contained in this subsection shall apply to any insurance or banking company or any company engaged in generation or supply of electricity or to any other class of company for which a form of balance sheet has been specified in or under the act governing such class of company. It prescribes two alternative forms in which balance sheet can be prepared, namely horizontal and vertical. Schedule VI does not prescribe any form in which profit and loss account should be prepared. However, it requires that Profit and Loss Account should give true and fair view of the profit and loss of the company for the financial year and should comply with the requirements of Part II of Schedule VI.

## 26.2 FORM OF BALANCE SHEET

As given in Part I of Schedule VI of the Companies Act, the prescribed form of Balance Sheet is given hereinafter:

Note: Assets are taken below Liabilities.

Schedule VI to the Companies Act, 1956 (See Section 211)

### Part I: Form of Balance Sheet

Figures at the end of Previous Year	Liabilities	Figures at the end of Current Year
	Share Capital Authorised ... Shares of Rs _____ Each <b>Issued</b> ... Shares of Rs.... <b>Each</b>	

Figures at the end of Previous Year	Liabilities	Figures at the end of Current Year
	Subscribed . . . Shares of Rs. . . Each Rs.... per share called up Less: Unpaid calls Add: Forfeited shares	
	II. Reserve and Surplus 1. Capital Reserve 2. Capital Redemption Reserve 3. Share Premium Account 4. Other Reserves Less: Debit balance in Profit and Loss account, if any 5. Surplus, i.e. balance in the profit and loss (appropriation) account 6. Proposed additions to Reserves 7. Sinking funds	
	III. Secured Loans 1. Debentures 2. Loans and Advances from Banks 3. Loans and Advances from Subsidiaries 4. Other Loans and Advances	
	IV. Unsecured Loans Fixed Deposits: Loans and Advances from subsidiaries Short-term Loans and Advances: (a) From Banks (b) From Others Other Loans and Advances: (a) From Banks (b) From Others	
	V. Current Liabilities and Provision (A) Current Liabilities 1. Acceptances 2. Sundry Creditors (a) Total outstanding dues to small scale industrial undertaking(s) and (b) Total outstanding dues other than small scale industrial undertaking(s)	

(Contd.)



Figures at the end of Previous Year	Liabilities	Figures at the end of Current Year
	<p>3. Subsidiary Companies 4. Advance Payments and unexpired discounts 5. Unclaimed Dividends 6. Other Liabilities (if any) 7. Interest Accrued but not due on Loans (B) Provisions 8. Provision for Taxation 9. Proposed Dividends 10. For Contingencies 11. For Provident Fund Scheme 12. For Insurance, Pensions and Similar Staff Benefit Schemes (C) Other Provisions</p> <p>A foot note of the balance sheet may be added to show separately: 1. Claims against the company not acknowledged as debts 2. Uncalled liability on shares partly paid 3. Arrears of fixed cumulative dividends 4. Estimated amount of contracts remaining to be executed on capital account and not provided for 5. Other money for which the company is contingently liable</p>	
Figures at the end of Previous Year	Assets	Figures at the end of Current Year
	<p>I. Fixed Assets (a) Goodwill (b) Land (c) Buildings (d) Leaseholds (e) Railway Sidings (f) Plant and Machinery (g) Furniture and Fittings (h) Development of Property (i) Patents, Trademarks and Designs (j) Livestock (kj) Vehicles, etc.</p>	

Figures at the end of Previous Year	Assets	Figures at the end of Current Year
	II. Investments <ol style="list-style-type: none"> <li>1. Investment in Government or Trust Securities</li> <li>2. Investment in Shares, Debentures or Bonds</li> <li>3. Immovable properties</li> <li>4. Investments in the capital of partnership firms</li> <li>5. Balance of unutilised monies raised by issue</li> </ol>	
	III. Current Assets, Loans and Advances <p>(A) Current Assets</p> <ol style="list-style-type: none"> <li>1. Interest Accrued on Investments</li> <li>2. Stores and Spare Parts</li> <li>3. Loose Tools</li> <li>4. Stock-in-Trade</li> <li>5. Work-in-Progress</li> <li>6. Sundry Debtors:               <ol style="list-style-type: none"> <li>(a) Debts outstanding for a period exceeding six months</li> <li>(b) Other debts ...</li> </ol>               Less: Provision             </li> <li>7. Cash Balance on Hand</li> <li>8. Bank Balances:               <ol style="list-style-type: none"> <li>(a) with Scheduled Banks</li> <li>(b) with Others</li> </ol> </li> </ol> <p>(B) Loans and Advances</p> <ol style="list-style-type: none"> <li>9. Advances and Loans:               <ol style="list-style-type: none"> <li>(a) To Subsidiaries</li> <li>(b) To partnership firms in which the company or its subsidiary is a partner</li> </ol> </li> <li>10. Bills of Exchange</li> <li>11. Advances recoverable in cash or kind or for value to be received</li> <li>12. Balances on Current Accounts</li> <li>13. Balance with Customs, Port Trust, etc. (where payable on demand)</li> </ol>	

(Contd.)

Figures at the end of Previous Year	Liabilities	Figures at the end of Current Year
	IV. Miscellaneous Expenditure (to the extent not written off) 1. Preliminary Expenses 2. Expenses including commission or brokerage on underwriting or subscription of shares or debentures 3. Discount allowed on the issue of shares or debentures 4. Interest paid out of capital during construction (also stating the rate of interest) 5. Development expenditure not adjusted 6. Other items (specifying nature)	
	V. Profit and Loss Account (debit balance if any)	

### 26.3 LEGAL REQUIREMENTS FOR ASSETS

#### 1. Fixed Assets

1. The fixed assets must be classified and distinguished while presenting them in the balance sheet.
2. Under each head the details such as original cost, additions during the year, deductions from there during the year and total depreciation written off or provided up to the end of the year, etc., must be separately shown.
3. Where the fixed asset was purchased from a foreign country and as a result of variation in the exchange rate after such purchase, there is an increase or reduction in the liability of the company in terms of rupees for making payment towards the whole or part of the cost of the asset or for the repayment amount by which the liability has increased or reduced must be added to/or deducted from the cost of the asset, as the case may be and the resultant figure will be treated as the cost of the asset.
4. In case of those assets, the original cost of which cannot be ascertained without unreasonable expenses or delay, the valuation shown by the books must be given. Such valuation shall be the net amount at which the assets stood in the company's books at the commencement of the Indian Companies Act, 1956 after deduction for depreciation, etc.
5. In case any sum has been written off on a reduction of capital or revaluation of assets, each balance sheet subsequent to such reduction or revaluation must show the reduced figures and the date of reduction. This must be stated for a period of five years thereafter.
6. Likewise, where sums have been added by writing up the asset, each subsequent balance sheet should show the increased figures with the date of increase and it must be stated for the next five years.
7. Depreciation written off or provided should be allocated under different heads of assets and deducted in arriving at the value of fixed assets.

## 2. Investments

1. Nature of investments and mode of valuation thereof should be clearly stated in case of investments. Besides, this investment should be classified into the following four categories:
  - (i) Investments in government or trust securities,
  - (ii) Investment in shares, debentures or bonds (showing separately fully paid-up and partly paid-up shares, different classes of shares distinguishing investments in shares, debentures, or bonds of subsidiary companies).
  - (iii) Immovable properties.
  - (iv) Investments in the capital of partnership firms.
2. The nature of investments and the mode of valuation, e.g. cost or market value, etc., to be stated.
3. Aggregate amount of company's quoted investments and the market value thereof should be disclosed in the balance sheet.
4. Aggregate amount of company's unquoted investments should be disclosed in the balance sheet.
5. Statement of investments separately classifying trade investments and other investments should be annexed to the balance sheet. The statement must contain the names of the bodies corporate, indicating separately the names of bodies corporate in the same group in whose shares or debentures the investments have been made. Investments in subsidiary companies must be separately stated.
6. Investments in shares and debentures must be classified into fully paid-up and partly paid-up along with classes of shares, if any.
7. Investments are also classified as trade investment and other investments. Trade investment means an investment made for obtaining some trade benefits, e.g. investment made for obtaining selling agency.
8. In regard to the investment in the capital of partnership firms, the following details are to be stated:
  - (i) Name of the firm.
  - (ii) Names of all other partners.
  - (iii) Total capital of the firms.
  - (iv) Share of each partner in the capital of the firm.

## 3. Current Assets Loans and Advances

1. If in the opinion of the board of directors, the value of current assets as stated in the balance sheet is not the real realisable value in the ordinary course of business the fact that the Board of Directors hold such an opinion must be stated.
2. In case of stock in trade, spares, work-in-progress and stores, the method of valuation must be stated, wherever practicable, the amount of raw materials should be separately stated.
3. In respect of sundry debtors, particulars should be given as under:
  - (a) Debts considered good and in respect of which the company is fully secured.
  - (b) Debts considered good for which the company holds no security other than the personal security of the debtors.
  - (c) Debts considered doubtful or bad.
  - (d) Separate disclosure should also be made in respect of:

(i) Debts due by directors or other officers of the company, (ii) Debts due by directors or other officers of the company jointly with any other person, (iii) Debts due by firms in which any of the directors is interested, (iv) Debts due by private companies in which any director is a director or member, (v) Debts due from other companies under the same management together with the names of such companies, (vi) the maximum amount due by directors or other officers of the company at any time during the year.

Sundry debtors' mean the amount due in respect of goods supplied and services rendered and it does not include the amount that is in the nature of loans and advances.

