

ACCOUNTING FOR MANAGERS

MBA (Tourism & Travel Management)

SECOND YEAR, PAPER – V

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M.B.A (TTM) : ACCOUNTING FOR MANAGERS

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FOREWORD

Since its establishment in 1976, Acharya Nagarjuna University has been forging ahead in the path of progress and dynamism, offering a variety of courses and research contributions. I am extremely happy that by gaining 'A+' grade from the NAAC in the year 2024, Acharya Nagarjuna University is offering educational opportunities at the UG, PG levels apart from research degrees to students from over 221 affiliated colleges spread over the two districts of Guntur and Prakasam.

The University has also started the Centre for Distance Education in 2003-04 with the aim of taking higher education to the doorstep of all the sectors of the society. The centre will be a great help to those who cannot join in colleges, those who cannot afford the exorbitant fees as regular students, and even to housewives desirous of pursuing higher studies. Acharya Nagarjuna University has started offering B.Sc., B.A., B.B.A., and B.Com courses at the Degree level and M.A., M.Com., M.Sc., M.B.A., and L.L.M., courses at the PG level from the academic year 2003-2004 onwards.

To facilitate easier understanding by students studying through the distance mode, these self-instruction materials have been prepared by eminent and experienced teachers. The lessons have been drafted with great care and expertise in the stipulated time by these teachers. Constructive ideas and scholarly suggestions are welcome from students and teachers involved respectively. Such ideas will be incorporated for the greater efficacy of this distance mode of education. For clarification of doubts and feedback, weekly classes and contact classes will be arranged at the UG and PG levels respectively.

It is my aim that students getting higher education through the Centre for Distance Education should improve their qualification, have better employment opportunities and in turn be part of country's progress. It is my fond desire that in the years to come, the Centre for Distance Education will go from strength to strength in the form of new courses and by catering to larger number of people. My congratulations to all the Directors, Academic Coordinators, Editors and Lesson-writers of the Centre who have helped in these endeavors.

Prof. K. Gangadhara Rao

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205TT26: ACCOUNTING FOR MANAGERS

Objectives-

- a. To acquaint oneself with the fundamental principles of accounting.
- b. To be able to apply accounting techniques in the field of Tourism and Hospitality.
- c. To enable oneself to analyze and interpret financial statements.

Unit – I

FINANCIAL ACCOUNTING: Concepts and Conventions – Double Entry System – Preparation of Journal, Ledger and Trial Balance, cash books – Preparation of Final Accounts: Trading, Profit and Loss Account and Balance Sheet (Theory & Problems).

Learning Outcome:

- Learn the fundamental concepts of accounting and preparation of Final Accounts.

Unit – II

ACCOUNTS OF NON-PROFIT ORGANIZATIONS: Income and Expenditure account – Receipts and payments account: Travel Agency Accounting and Hotel Accounting - Users and uses of accounting information – Mechanized system of accounting – Role of Accountants in modern organizations. (Theory & Problems).

Learning Outcome:

- Gain knowledge of non-profit organization's income and expenditure, receipt, and payment accounts.

Unit – III

FINANCIAL STATEMENT ANALYSIS AND INTERPRETATION: Meaning– Types of Analysis- Objectives– Importance – Tools of Analysis, Working capital, Ratio, Cash flow & Funds Flow Analysis. (Theory only)

Learning Outcome:

- Aware of the importance of financial statements and Types of analysis and their need.

Unit – IV

MARGINAL COSTING: Concept – Cost Volume Profit Relationship – Break-Even Analysis – Application of Marginal Costing Techniques. (Theory and Problems).

Learning Outcome:

- Understand the marginal costing techniques and their use.

Unit – V

COST ACCOUNTING: Concept – Distinction between costing and cost accounting – Elements of Cost – Types of Costs –Preparation of Cost Sheet – Cost concepts for decision making: Pricing decisions, Make or Buy Decisions & Product Decisions. (Theory and Problems).

Learning Outcome:

- Knows the types of costs and is able to prepare the cost sheet.

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Unit-1 Financial Accounting

Lesson 1: Introduction of Financial Accounting

Objective

After studying this lesson, you should be able to know:

the meaning & definition of Financial accounting,

Accounting Cycle, Objectives of accounting and book-keeping,

Users of accounting, and systems of accounting.

Structure

1.1 Introduction

1.2 Meaning of financial accounting

1.3 Accounting Cycle

1.4 Objectives of accounting

1.5 Objectives of book-keeping

1.6 Users of accounting

1.7 Advantages of accounting

1.8 Limitations of accounting

1.9 Systems of accounting

1.10 Key words

1.11 Self-Assessment Questions

1.12 Further readings

1.1 Introduction

Accounting is aptly called the language of business. This designation is applied to accounting because it is the method of communicating business information. The basic function of any language is to serve as a means of communication. Accounting duly serves this function. The task of learning accounting is essentially the same as the task of learning a new language. But the acceleration of

change in business organization has contributed to increase the complexities in this language. Like other languages, it is undergoing continuous change in an attempt to discover better means of communications. To enable the accounting language to convey the same meaning to all stakeholders, it should be made standard. To make it a standard language certain accounting principles, concepts and standards have been developed over a period of time.

Book Keeping and Accounting

According to Prof. G. A. Lee the accounting system has two stages. The First stage is called 'Book-Keeping' and the second stage is 'Accounting'.

Book-keeping: Book-keeping involves the chronological recording of financial transactions in a set of books in a systematic manner.

Accounting: Accounting is concerned with the maintenance of accounts giving stress to the design of the system of records, the preparation of reports based on the recorded data and the interpretation of the reports.

1.2 Meaning of financial accounting

Thus, book-keeping is an art of recording the business transactions in the books of original entry and the ledgers. Accountancy begins where Book-keeping ends. 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. 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. The work of an accountant is to analyse, interpret and review the accounts and draw conclusions with a view to guide the management in chalking out the future policy of the business.

Definitions of Accounting

Smith and Ashburne: *"Accounting is a means of measuring and reporting the results of economic activities."*

R.N.Anthony: *"Accounting system is a means of collecting, summarising, analyzing and reporting in monetary terms, the information about the business."*

American Institute of Certified Public Accountants (AICPA): *"Accounting is the art of recording, classifying and summarizing, 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”.

American Accounting Principles Board: *“Accounting is a service society. Its function is to provide quantitative information, primarily financial in nature, about economic entities that is useful in making economic decision, in making reasoned choices among alternative courses of action”.*

This is a very relevant definition in a present context of business units facing the situation of selecting the best among the various alternatives available. The special feature of this definition is that it has designated accounting as a service activity.

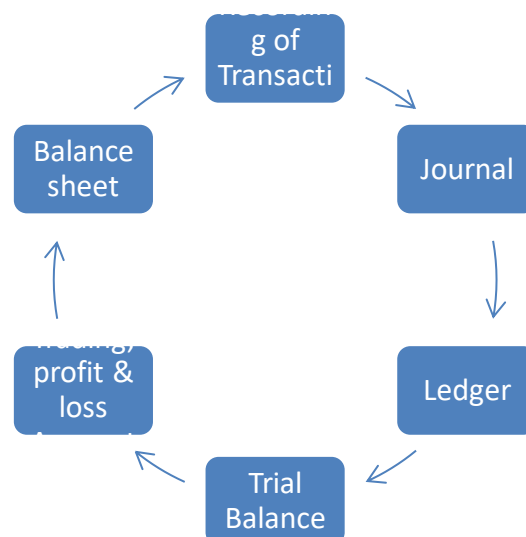
Accounting - the Language of Business:

Accounting is the analysis and interpretation of book-keeping records. It includes not only maintenance of accounting records but also the preparation of financial and economic information which involves the measurement of transactions and other events pertaining to a business.

Thus, accounting is an art of identifying, recording, summarizing and interpreting business transactions of financial nature. Hence accounting is the language of business.

1.3 Accounting Cycle

The steps or phases of accounting cycle can be developed as under:



1.4 Objectives of Accounting

The following are the main objectives of accounting.

To maintain records of business: One of the important objectives of accounting is the systematic maintenance of all monetary aspects of business transactions. This is known as book-keeping.

To calculate Profit or Loss: The profit earned or the loss suffered during a specific period (generally a year) can be calculated easily from the accounting books.

To ascertain financial position: By preparing the financial statements (i.e., profit and loss account and balance sheet), the financial position of the business can be found out. From these statements it is possible to know the resources (assets) owned by the firm. These statements also provide information about the obligations (liabilities) of business. Thus accounting aims at depicting the true and fair financial position of a concern.

To communicate financial information: Accounting is called language of business. It aims at communicating financial information to various interested parties (viz., managers, investors, creditors, government etc.)

1.5 Objectives of book-keeping

Primary Objectives:

To know profit and loss

To know financial position

To have a systematic record

Sub Objectives:

To know creditors

To know debtors

To know capital invested

To understand cash and stock

Ancillary objectives

To review the progress

To prevent errors and frauds

To keep a check on property

To provide valuable information for decision making.

1.6 Users of accounting

Different categories of users need different kinds of information for making decisions. The users of accounting can be divided in two broad groups.

1. Internal Users

Managers: These are the persons who manage the business, i.e., management at the top, middle and lower levels. Their requirements of information are different because they make different types of decisions.

Accounting reports are important to managers for evaluating the results of their decisions. In addition to external financial statements, managers need detailed internal reports either branch, division or department or product-wise. Accounting reports for managers are prepared much more frequently than external reports.

Accounting information also helps the managers in appraising the performance of subordinates. As such Accounting is termed as "the eyes and ears of management."