- (e) The provision for bad debts should not exceed the amount of debts stated to be bad and doubtful. Any surplus of such provision should be stated as 'reserve' for bad and doubtful debts' under the head 'Reserves and Surplus'.
4. In respect of balance at the bank, the following particulars must be given:
- (a) The balance lying with the scheduled banks on current accounts, call accounts, and deposit accounts.
  - (b) In case of other banks that are not scheduled banks, the names of such banks and the balances lying with such banks under current accounts, call accounts, deposit accounts, and the maximum amount outstanding with each such bank during the year.
  - (c) In case of banks other than scheduled banks, whether any director or relative of a director is interested in such banks and the nature of such interest must also be stated.
5. In regard to loans and advances, it is stated that all instructions regarding 'Sundry Debtors' would apply to 'Loans and Advances' also. Current accounts with directors and managers should be shown separately.

#### 4. Miscellaneous Expenditure

1. Each item should be specifically stated and the deductions made therefrom during the current year must be clearly shown.
2. The debit balance of profit and loss account should be shown as a deduction from the free or uncommitted reserves, if any.
3. While showing interest paid out of capital during construction, the rate of interest shall be stated.

### 26.4 LEGAL REQUIREMENTS FOR LIABILITIES

#### 1. Share Capital

1. The company should specifically state details of authorised capital, issued capital, called up capital, subscribed capital, calls in arrears and paid-up capital. It should also give details of number of shares and face value of each share. It must also specify the amount called up on each share.
2. The company should specifically mention under each head the classes of shares, i.e. preference shares, equity shares, etc.
3. Shares allotted as fully paid for consideration other than cash must be specifically stated.
4. Shares allotted as bonus shares must be separately stated and source of issue of the bonus shares, i.e. capitalisation of reserves, etc., must be specifically stated.
5. Terms of redemption or conversion, if any, in respect of redeemable preference shares must be specifically stated together with the earliest date of redemption or conversion.

6. Particulars of option on unissued capital must be specified.
7. In case of unpaid calls, separate information must be given in respect of calls due from: (i) directors and (ii) others.
8. In case of forfeited share, the amount originally paid-up should be shown. The profit on re-issue of the forfeited shares should be transferred to capital reserve.
9. In case of subsidiary companies, the shares held by the holding company and by the ultimate holding company and its subsidiaries, if any, must be separately shown.

## 2. Reserves and Surplus

1. The item 'share premium' shall include the details whether any amount is utilised from it for issue of bonus shares, writing of discount on issue of shares, etc.
2. In case of each reserve, its nature, amount, additions to it after the last balance sheet, utilisation from such reserve for other purpose like issue of bonus shares, etc., must be specifically stated.
3. The balance carried forward from the profit and loss appropriation account must be after providing for all proposed allocations like proposed dividend, reserves, etc.
4. The debit balance in the profit and loss appropriation account must be shown as a deduction from any uncommitted reserves.
5. The word 'fund' in respect of a reserve must only be used provided it is represented by an earmarked investment outside the business, e.g. if we state 'debenture redemption fund' the amount must be invested in some funds specifically stating 'Debenture Redemption Fund Investment' and such investment must be made outside the business.

## 3. Secured Loans

1. In case of debentures, the terms of redemption or conversion, if any, must be stated together with the earliest date of redemption or conversion.  
Particulars of redeemed debentures, that the company has power to re-issue, should be stated.  
Where a nominee or trustee for the company holds any of the debentures of the company, the nominal amount of the debentures and the amount at which they are stated in the body of the company must be stated.
2. Loans from directors, managers, etc., must be separately shown under each sub-head.
3. The interest accrued on loans but not paid must be included under the appropriate sub-heads.
4. The nature of security offered in case of secured loans must be stated.
5. When loans are guaranteed/secured by directors or managers, a mention of the same must be made and the aggregate amount so guaranteed/secured must be shown separately.

## 4. Unsecured Loans

1. Loans from directors, secretaries, or managers, should be shown separately under each sub-head.
2. Interest accrued and due on unsecured loans must be included under the appropriate sub-heads.
3. Where loans have been guaranteed by the directors and/or managers, a mention thereof should be made and the aggregate amount of such loans shown under each head.
4. Short-term loans are defined to include those loans which are payable in one year from the date of the balance sheet.

### 5. Current Liabilities and Provisions

1. Advance payments received and unexpired discounts for the portion for which value has still to be given in case of certain classes of companies like Newspapers, Fire Insurance, Clubs, Banking, Steamship Companies, etc., must be shown separately.
2. In case of outstanding expenses, each item must be specifically mentioned.
3. In case of provisions, if it is an addition, then both previous provision and addition thereof must be separately shown.
4. Current account balance with directors, secretary, managers, etc., must be shown separately.

### 6. Contingent Liabilities

They do not form the part of the balance sheet. However, they have to be shown by way of a footnote at the end of the balance sheet. The main examples of contingent liabilities are: (i) Claims against the company not acknowledged as debts.

(ii) Uncalled liability on partly paid-up shares.

(Hi) Arrears on fixed cumulative dividends on each class of shares and the period for which such dividends are in arrears must be stated (Amount to be stated without deduction of income tax).

(iv) Estimated amount of contracts remaining to be executed on capital account and not provided for.

(v) Other money for which the company is contingently liable.

The amount of guarantee given by the company on behalf of the directors or other officers should also be shown wherever possible and practicable. The general nature and amount of each such contingent liability are also to be specified.

## 26.5 LEGAL REQUIREMENTS FOR PROFIT AND LOSS ACCOUNT

There is no prescribed form of profit and loss account as in the case of balance sheet. However, Part II of the Schedule VI of the Companies Act, 1956 has given certain guidelines for the preparation and presentation of the profit and loss account that can be summarised in four groups as follows:

### 1. General

- (a) The profit and loss account should be made in such a way as would clearly disclose the result of the activities of the company during the particular accounting period to which it relates.
- (b) The account should disclose every material information including receipts, payments, income, or expenditure of non-recurring or exceptional transactions.
- (c) The corresponding figures for all the items of the profit and loss accounts for the immediately preceding accounting year should be given except in the case of the first profit and loss account.
- (d) Various items of incomes and expenses in the account should be grouped under the most convenient heads.
- (e) The profit and loss account should clearly disclose the profit before taxation, provision for tax and profit after tax.
- (f) The profit and loss account should clearly disclose all the appropriations made out of profit and the amount of surplus carried down to the next accounting year.
- (g) Adjustments regarding the incomes and expenses pertaining to the previous year should be clearly shown in the appropriation part of the profit and loss account.

- (h) The fact of change in the method of accounting regarding any item of income or expenditure should be clearly disclosed giving full information. The amount by which the profit or loss for the year is affected by such a change should also be stated.
- (i) The presentation should be informative and complete avoiding crowding of too many items.
- (j) Separate schedules forming part of the accounts should be prepared to give detailed information regarding various items with statutorily required explanatory notes that make the accounts meaningful.

## 2. Income

- (a) Amount of sales in respect of each class of goods in which the company deals as well as the total turnover, i.e. aggregate amount of sales made by the company.
- (b) Gross income derived from rendering services in the case of a company supplying services.
- (c) The amount of income derived from trade investments and other investments.
- (d) Profit and loss on sale of fixed assets or investments or any other exceptional or non-recurring transaction.
- (e) Other incomes specifying the nature of the same.

## 3. Expenditure

The following items should be separately disclosed:

- (a) Amount of raw materials consumed together with item-wise break up.
- (b) The value of work-in-progress at the beginning and at the end of the year.
- (c) Opening and closing stock of finished goods.
- (d) Amount expended on:
  - (i) Stores and spare parts,
  - (ii) Power and fuel,
  - (iii) Repairs to plant and machinery,
  - (iv) Repairs to building,
  - (v) Rent,
  - (vi) Wages, salaries, bonus, staff welfare expenses, contribution to provident fund and other funds,
  - (vii) Insurance,
  - (viii) Rates, Taxes,
  - (ix) Miscellaneous expenses (Amount of expenses not exceeding the higher of Rs, 5,000 or 1 per cent of turnover should be grouped under this head and should not be shown separately).
- (e) Remuneration paid or payable to managing director or directors including all allowances and perquisites, commission, pension, etc.
- (f)
  - (i) Commission paid to sole selling agents,
  - (ii) Commission paid to other agents,
  - (iii) Discount or brokerage other than trade discount on sales.
- (g)
  - (i) Depreciation on fixed assets,
  - (ii) If depreciation is not provided, the fact should be stated.



(h) Interest paid or payable on debentures and loans. If interest is paid to managing director or manager, the fact should be separately stated.

(i) Provision for income tax or other taxes on the profits, (j)

Payments to auditors:

(i) As an auditor-audit fees,

(ii) As an advisor of the company for the services rendered,

- In company law matters,

- In taxation matters,

- In management consultancy services,

(iii) In any other capacity.

(k) In the appropriation part of the profit and loss account: -

Amounts set aside and withdrawn from reserves, -

Amount of reserve for redemption of shares, -Amount

of reserve for repayment of loans, -Amount of proposed

dividend and dividend paid.

#### 4. Quantitative and other Information

(a) Quantities of raw materials consumed.

(b) Quantities of opening stock purchase, closing stock and sales.

(c) Licensed capacity, installed capacity, and actual production.

(d) Value of imports of raw materials, spare parts, or capital goods on CIF basis.

(e) Earning and expenses in foreign currency giving details of its nature, e.g. exports of goods (FOB), know how or the import or payment of interest or royalties.

(f) Dividends remitted outside India in foreign currency.

(g) Consumption of imported materials and spare parts as percentage of total consumption.

The form of balance sheet given above is called horizontal form. If assets and liabilities are shown side by side, the balance sheet will appear as under:

Balance Sheet of 'A' Ltd., as on 31st March 2003

Previous Year (Rs.)	Liabilities	Current Year (Rs.)	Previous Year (Rs.)	Assets	Current Year (Rs.)
	Share Capital			Fixed Assets	
	Reserve and Surplus			Investments	
	Secured Loans			Current Assets,	
	Unsecured Loans			Loans and Advances	
	Current Liabilities and			Miscellaneous	
	Provisions			Expenditure	
		-----		Profit and Loss Account	
				(debit balance, if any)	

Final accounts of a company, if drawn in a vertical form, will appear as under:

'A' Ltd.

Balance Sheet as on 31st March 2003

	Schedule No.	Current year	Previous year
<b>Sources of Funds:</b>			
1. Shareholders Funds			
(a) Share Capital		<b>1</b>	
(b) Reserves and Surplus		<b>2</b>	
2. Borrowed Funds			
(a) Secured Loans		<b>3</b>	
(b) Unsecured Loans		<b>4</b>	
Total			
<b>Application of Funds:</b>			
1. Fixed Assets (Net)		<b>5</b>	
2. Investments		<b>6</b>	
3. Working Capital:			
Current Assets		<b>7</b>	
Less: Current Liabilities		<b>8</b>	
Total			

'A' Ltd.

Profit and Loss Account for the year ended 31st March, 2003

(drawn in vertical form)

	Schedule No.	Current Year	Previous Year
Sales and other income	<b>9</b>		
Add: Increase/Decrease in stock of finished and semi-finished goods	<b>10</b>		
Less: Manufacturing and other expenses	<b>11</b>		
Interest			
Depreciation			
Net profit before Tax			
Less: Provision for Tax			
Net profit after Tax			
Add: Balance carried forward from previous year			
Disposable profit set aside for			
Less: General Reserve			
Proposed Dividend			
Surplus carried to Balance sheet			

## 26.6 PREPARATION OF FINAL ACCOUNTS

Final accounts of a limited company consist of the profit and loss account and balance sheet. We have seen the various disclosures to be made in these accounts, as stated in the Companies Act. The profit and loss account of a company is divided into two parts by a small line as shown below:

### **Profit and Loss Account**

Above the line portion shows current year's expenses and incomes. The net profit, after provision for tax is transferred to below the line portion. This portion is called profit and loss appropriation account. It shows the appropriation of profit by way of dividend to shareholders and transfer to various reserves. It also shows the excess or short provision in respect of income tax for earlier years. The following is the pro forma of profit and loss appropriation account.

#### Profit and Loss Appropriation Account

To Interim Dividend paid	By Balance carried forward from Previous Year
To Proposed Dividend	By Net Profit for the Year
To Short Provision for Income tax	By Excess Provision for Income tax
To General Reserve	
To Debenture Redemption Reserve	
To Capital Redemption Reserve	
To Balance carried to next year	

While preparing the final accounts, following points must be kept in mind:

1. Mark the items in the trial balance that are going to be affected by the adjustment.
2. Post the items from the trial balance to profit and loss account or balance sheet.
3. Trial balance items are posted only once.
4. Debit balance means Expense or Asset, e.g.  
Salaries - Expense is debited to profit and loss account  
Furniture -Asset is shown in assets side of the balance sheet.
5. Credit balance means Income or Liability, e.g.  
Sales - Income is credited to profit and loss account.  
Sundry creditors - liability is shown in liabilities side of the balance sheet.

After posting the items from the trial balance, we take up the adjustments given in the problem one by one. Normally, each adjustment has two effects but in case of a limited company's final accounts, certain adjustments are of an informative nature. No accounting entries are passed for these adjustments and the information is shown under the respective head of an asset or a liability in the final accounts. Following are some of the examples of informative adjustments:

1. Share capital includes 1,000 equity shares issued to promoters in pursuance of a contract entered into with them.
2. Share capital includes 500 equity shares allotted as bonus shares by capitalising general reserve.
3. Authorised capital of the company consists of 10,000 equity shares of Rs. 10 each and 5,000, 6% redeemable preference shares.
4. Preference shares are redeemable at a premium of 10% in the year 2003.
5. 500 shares have been issued to supplier of machinery.

6. Calls in arrears include Rs. 5,000 due from a director.
7. Loan from bank is secured against mortgage of plant and machinery.
8. Market value of investment is Rs. 4, 00,000.
9. Investments include, investment in a partnership firm of Rs. 20,000, in which one of the directors is interested.
10. Sundry debtors outstanding for more than 6 months amounted to Rs. 20,000.

Let us consider income tax adjustment that is peculiar to company final accounts.

Income tax assessment for the previous year is completed and a demand notice has been served for Rs. 40,000. Other items in the trial balance are:

Advance income tax - debit	Rs. 35,000
Provision for income tax - credit	Rs. 42,000

While attempting this adjustment, advance tax and provision for income tax are always to be compared with actual tax liability determined by the tax authorities. In the above case, advance tax paid Rs. 35,000 is less than the tax liability (Rs. 40,000) and provision is more by Rs. 2,000. The adjusting entry will be as under:

Provision for Income tax a/c	Dr.	42,000
To Advance tax		35,000
To Tax payable		5,000
To Profit and Loss Appropriation a/c		2,000

Provision for income tax and advance income tax accounts get closed and finally Rs. 5,000 will appear in balance sheet liabilities side under current liabilities and Rs. 2,000 will be credited to profit and loss appropriation account as an excess provision for income tax.

Now, take another case where income tax advance stood at Rs. 42,000 and provision for income tax stood at Rs. 38,000. Assessment completed at Rs. 40,000.

Here Rs. 2,000 is recoverable from the income tax department whereas provision for income tax is less by Rs. 2,000. The adjusting entry will be as under:

Provision for Income tax a/c	Dr.	38,000
Profit and Loss Appropriation a/c	Dr.	2,000
Income tax Refund due a/c	Dr.	2,000
To Advance Income tax a/c		42,000

Thus, provision for income tax and advance tax accounts get closed. Income tax refund due appears in balance sheet assets side under the heading loans and advances and short provision for income tax will be debited to profit and loss appropriation account.

### Illustration 1

Trunmul Ltd. is formed with an authorised capital of 10,000 equity shares of Rs. 100 each and 5,000-8% preference shares of Rs. 100 each. The company issued 8,000 equity shares and 3,000 preference shares. As the company did not require finance immediately, it called up Rs. 80 per share on equity shares. Preference shares were fully called up. The unpaid calls amounted to Rs. 720. Of these, Rs. 400 was due from a director. Show how the above particulars will appear in the balance sheet of the company.

**Solution**

**Trunmul Ltd. Balance  
Sheet as on 31st December, 2003**

Liabilities side:

Share Capital

Authorised:

10,000 equity shares of Rs. 100 each	10,00,000	25,00,000
5,000 8 per cent preference shares of Rs. 100 each		5,00,000
	15,00,000	
Issued:		19,00,000
8,000 equity shares of Rs. 100 each	8,00,000	
3,000 8 per cent preference shares of Rs. 100 each		3,00,000
	11,00,000	
Subscribed and paid-up:		7,80,000
6,000 equity shares of Rs. 100 each	3,00,000	
Rs. 80 per share called up		
3,000 8 per cent preference shares of Rs. 100 each fully called up		4,80,000
Less: Unpaid calls		400
Due from a director		320
Others		
		7,79,280

**Illustration 2**

Maruti Ltd. closes its books on 31st March every year. The following items appear in its Trial Balance as at 31st March 2003:

	Debit (Rs.)
Plant and Machinery	51,000
Motor Car	40,000
(includes one car purchased on 1-1-2003 for Rs. 12,000)	

The following further information is available:

Plant and machinery was purchased on 1-4-2000 at a cost of Rs. 60,000, depreciation being provided on it @ 15% p.a. The original cost of cars was Rs. 50,000, depreciate cars @ 20%.

The company is following Reducing Balance Method of writing off depreciation. Show how the fixed assets will appear in the Balance Sheet of Maruti Ltd., as on 31st March, 2003.

**Solution**

**Balance Sheet of Maruti Ltd., as on 31st March, 2003**

Assets side: 1. Plant and Machinery

Fixed assets: Original Cost

		60,000
Less: Depreciation written off up to 31 st March, 2002	9,000	
	51,000	
Less: Depreciation for the year (15 per cent on Rs. 51,000)	7,650	43,350

2. Motor Cars Original Cost Add: Additions during the year	50,000		
	12,000		
Less: Depreciation written off up to 31st March, 2002	<u>62,000</u>		
	22,000		
Depreciation for the year (20% on Rs. 40,000) Note:	<u>40,000</u>		
Depreciation up to the previous year has been calculated as under:	8,000	32,000	75,350
	ted as under:		
Particulars Original Cost Additions	Plant and	Machinery	Motor Cars
		60,000	50,000
Less: Balance as on 31st March, 2003 Depreciation upto 31st March, 2002		-	12,000
		60,000	62,000
<b>Illustration 3</b>		51,000	40,000
Prakash Ltd. gives you, the following Trial Balance as at 31st March, 1998		9,000	22,000

Particulars	Dr. (Rs.)	Cr. (Rs.)
Goodwill	50,000	
Land and Building	1,00,000	
Patents, Trademarks and Designs	26,000	
Plant and Machinery	1,50,000	
Stock in Trade (31-03-98)	85,000	
Investment in 4 per cent Govt. Securities	10,000	
Interest Accrued on Investments	400	
Stores and Spares, at Cost	8,000	
Debtors	72,000	
Provision for Doubtful Debts		2,000
Cash in Hand	1,000	
Cash at Bank	15,200	
Advance Income Tax	12,000	
Tax Deducted at Source	50	
Preliminary Expenses	8,000	
Expenditure on Issue of Shares (Net)	6,000	
Equity Share Capital (1,000 shares)		1,00,000
10 per cent preference Share Capital (2,000 shares)		1,00,000
7 per cent Debentures (Secured by Charge on Plant and Machinery)		1,00,000
Sinking Fund		10,000

(Contd.)

Particulars	Dr. (Rs.)	Cr. (Rs.)
Capital Reserve		5,000
General Reserve		50,000
Secured-loan from Bank (Secured by Hypothecation of Stock)		60,000
Interest Accrued and Due on Secured Loan from Bank		2,000
Bank Overdraft (Unsecured)		7,500
Interest Accrued but not Due		550
Creditors		10,000
Fixed Deposits		27,000
Proposed Dividends	•	20,000
Taxation Provision		42,000
<sup>3</sup> rofit and Loss Account		7,600
	5,43,650	5,43,650

Following further information is given:

- The original cost of Land and Building is Rs. 1,50,000 and Plant and Machinery Rs. 3,00,000
- Market value of Govt. securities is Rs. 8,000
- Of the debtors, Rs. 12,000 are outstanding for more than 6 months
- Authorised share capital of the company is as under:  
2,000 Equity shares of Rs. 100 each and 2000, 10% preference shares of Rs. 100 each
- Rs. 1,000 from preliminary expenses and Rs. 500 from expenditure on issue of shares are written off during the year
- Stock-in-trade is valued at cost or market price which ever is lower.

Prepare balance sheet of the company as on 31st March, 1998.

### Solution

#### The Prakash Ltd. Balance Sheet as on 31st March, 1998

Liabilities	Rs.	Assets	Rs.	Rs.
Share Capital		Fixed Assets		
Authorised		Goodwill		50,000
2,000 Equity Shares of Rs. 100 each	2,00,000	Land and Buildings		
2,000, 10% Preference Shares		Original Cost	1,50,000	
of Rs. 100 each	2,00,000	Less: Depreciation		
	4,00,000	up to 31-3-98	50,000	1,00,000
Issued and Subscribed:		Plant and Machinery -		
1,000 Equity Shares of Rs. 100 each		Original Cost	3,00,000	
Fully paid-up	1,00,000	Less: Depreciation		
2,000, 10% Preference Shares		up to 31-3-98	1,50,000	1,50,000
of Rs. 100 each Rs. 50 paid-up	1,00,000	Patents, Trademarkes		
Reserves and Surplus		and Designs		26,000

Liabilities	Rs.	Assets	Rs.	Rs.
Capital Reserve	5,000	Investments		
General Reserve	50,000	In 4% Govt.		10,000
Sinking Fund	10,000	Securities (Market value		
Profit and Loss Account	7,600	Rs. 8,000)		
Secured Loans		Current Assets, Loans and		
7% Debentures (Secured by		Advance		
charge on Plant and Machinery)	1,00,000	A. Current Assets:		
Loan from Bank (Secured by		Interest Accrued on		
Hypothecation of Stock)	60,000	Investment		400
Interest Accrued and Due		Stores and Spares (at cost)		8,000
on bank Loan	2,000	Stock-in-Trade		
Unsecured Loans		(at cost or market price		
Fixed Deposit	27,000	whichever is lower)		85,000
Bank Overdraft	7,500	Sundry Debtors		
Current Liabilities and Provisions		Outstanding for more than		
A. Current Liabilities:		6 months	60,000	
Creditors	10,000	Other Debts	12,000	
Interest Accrued but not due on			72,000	
Bank Loan	550			
Provision for Taxation	42,000	Less: Doubtful Debts	2,000	70,000
Proposed Dividend	20,000	Cash on Hand	1,000	
		Cash at Bank with		
		Scheduled Bank	15,200	16,200
		B. Loans and Advances:		
		Advance Income Tax paid	12,000	
		Add: Tax Deducted of		
		Source	50	12,050
		Miscellaneous Expenditure		
		(to the extent not written off)		
		Preliminary Expenses	9,000	
		Less: Written off	1,000	8,000
		Expenditure on issue		
		of Shares	6,500	
		Less: Written off	500	6,000
	5,41,650		5,41,650	5,41,650



**26.7 LET US SUM UP**

Theoretically, there is no difference in preparation of final accounts of an individual or a firm or a limited company as far as accounting is concerned. However, as far as final accounts of limited companies are concerned, it is compulsory to prepare and present them in the form prescribed by the Companies Act, 1956. Special care is required to be taken so far as the notes and instructions regarding statutory requirements in respect of the various items to be disclosed. These have been discussed in detail in the earlier paragraphs. If the information required to be given under any head or sub-head cannot conveniently be included in the form of balance sheet or profit and loss account, the same can be furnished by way of a separate schedule to be annexed to final accounts. This will be forming a part of the balance sheet or profit and loss account as the case may be.

**26.8 KEYWORDS**

**Final Accounts:** Profit and Loss Account and Balance Sheet.

**Profit and Loss Appropriation Account:** Account showing profits available for distribution and transfer to reserves.

**Horizontal Form:** 'T' form of Balance Sheet and Profit and Loss Account.

**Vertical Form:** When items of incomes and expenses and assets and liabilities are arranged one below the other, it is called a vertical form.

**Contingent Liabilities:** Liabilities that will arise on the happening of certain events.

**26.9 TERMINAL QUESTIONS**

- The following are some of the balances that stood in the books of Madhavi Ltd. as on 31st December, 1997.

Particulars	Debit (Rs.)	Credit (Rs.)
Plant and Machinery (at cost)	6,69,700	
Land (at cost)		2,58,000
Furniture (at cost)	24,500	
Depreciation provided up to 31 st December, 1996 on:		
Plant and Machinery		1,33,940
Furniture		4,900

Show how these items relating to fixed assets will appear in the balance sheet of the company as on 31st December, 1997, assuming that company provides depreciation at 10% on straight line basis, both on plant and machinery and furniture.

Galaxy Ltd. was incorporated with an authorised capital of Rs. 1,00,000 equity share of Rs. 10 each. The company issued initially 8,000 shares to the public. The issue was fully subscribed. In addition, the company allotted 500 shares to its promoters as fully paid-up pursuant. To a contract entered into between the promoters and the company. The shares taken by the public were fully called and paid-up with the exception of Rs. 1,000 due from Mrs Mehta, wife of a director. Show how the above will appear in the balance sheet of the company.

- Fill in the Blanks:

(a) Final accounts of a limited company consist of \_\_\_\_\_ and \_\_\_\_\_ .

- (b) account need not be prepared separately but can be  
 (c) included in of the Companies Act prescribes the form of  
 Match the Columns: balance sheet.

A

- |                         |                               |              |
|-------------------------|-------------------------------|--------------|
| 1. Fixed asset          | B                             |              |
| 2. Current liability    | a.                            | Partly paid- |
| 3. Secured loans        | up shares, held as investment |              |
| 4. Unsecured loans      | b.                            | Debentures   |
| 5. Contingent liability | c.                            | Deposits     |
- from public
- d. Goodwill
- e. Sundry creditors

5. Under what heads will you classify the following items on the liabilities side of the balance sheet of a company?
- Proposed dividend
  - Unclaimed dividend
  - Provision for taxation
  - Share premium
  - Forfeited shares account
  - Credit balance of profit and loss account.
6. Classify the following items under proper headings on the assets side of the balance sheet:
- Work in progress
  - Government bonds
  - Goodwill
  - Prepaid insurance
  - Discount on issue of shares.

### **26.10 ANSWERS TO TERMINAL QUESTIONS**

- Profit and Loss account, Balance Sheet
  - Trading , Profit and Loss account
  - Schedule VI
- I. and (d); 2. and (e); 3. and (b); 4. and (c); 5. and (a); 5. (a) Provisions; (b) Current liability; (c) Provisions; (d) Reserves and Surplus; (e) Share Capital; (f) Reserves and Surplus.
- (a) Current assets; (b) Investment; (c) Fixed assets; (d) Loans and advances; (e) Miscellaneous expenditure.



**UNIT**  
**27**

# **ACCOUNTING IN COMPUTERISED ENVIRONMENT**

## **STRUCTURE**

- 27.0 Objectives
- 27.1 Introduction
- 27.2 Meaning of Computerised Accounting
- 27.3 Features of Computerised Accounting
- 27.4 Terms Used in Computerised Accounting
- 27.5 Difference between Computerised and Manual Accounting
- 27.6 Advantages and Disadvantages of Computerised Accounting
- 27.7 Functions Performed by Computerised Accounting Softwares available in the Market
- 27.8 Computerisation - Scope and Experiences in Banking
- 27.9 The Core Banking Components
- 27.10 Information Security
- 27.11 Internet and World Wide Web - Influences on Banking
- 27.12 Let Us Sum Up
- 27.13 Keywords
- 27.14 Terminal Questions

## **27.0 OBJECTIVES**

After going through this unit, you will be able to:

- know the meaning of computerised accounting
- know the features of computerised accounting
- know the terms and concepts used in computerised accounting
- know the special precautions to be taken while using a computer for accounts
- know the advantages of computerised accounting over manual accounting
- know the functions performed by computerised accounting software available in the market.

## **27.1 INTRODUCTION**

In the good olden days, accounting records were prepared manually using a few accounting machines such as a mechanical calculator. But after the Second World War and with the advent of computers, specially in the advanced countries, the use of computer and its peripherals, in the maintenance of accounts and preparation of financial statement, has constantly increased. In modern times, it is difficult to imagine a scenario where accounts are kept manually. Even very small business entities have shifted to computerised accounting with the advent of personal computers which have now become household commodities like the television, refrigerator, etc.

Nowadays, many organisations perform their accounting work on computers ignoring the manual method of bookkeeping. Modern accounts are more like computer-keeping rather than bookkeeping.

## **27.2 MEANING OF COMPUTERISED ACCOUNTING**

An accounting system is one that performs the following functions:

1. It captures business transactions in the form of accounting entries.
2. The accounting entries are then used to prepare financial statements.
3. The financial statements are prepared based on accounting standards.
4. Various financial reports are prepared from the data available in the financial statements.

When the above functions are performed by using a computer, the system so developed is called *Computerised Accounting*.

Computer is a general-purpose machine that converts raw facts into required information according to a set of instructions fed into it. The physical components, of which a computer is made up, are known as the hardware. The instructions that tell it what to do, are called software. Thus, computer is defined as an electronic information processing device capable of receiving inputs (i.e. raw information), storing sets of instructions for solving problems (i.e. set of software called *programme*) and generating outputs (i.e. results) 'with high speeds and accuracy. The term computer often means to include the various components like printer, video monitor, keyboard, disk drive, etc. (which are technically called *computer peripherals*).

Computers can perform a vast variety of mathematical calculations ranging from simply adding and subtracting to solving complicated mathematical equations that involve thousands of steps. They can repeat a complicated calculation trillion of times without error.

A computer accounting system runs based on a set of instructions called the *software programmes* developed by a person who is a computer software professional and he is called the *programmer*. The instructions of the programmer are in a computer language in the form of computer programme(s) and are called the *computer software*. Accounting software may be written in any of the computer languages such as COBOL, Foxpro, etc., or on an operating platform such as Windows, UNIX, etc.

Computers are basically classified as 'Analogue Computers' and 'Digital Computers'. Analogue computers are mostly used in scientific and mechanical fields and they process data in a continuous form. Digital computers, on the other hand, accept data and convert them into useful results by carrying out arithmetic operations with the help of computer programmes. Digital computers are the kind of computers used in computerised accounting. For special purposes (such as to simulate a guided missile system) desirable features of both digital and analogue computers can be combined to create 'Hybrid Computers'.

### **27.3 FEATURES OF COMPUTERISED ACCOUNTING**

The main features of computerised accounting are:

#### **1. Speed**

Work is done by the computers at a very high speed. Let us imagine the quantum of manpower required if 1,000 sales invoices are to be accounted daily and also to keep track of such sales, due date of receipt of money against the sale, money received in advance, etc. With the help of computers, these things can be managed by a few people and in a shorter time.

#### **2. Accuracy**

Unlike people, machines do not make errors once they are programmed to work correctly. Thus, let us say a clerk is preparing a trial balance of an entity having 100 sales transactions daily and the trial balance does not tally. It would take days to find out the mistake. However, calculations done by machine are accurate and after all the transactions are fed into the computer, the trial balance is ready within seconds after the completion of data feeding work.

#### **3. Various Informative Reports can be Generated**

In a computerised accounting system, it is possible to prepare various statements and reports from the same accounting records that is impossible in a manual system. Let us say a clerk is asked to prepare an area-wise list of sales from total sales throughout the year and the volume of sales transactions is about 500 a day. It would take the clerk or the accounts staff a few weeks to prepare such a statement. However, by using computers, such a statement can be prepared in a few minutes from the sales records by giving a few commands only.

#### **4. Economy**

Nowadays, computerised accounting has become cheaper as compared to human labour that has become more costly because of inflation. It is now economical to buy a computer and perform the accounting operations rather than employ a large number of people who would carry out the same job in a longer period.

#### **5. A Computerised System may be a Single Stand Alone Unit or a Multiple User, i.e. LAN, WAN, etc.**

A computerised system may be a single machine containing software and operated by only a single user. It could also be several computer machines interconnected by LAN (Local Area Network), WAN

(Wide Area Network) or other means such as telephone connections, satellites, etc., used by multiple users at the same time. In multiple user computer system, data can be processed faster as more than one person is at work at the same time to complete the data feeding. In a computerised accounting system with multiple users, each user handles a particular segment of the transactions only, say, either sales, purchase, cash, bank, etc.. and the ledger gets updated automatically based on the feeding done by all the users.

#### **27.4 TERMS USED IN COMPUTERISED ACCOUNTING**

The various terms used in computerised accounting and computer language are:

##### **LData**

Data mean any facts, observations, assumptions, or occurrences. In accounts, these would mean accounting entries to be passed to prepare financial statements and other related information, e.g. in sales invoices, details such as price, sales tax, date of sale, etc., are data.

##### **2. Record**

It consists of a group of data items related to an object of data processing, e.g. a sales register may be called record of sales invoices.

##### **3. Data File or File**

It is a compilation of related data records maintained in some pre-arranged order. It is similar to manual files wherein various papers are stored. An example of a computer file would be a payroll file of 1,000 employees of an entity.

##### **4. System**

It means various components that process the data, i.e. transactions/occurrences and give outputs, i.e. results. In a manual accounting system, the components would be persons, books of account such as ledger, cash book, etc., which give results in the form of trial balance. In a computerised accounting system, it would mean the computer machine, the software programme and computer peripherals such as keyboard monitor, etc.

#### **27.5 DIFFERENCE BETWEEN COMPUTERISED AND MANUAL ACCOUNTING**

There are mainly two differences between manual and computerised systems and they are as under:

##### **1. Data Stored in Computer are not Visible and thus, the Trail of Events is Difficult to Establish**

The first difference relates to the trail of transactions or events, i.e. the ability to trace every entry in the ledger to its components in journals and eventually to the source documents (i.e. vouchers). This establishes the integrity (correctness and truthfulness) of the accounts of an entity. In computerised systems, creating an acceptable audit trail, i.e. tracing of a document into its entry into computer becomes more difficult because the data storage and arithmetic manipulation are done inside the computer and are not visible physically. Let us say that after feeding a series of sales transactions in a computer, the ledger gets updated automatically but can be seen only on the computer monitor or on a printout taken. The data records in a computer are subject to a risk of manipulation. The integrity of these accounting data within the computerised database is a real concern to the makers and users of financial statements. Spectacular computer frauds in recent years while a few in numbers, have made management more aware of the complexities that accompany the computerisation of accounting systems.

## **2. Accounting Data can be Manipulated to Generate Various other Reports/Statements**

The second major difference involves the number of reports that can be generated by a computerised system as compared to manual system. In a manual system, the cost of preparing reports, other than the basic financial statements such as balance sheet and profit and loss account, is high. Hence, most reports are of a broad and general-purpose in nature. One single set of financial statement is distributed to all the managers of the organisation. These managers are supposed to use them for different purposes. On the other hand, the cost of preparing specialised management reports in computerised systems is negligible. A large number of reports, as desired specifically by different managers according to their fields of work, can be easily generated. Such customised reports are designed to meet the needs of the recipients.

## **27.6 ADVANTAGES AND DISADVANTAGES OF COMPUTERISED ACCOUNTING**

The advantages of computerised accounting system are:

### **1. Accurate, High Speed and Low Cost of Operation**

In a manual accounting system, special journals, subsidiary ledger, etc., are used for recording accounting data. A computer-based system performs the accounting functions more rapidly, more accurately and (if the volume of repetitive transactions is large) at lower cost.

### **2. Availability of Various Reports from the Same Accounting Data**

A computerised accounting system can generate as per instructions various reports in addition to the traditional balance sheet and profit and loss account. These reports that are generated as per requirements are useful for various purposes.

### **3. Error-free Accounting**

Computerised accounting is error-free. A computer can perform millions of operations without committing any error unlike a human being.

### **4. Automatic Completion of all Records by Feeding Only One Entry into the Computer**

In computerised accounting, once the initial feeding of the transactions is done in the computer, the entire set of accounts gets ready automatically. As required in manual accounting, there is no need to first write the subsidiary books, ledger, the general ledger, etc., and then prepare the financial statement.

### **5. Multiple Set of Printouts Available**

Number of printouts with various modifications and including/excluding narrations can be taken and the data used more freely unlike manual system where there is only one set of accounts.

The disadvantages of computerised accounting are:

### **1. Requirement of Special Programme and Professional**

Special programmes are required to enable the computer to carry out accounting operations that can be written only by programmers. Thus, efficient computerised accounting system and its programmes are sometimes costly.

### **2. Qualified Staff Required for Operations**

Only a technically qualified person can operate a computer. Hence, the accounting staff has to be initially trained in computer operations by a computer professional. This increases staff cost initially when there is a change from manual to computerised accounting.



### 3. Costly Computer Peripherals and Stationery

A computer requires various peripherals such as floppy disks for storage, printers, etc., and other special stationery items that are costly as compared to the traditional books of account.

### 4. Regular back-up is Required as Data may be Lost for Various Reasons

Regular back-ups on various storage devices such as hard disks, floppy disks, magnetic tape, etc., have to be taken to guard against possible loss of data. It is difficult to retrieve data lost from the computer due to inadvertence.

### 5. Computer Viruses

Data in a computer are subject to various risks including those by computer viruses. A computer virus is a mischievous computer software written for fun/frolic. It damages data inside a computer. A computer virus may destroy the entire data in a computer and those kept in a back-up.

## 27.7 FUNCTIONS PERFORMED BY COMPUTERISED ACCOUNTING SOFTWARES AVAILABLE IN THE MARKET

Various computerised accounting software, as listed below, are available in the market:

Tally versions such as 4, 4.5, 5, 5.4, 6.3, 7.2 and 8.2

- Ex, accounting software
- Bank 2000 for accounting needs of banks
- B@NKS-24 - core banking solution
- A.U.D.I.T.O.R. and A.U.D.I.T.I.M.E. Cash basis software for professionals and their accounts
- MEFCOMP accounting software for professional
- Quick FA

Tailor made (i.e. made as per requirement) accounting software are also developed by professionals as per the requirements of the users. The software listed above perform all or majority of the functions listed below:

- (a) Maintenance of all statutory books, i.e. books required to be maintained under various laws and regular books of account.
- (b) Generate various reports such as moneys receivable from the clients against goods sold or services rendered, area-wise list of sales, etc.
- (c) In case of an entity having operations in foreign countries, it converts foreign currency transactions into Indian rupees based on a particular rate of exchange. Computers do this conversion of currency as per instruction given to them.
- (d) The software values closing stock of materials, stores, etc., at the year-end and thus, speeds up the process of finalisation of accounts.
- (e) In case of an entity having branches all over India and abroad, the software maintains accounts of all the branches and the head office. The software also prepares a consolidated trial balance and financial statement of the entity as a whole.
- (f) The software is capable of giving profit earned by the entity product-wise, area-wise, etc., and thus, help the management in planning.

## **27.8 COMPUTERISATION - SCOPE AND EXPERIENCES IN BANKING**

Computerisation has influenced a variety of functions performed by a bank, which are reviewed in the ensuing paragraphs:

### **1. Computerised Bank Operations**

With the advent of Computers such as Mainframe, Super-Computers and Personal Computer (PCs), almost all the banks in the developed countries and leading banks in India have computerised their operations. All the bank transactions are now routed through computers that operate on software developed in-house or those available in the market. Functions such as accepting deposits, lending, remittances, collection of bills, clearing of cheques, standing instructions, operation of safe deposits vaults and returns to controlling office are now computerised. With the total branch computerisation, all the customers and business transactions are done with the help of computers. This is a real time on-line banking. Whenever a transaction is entered through a terminal, the transaction is recorded, then it is verified and authenticated and all the corresponding updates are reflected instantly. The activities (independent modules) are interlinked to form an integrated system so that changes can be done without any time lag.

### **2. Computerised Accounting**

The accounting of bank transactions is voluminous and needs to be completed on a daily basis to know the funds position, position of borrower accounts, etc. In addition, a modern bank has various departments such as forex, treasury, merchant banking, call lending and borrowing, etc., where the requirements in terms of operations, record-keeping and accounting are diverse. Banks, therefore, rely on specialised system software developed in-house or purchased from a known entity, which satisfies all their operating needs. The system software in most cases are so designed that after an error free feeding of the initial transaction into the system and its validation by a senior executive, it also serves as the basis of the accounting entry. In most cases, physical vouchers are not prepared and the deal/transaction is recorded only on the system; however, hard copies may be taken out later on and kept on record for audits, etc.

### **3. Accepting Deposits**

Banks receive deposits from the public, repayable on demand or after a specified period, in the form of fixed deposits, reinvestment, recurring deposits, and special schemes. It is now possible to operate and account for all such deposit accounts more easily and conveniently with the use of computers. Entire records of acceptance, operation, and withdrawal of deposits are now computerised in most of the banks and/or their urban branches. Reminders for renewal, interest credit advice and even the interest calculation are automated and can be now completed within a short span of time.

### **4. Lending**

Banks lend money in the form of loans, cash credits, overdrafts, etc. They also discount bills drawn by their customers. Like the deposit function, the lending function also is computerised in most of the banks. The work relating to charging of interest, monitoring of disbursements, inspection of the borrowing units and repayment schedule can be computerised and carried out easily and quickly.

### **5. Remittances**

A bank arranges to remit money to other centres in the form of demand draft, mail transfer, or telegraphic transfer and arranges to receive in these forms from other banks. Small remittances are also effected through travellers cheques, gift cheques, etc. Facilities such as mail transfers, telegraphic transfers, use of ATMs, EFT service and Internet banking have become economical and easy with the development in communication technology.

### **6. Clearing of Cheques**

The functions of the clearing house being now automated, credit to the account of the customers can be given within a shorter span of time after introduction of RTGS, as compared to the system in operation a few years ago.

### **7. Standing Instructions**

Customers sometimes give standing instructions to bank with respect to operation of their accounts. In case of such recurring instructions, which need to be carried out, the bank may feed the same in their computer systems to perform them automatically, e.g. a customer may have instructed his banker to transmit a fixed monthly amount out of his salary credited in his account, to the account of his father at his native place where the bank has a branch. This entire instruction can be fed into the system to be executed monthly and thereby eliminating the need to remember and execute the instruction manually.

### **8. Centralised Banking**

Computerisation and technological innovations have enabled banks to operate on the principle of centralised banking where all the banks branches are linked to each other on-line. This makes it possible for the banks to offer a customer the facility of banking at any branch/outlet of the bank as per convenience. A customer having an account with any branch of a bank can deposit money into his account, withdraw money as per his requirement and make enquiries regarding balance, etc., in other branches/outlets of the banks, which are linked on-line.

### **9. Automated Banking**

The concept of automated banking through Automated Teller Machines (ATMs) is the result of computerisation and technological innovation. ATMs are capable of accepting cash/cheques, disbursing cash, entertaining and an inter-bank transfer and balance enquiry on 24 hours a day and 365 days a year basis. Advance ATMs can be operated even on touch of finger rather than the keyboards used in the traditional ATMs. ATM transactions are automatically accounted on their occurrence with the help of computers.

### **COMPLETE AUTOMATON - WHY IT IS REQUIRED?**

The core issues faced by banks today are on the fronts of customer's service expectations, cutting operational costs, and managing competition. Technology can help banks in meeting these objectives. IT is central to banking. It has moved from being just a business enabler to being a business driver. In a manner, the banking and financial services sector, being the early adopters of any new technology, defines the roadmap for future technology adoption.

Banks are focused on three areas; meet customer's service expectations, cut costs, and manage competition. For this, banks are exploring new financial products and service options that would help them grow without losing existing customers. In addition, any new financial product or service that a bank offers will be intrinsically related to technology. Automation is the basic thing that banks need to have in place. It involves a combination of centralised networks, operations, and a core banking application. Automation enables banks to offer 24 x 7 x 365 service using lesser work force. But to be really competitive, banks need to think beyond just basic automation.

### **THE NEED FOR CENTRALISED INFRASTRUCTURE**

In the early days of banking technology, the network/backend infrastructure used to be decentralised. This meant that each branch had its own server(s), banking applications, database(s), and other such assorted hardware and software.

Decentralised networks had their own set of problems in terms of the cost and management fronts. The decentralised model involves huge capital expenditure and resources (trained manpower, hardware, etc.). In the decentralised model, there is no coordination or one central control point. There were problems with updating applications, troubleshooting, etc., before centralisation. Technology representatives had to be present at each branch to provide support.

This was an acceptable scenario till multi-channel came into the picture. With these concepts came the need for a centralised database. The database had to be updated instantaneously irrespective of the branch or channel the customer used. The networks had to be run and managed with lesser costs.

Although data centers were being used by some of the banking majors, they were never considered as being capable of being a central operations hub. Things changed when banks realised the cost benefits of swapping the decentralised model to a centralised data center architecture. When one or two private sector banks showed that it can be done efficiently, other banks began to show an interest - they also began consolidating their databases into a single large database. Centralisation using a data centre has helped a lot in improving and simplifying the network from the operations, user, and administration perspectives. From a cost perspective, centralisation has been very effective. It is not just the data center which contributed to centralisation. The network has also evolved into a unified IP network. Older day banking networks used to be a potpourri of several older protocols. There used to be one network for data traffic, another for telephony, and so on. Today, irrespective of whether its data, voice or videoconferencing, ATMs or mobile banking, just a single IP based network is used.

After the turn of consolidated databases and networks come core banking applications. Core banking applications help provide complete front and backend automation of banks. These applications also help banks achieve centralised processing and provide 24-hour customer service. "Core banking applications provide anywhere, anytime 24 by 7 non-stop services, which is not possible with traditional localised branch automation systems that are available only between 10 am to 2 pm.

Core banking applications help integrate the enterprise to existing in-house applications to offer a single customer view. These applications provide automation across multiple delivery channels. Banks are increasingly adopting core-banking solutions for retaining customers and lowering service costs to the customer.

Banks are reinventing themselves as marketing agencies by selling products like life insurance, RBI bonds, credit cards, etc. Core banking applications are able to support this.

Risk management is another area where core banking applications can help. These systems take care of the risk monitoring and reporting requirements. Loyalty programs can also be monitored and managed using a core banking application.

### **A HAPPY CUSTOMER**

Managing customers is one of the main issues that banks face in today's hypercompetitive environment. If the service levels are not up to customer expectations, in all likelihood the customer might take his business elsewhere. This is where Customer Relationship Management (CRM) practices (most important) and software (on the technology side) play an important role. Before banks go for a CRM solution, they need to ask themselves one question: How well do they know their customer? For that matter how many customers have moved in the past? Or how existing customers use various services that the bank provides.

In banking, being the first to market alone is not enough since products can be copied very fast. It is the customer service levels which matter. This is where CRM techniques and tnnk rnm~ ;«◆- -■-

a foremost part of CRM strategy is all about treating your customer right, technology does make a major difference. CRM is a tool that allows you to emote and relate with your customers. Increasingly, all banks will require it as they get centralised.

## **27.9 THE CORE BANKING COMPONENTS**

Core Banking is delivered as a set of integrated core banking components that are then tailored to fit the institution's individual business requirements. These components can be easily re-configured as business requirements change, protecting the organisation's strategic investment and maintaining a unified business approach.

### **CORE BANK COMPONENTS INCLUDE**

- Core Bank Financial Institution Infrastructure
- Core Bank Product Build
- Core Bank Customer Management and Customer Overview
- Core Bank Account Administration
- Core Bank Payments
- Core Bank Management Information.

### *Core Banking Benefits*

#### **Core banking can bring the following significant benefits to the organisation**

- Enable the organisation's Customer Relationship Management (CRM) strategy by providing a robust operational customer database and customer administration.
- Provide cost savings and improved customer service through simplified account administration.
- Support portfolio growth with a fast-track Product Build component that creates flexible financial products, providing the capability to build products in line with the prevailing market conditions.
- Deliver speed to market in terms of product development with support for a wide range of account types online in real-time.
- Facilitate increased productivity and reduction of errors through components that automate calculation of complex fees and interest rates.
- Provide full multi-bank and single-bank operations, including multi-language support, to support mergers and acquisitions and other branding strategies.
- Support multi-currency operations.
- Provide increased business and operational efficiency with true 24 x 7 operations.
- Generate accounting and management information from operational data for compliance, risk management and profitability analysis.
- Provides the opportunity to rationalise processing infrastructure with resulting cost reductions and increased operational resilience.
- Provide data structures and user-exits to extend Core Banking's functionality to support bank-specific needs, thus reducing maintenance and upgrade costs.

### **THE TECHNICAL ARCHITECTURE OF CORE BANKING SOLUTIONS IN GENERAL**

A powerful server will be installed at the centralised data centre (Hub). Every branch will have a branch server. Each user at each branch will have a terminal; these terminals will be connected to the branch server, and the branch servers will be connected to the central server (Hub). The branches and the 'Host' will be connected through a dedicated line.

#### *System /layers*

- Presentation layer
- Delivery layer
  - ▷ Interface between front-end and operating system
- Application layer
  - Driven by system triggers, parameters and environment settings
- Database layer
  - ▷ Interfaces to database using appropriate call levels and language.

#### *Transaction processing*

- Primary update methods are more connected with customer related operations.
- Secondary update method is mainly used for external transaction records posting like salary files which are received electronically or through the media of tape or disc.

Batch processing is mainly used for daily interest updating and statistical reports.

Online processing: Majority of transactions are processed online. Examples include:

- Account and customer creation
- Financial transactions
- Enquiries
- Maintenance
- *Further online processing:* There are other mechanisms for processing online transactions.
  - *Online Day Journal:* Used for internal transaction record posting, e.g. Standing orders. Sent by requested programs, e.g. Batch interest updating programs

#### *Online Processing - Benefits*

- Basic functions are separated to certain areas  
Allows a flexible system and eases change
- Caters to all types of institution requirements
- Optimises transaction throughput
- No downtime for Day-end or batch processing
- Entire Database and all the transactions are always available.

### **THE FLOW OF TRANSACTIONS IS ILLUSTRATED BELOW USING THE WIDELY USED CORE BANKING SOLUTION BANKS-24 OF TCS**

The user has to log in to Bancs24 with his user-id and password at the branch where the user is working. Once the user logs in to the Bancs24, he is given access to the different modules for doing the transactions. There are modules for creation of new customer information files (CIF), new deposit/loan accounts,

transaction posting, single as well as batch posting, file upload for multiple posting and various other functionalities. The other important functionalities include lodging of cheques to account, clearing house operations, Government transactions, service branch operations, user password maintenance, begin of day and end of day operations, etc.

When the user logs in and does a transaction, the transaction will go through a maker checker functionality. The maker checker functionality defined in brief, is that when a teller or user (Clerical/Cashier level) initiates a transaction, the transaction has to be authorised by a supervisory official if the transaction exceeds the authority of the teller who initiates the transaction. This is managed in the system through queues. Once the transaction is initiated by the teller a queue number will be generated and displayed in the system and the supervisor who is authorising the queue will go to the queue management module, picks up the 'queue number' and authorises the transaction after taking the usual precautions. Once the queue is authorised, the transactions hits the host and the system will validate the transaction and debit or credit the particular account and a message is sent back to the user at the branch as to whether the transaction is complete or not. The system validates the account number, balance in the account, authority of the teller who does the transaction, authority of the officer who authorises the transaction, and other validations parameterised at the product level, if required to be done and if the transaction done at the branch level do not meet any of the conditions set at the product level, or exceeds authority of the officer/user doing the transaction, the transaction will be rejected and the account will not be updated and a error message with a brief description will be send back to the branch.

### THE ACCOUNTING OF TRANSACTIONS

Core banking solutions work on two basic software - B@ncs24 and Finance 1. The B@ncs24 software takes care of all the transactions that have been put through at the branches. The Finance 1 software takes care of postings in the General Ledger. The interface for the postings between B@ncs24 and Finance 1, concisely, is what is known as 'GLIF' (General Ledger Interface File)

Accounting in Core Banking takes place as follows:

Branch debits account of customer A and credits Customer B for Rs. 1,000. However, the system posts the transactions through an intermediary account called the balancing account which is as follows:

Debit account of customer A Rs. 1,000; credit Balancing Account Rs. 1,000

Debit Balancing Account Rs. 1,000; credit account of customer B Rs. 1,000

In batch transactions, there is one debit for Rs. 10,000 and credit to 10 different accounts for Rs. 1,000/- each. The transaction will be as follows:

Debit account of customer Rs. 10,000; credit Balancing Account Rs. 10,000

Debit Balancing Account (10 times @ Rs. 1,000) and credit individual accounts Rs. 1,000

In ideal situations, the balancing account, therefore, should be 'zero' at the end of the transaction. However, branches come across situations where the batches have failed due to various reasons, technical or otherwise. If in the above example, two transactions of Rs. 1,000 each, do not get posted, the same will remain in the balancing account. This account will, therefore, have a balance of Rs. 2,000. This entry is what constitutes the GLIF balance. There can be failures in posting of transactions due to various reasons, the main reason being connectivity failure. In such cases, the difference will come in the GLIF file and branches will have to monitor these entries and reverse to the respective accounts.

## **END OF DAY (EOD) AND BEGIN OF DAY (BOD) OPERATIONS**

### **EOD - BRANCH LEVEL**

On completion of the day's transaction, the branch has to do an EOD operation. Though the EOD is done at the central data centre for the bank as a whole, the branch has to do the EOD checks to find out whether there are any transactions are pending to be authorised. Once the EOD at the branch is done, the users at the branch will not get access to any of the modules for doing transactions but will get access to certain limited modules such as account enquiry.

### **BOD - BRANCH LEVEL**

The branch has to do the BOD operation to begin the day's transaction. This is done before the day's operations start. After the BOD the users will be given access to the full module so that they can do transactions.

### **EOD - CENTRAL DATA CENTRE LEVEL**

EOD operations at CDC will start around 10 PM at the Central Data Centre. The EOD start time is so fixed so that all branches complete the day's transaction before 10 PM daily. The branches will be cut off from the Host before start of EOD to ensure that branches do not do any transaction after start of EOD. It is during EOD that the day's backup is taken. It is pertinent to state in this context that the data for the entire Bank is stored at CDC (Central Data Centre) level and all updating and back up is to be made at CDC level. The EOD process will take care of all these updating of the day's transactions, generation of reports, etc. Once the EOD is completed, the start of day (SOD) process is done at the CDC level. The SOD process takes care all the reposting of ATM transactions, which happened during EOD process was running. Once SOD process is completed, branches will be able to get access to the system. The EOD/SOD process is done for all the branches at one consolidated stretch and will take around 7 to 8 hours.

## **27.10 INFORMATION SECURITY**

Information security is the responsibility of every employee of an organisation. As all employees of the bank are responsible for protecting the information assets of the bank as also maintaining the security of data, they are required to acquaint themselves with the accepted policies of the bank in this regard and adhere to the same. The core banking solution should take care of the various aspects of information security. A brief note on how information security is envisaged is given below.

What is information systems security?

Information systems security provides essential information for managing the security of an organisation where information technology is an important factor. It is mainly for all the staff, who are the first-line support, responsible for the daily, efficient operation of security policies, procedures, standards, and practices. It covers:

- Access control systems and methodologies
- Computer operations security
- e-mail and internet access
- Application and systems development
- Business continuity and disaster recovery planning
- Telecommunications and network security



- Physical security
- Cryptography
- Security management practices
- Law, investigations, and ethics

### **Standard Practices for Usage of PCs and Laptops**

The following are the accepted usage practices for desktop and laptop users:

1. Users are responsible for the security of their desktops and should take adequate measures to restrict physical and logical access to their desktops.
2. The hardware/software will have to be configured securely as per the guidelines of the bank. Secure configuration shall mean enabling auto anti virus updates, enabling firewalls (where the operating system allows the same), enforcing passwords, disabling macros by default, patch management (software upgrades) or any other such configuration standards that shall be decided by the competent authority from time to time.
3. The users should not change any hardware configuration, settings in the operating system or any applications installed on their desktops. If users require any change in hardware (e.g. attaching a CD-ROM drive or an increase of system memory) or software settings, they should contact respective EDPs. Any change in hardware/software settings, desired by the user, will be vetted by the competent authority.
4. Users should not install any software or applications, on their desktop, that is not authorised or not essential to bank's business. If the users require additional software, they should be installed only after getting it vetted by the competent authority.
5. Users should not connect modems to their machines unless and otherwise approved by the appropriate authority. Accessing external networks, including internet, using modems, exposes the entire network to several risks.
6. The passwords selected should be of a minimum eight characters with a combination of alphabets and digits. The passwords should be changed at periodic intervals at least once every month.
7. Protection measures.

To prevent the risk of unauthorised access, users should adopt the following measures:

- a. Log out of all applications or turn off the desktop, if leaving the desktop unattended for an extended period.
- b. To prevent unauthorised access while desktop is unattended for short durations, enable the screen saver with password protection.
- c. In the case of core banking users, care should be taken not to leave the terminals in the middle of a transaction.
- d. Disable sharing of folders in desktop with other users over the network.

## **PASSWORD MANAGEMENT POLICY**

### **1. Password Usage**

Employees (Users) are responsible for all activities originating from their computer accounts. As a first level security measure, access is allowed to any information system only after authentication through valid passwords at both the operating system level and application level. Users should, therefore, protect the confidentiality of their accounts through good password management and should not allow anyone else to operate their accounts.

## 2. Password Construction

Users should choose passwords that are easy to remember but difficult to guess. Some of the guidelines for password constructions are:

- Own name, short form of own name, own initials, names of family, friends, co-workers, company or popular characters should not be used.
- Personal information like date-of-birth, address, telephone numbers, etc., should not be used.
- Common words found in English dictionary should not be used.  
Word or number patterns like aaabbb, qwerty, zyxwvuts, 123321, etc., should not be used.
- Any of the above words preceded or followed by a digit (e.g. secret1, lsecret) should not be used.
- Strong passwords would have a minimum length of eight characters and can be constructed through a mix of numerals (1, 2, 3, etc.), special characters (!, @, #, \$, etc.) and capital letters (A, S, C, etc.).
- One way to create complex, but easy to remember passwords, is to take a known word or phrase and convert it using numerals, special characters, and capital letters.

## 3. Password Protection

- a. Users should not share their passwords with anyone including colleagues and IT staff. Users should also not ask others (including customers and colleagues) for their passwords. All passwords are to be treated as sensitive, confidential information. If the password needs to be shared under unavoidable circumstances, care should be taken to change it at the next log in by the owner of the password.
- b. Users should ensure that nobody is watching when they are entering password into the system. Users should also not watch when others are entering passwords in their system.
- c. User should not keep a written copy (in paper or electronic form) of their password in an easily locatable place. If the password needs to be written down, ensure that these are stored securely and are masked or scrambled (e.g. by changing one or more characters of the password).
- d. Users should change their password regularly. While some applications will enforce password change and complexity on users automatically, it may not be feasible to enforce it for all accounts and for all applications. Users must change their passwords under any of the following circumstances:
  - At least once in thirty days
  - As enforced by system (applications and operating system)
  - If password has been shared with someone else
  - As soon as possible, after a password has been compromised or after you suspect that a password has been compromised.
- e. Users who have been authorised to use the smart cards or private keys should safeguard them carefully as compromising the same could have wide ramifications.

### 27.11 INTERNET AND WORLD WIDE WEB - INFLUENCES ON BANKING

The twentieth century has been the century of the advent of Internet, e-mail and e-commerce. **Internet** is **the inter-connection** between several computers of different types belonging to various networks **all over the** globe. It is a network of networks. Internet gives the computer machine powers that are

mind-boggling. To send (or receive) data within a matter of seconds to someone beyond the country was unthinkable before the advent of the internet. The internet is making a major impact on the information technology industry. The internet has more than a million computers attached to it.

The internet application that is drawing the most attention is the World Wide Web (WWW). WWW is a series of servers that are interconnected through hypertext. Hypertext is a method of presenting information in which certain text is highlighted that, when selected, displays more information on the particular topic. These highlighted items are called *hyperlinks* and allow the users to navigate from one document to another that may be located on different servers. The user can use the browsing software such as Internet Explorer, Mosaic or Netscape Navigator to navigate the web. A *browser* is a software that helps the users to navigate the WWW. The web is a graphic medium with most web pages having some amount of images. The term *home page* commonly refers to the index page of any organisations or source of information. The home page has links that take the user to further levels of information within the same topic or other home pages.

E-mail is the most used feature of internet. It is the sending of messages through the internet as mail on a definite address. Many sites on the internet provide free e-mail facility.

E-commerce means Electronics Commerce, i.e. buying and selling on the Web. It is a way of enabling business over the net. Product and services can be offered through sites on the internet. Banks and other financial institutions are working on various methods, protocols, and standards to enable such transactions over the Web. The transactions are mostly done through credit cards and, therefore, security as well as secrecy is very important for a trustworthy electronic commerce solution over the Web.

Banks in India are not far behind the use of modern technology and many leading banks are having their own home page, which provides details of the banks, their branches, and the services that they render. Each branch of a bank has a separate internet address and an e-mail address through which it communicates with other participants on the net. Banks-in India are now also venturing into e-commerce, slowly but steadily.

With the advent of internet, computer, and the World Wide Web, a modern bank is now expected to be a 'The Convenience Bank'. It is now expected to have a working schedule of 365 days a year and 24 hours a day. As against the traditional five and a half days a week banking, it is now a seven days a week concept adopted by the modern banks. The modern bank network incorporates major metros and cities aiming to tie-up all industrial and business centres in a network on-line and 'Round the Clock'. This is designed not just to meet conventional banking needs, but also offers a broad spectrum of investment options and an assurance of high returns. This philosophy is based on the belief that a customer should spend less time on banking procedures and more time on his personal and official work.

A modern bank with interconnected branches offers to the customer the convenience of being a customer of the entire bank rather than one branch, since all branches are connected via satellite. This enables an immediate transfer of funds. It also offers the convenience of 'Home-Banking', wherein a customer calls the bank and Mr Convenience will come to his home/office to open his account (facilities are normally intra-city only). The system offers the facility of banking 'Round the Clock' with the automated teller machine (ATM) card. It also offers safety: safe deposit lockers are available in various sizes to suit a customer's requirement at most branches. The customer has the facility of banking seven days a week with Sunday banking and the convenience of personalised customer service including the convenience of telephone banking: Dial 'n' bank. The concept of internet banking is also fast picking up in India thanks to immense computerisation and technology innovation.

## **27.12 LET US SUM UP**

A computer is an electronic information-processing device that receives inputs, processes them with the help of set of instructions called programme and, gives the desired results called the output.

Computerised accounting is the performing of the various accounting functions on a computer.

A computerised accounting system has several advantages over the traditional manual accounting system such as speed, accuracy, low cost, etc.

Various accounting software are available in the market which can perform variety of functions.

Banks are on the move to fully computerised environment with centralised database. Core banking solutions are used for the same.

## **27.13 KEYWORDS**

**Data:** Data mean any facts, observations, assumptions or occurrences. In accounts they mean accounting entries to be passed in books of account to prepare financial statement.

**Software:** A computer is run on the basis of a set of instructions called the software programme developed by a computer professional called the programmer.

**Computerised Accounting:** Computerised accounting means maintaining books of account and preparing financial statement using a computer.

**Internet:** Internet is the inter-connection between several computers of different types belonging to various networks all over the globe.

**World Wide Web (WWW):** WWW is a series of servers that are interconnected through hypertext. Hypertext is a method of presenting information in which certain text is highlighted that, when selected, displays more information on the particular topic. These highlighted items are called hyperlinks and allow the users to navigate from one document to another that may be located on different servers.

## **27.14 TERMINAL QUESTIONS**

What is meant by computerised accounting and what are its advantages?

State the features of computerised accounting.

Name a few computerised accounting software available in the market and briefly explain their functions.

4. What are the disadvantages of computerised accounting?
5. What are the major differences between a manual and a computerised accounting?
6. What are the scope and experiences in banking of computerisation?
7. Write a short note on internet, Word Wide Web and modern banking.
8. Write a short note on core banking solution.
9. Write a short note on information security.
10. State whether the following statements are True or False:
  - (a) Computerised accounting is a high speed, accurate and error free accounting.
  - (b) Data stored inside a computer and its processing are easily visible.
  - (c) Computerised accounting software may be single or multiple user type software.
  - (d) Computer includes in its meaning computer peripherals also.
  - (e) Ready-made and tailor-made, both the types of computerised accounting software are available in the market.

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11. Fill in the blanks:

- (a) \_\_\_\_\_ means accounting performed by a computer.
- (b) The set of instructions written by a programmer for a computer is called \_\_\_\_\_ or a
- (c) Regular \_\_\_\_\_ of data is required to guard against loss of data.
- (d) \_\_\_\_\_ destroy computer data.

**27.15 ANSWERS TO TERMINAL QUESTIONS**

- 10. (a) True (b) False (c) True (d) False (e) True.
- 11. (a) Computerised accounting; (b) computer programme, software programme; (c) back up; (d) Computer viruses.

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