2. External Users:

a. Investors: Those who are interested in buying the shares of a company are naturally interested in the financial statements to know how safe the investment already made is and how safe the proposed investment will be.

b. Creditors: Lenders are interested to know whether their loan, principal and interest, will be paid when due. Suppliers and other creditors are also interested to know the ability of the firm to pay their dues in time.

c. Workers: In our country, workers are entitled to payment of bonus which depends on the size of profit earned. Hence, they would like to be satisfied that the bonus being paid to them is correct. This knowledge also helps them in conducting negotiations for wages.

d. Customers: They are also concerned with the stability and profitability of the enterprise. They may be interested in knowing the financial strength of the company to take further decisions relating to purchase of goods.

e. Government: Governments all over the world are using financial statements for compiling statistics concerning business which, in turn, helps in compiling national accounts. The financial statements are useful for tax authorities for calculating taxes.

f. Public: The public at large is interested in the functioning of the enterprise because it may make a substantial contribution to the local economy in many ways including the number of people employed and their patronage to local suppliers.

g. Researchers: The financial statements, being a mirror of business conditions is of great interest to scholars undertaking research in accounting theory as well as business affairs and practices.

1.7 Advantages of accounting

The role of accounting has changed from that of a mere record keeping during the 1st decade of 20th century to the present stage, when it is accepted as information system and decision making activity. The following are the advantages of accounting.

Provides for systematic records: Since all the financial transactions are recorded in the books, one need not rely on memory. Any information required is readily available from these records.

Facilitates the preparation of financial statements: Profit and loss account and balance sheet can be easily prepared with the help of the information in the records. This enables the trader to know the net result of business operations (i.e. profit/loss) during the accounting period and the financial position of the business at the end of the accounting period.

Provides control over assets: Book-keeping provides information regarding cash in hand, cash at bank, stock of goods, accounts receivables from various parties and the amounts invested in various other assets. As the trader knows the values of the assets, he will have control over them.

Provides the required information: Interested parties such as owners, lenders, creditors etc., get necessary information at frequent intervals.

Comparative study: One can compare the present performance of the organisation with that of its past. This enables the managers to draw useful conclusions and make proper decisions.

Less scope for fraud or theft: It is difficult to conceal fraud or theft etc., because of the balancing of the books of accounts periodically. As the work is divided among many persons, there will be check and counter check.

Tax matters: Properly maintained book-keeping records will help in the settlement of all tax matters with the tax authorities.

Ascertaining value of business: The accounting records will help in ascertaining the correct value of the business. This helps in the event of sale or purchase of a business.

Documentary evidence: Accounting records can also be used as an evidence in the court to substantiate the claim of the business. These records are based on documentary proof. Every entry is supported by authentic vouchers. As such, Courts accept these records as evidence.

Helpful to management: Accounting is useful to the management in various ways. It enables the management to assess the achievement of its performance. The weaknesses of the business can be identified and corrective measures can be applied to remove them with the help of accounting.

1.8 Limitations of Accounting

The following are the limitations of accounting

Does not record all events: Only the transactions of a financial character will be recorded under book-keeping. So it does not reveal a complete picture about the quality of human resources, locational advantage, business contacts etc.

Does not reflect current values: The data available under book-keeping is historical in nature. So they do not reflect current values. For instance, we record the value of stock at cost price or market price, whichever is less. In case of, building, machinery etc., we adopt historical cost as the basis. In fact, the current values of buildings, plant and machinery may be much more than what is recorded in the balance sheet.

Estimates based on Personal Judgment: The estimates used for determining the values of various items may not be correct. For example, debtors are estimated in terms of collectability, inventories are based on marketability, and fixed assets are based on useful working life. These estimates are based on personal judgment and hence sometimes may not be correct.

Inadequate information on costs and profits: Book-keeping only provides information about the overall profitability of the business. No information is given about the cost and profitability of different activities of products or divisions.

1.9 Systems of Accounting

The following are the three main systems of accounting.

Cash System of accounting: In this system, accounting entries are made only when cash is received or paid. No entry is made when a payment or receipt is merely due. Government system of accounting is maintained on this system. Generally, non-profit organisations particularly professionals prepare Receipts and Payments Account on this basis.

Mercantile System of Accounting: This is also known as accrual system of accounting. Under this system entries are made on the basis of amounts having become due for payment or receipt. This system attempts to record the financial affects of the transactions, events and circumstances of the firm in the period in which they occur. The objective of this system is to relate the revenue in terms of cost so that reported net income measures a firm's performance during a period instead of merely listing its cash receipts and payments.

Mixed System: This system is the mixed of cash system and mercantile system. Under this system Income are recorded on cash basis and expenses are recorded on accrual basis. The net income is ascertained by matching expenses on accrual basis with incomes on cash basis.

1.10 Key words

Accounting framework: Accounting framework includes generally accepted accounting principles (GAAP) on the basis of which accounting data is processed, analysed, and reported.

Accounting: Accounting is an art of identifying, recording, summarizing and interpreting business transactions of financial nature. Hence accounting is the language of business.

Book-keeping: Book-keeping involves the chronological recording of financial transactions in a set of books in a systematic manner.

Planning: Planning is goal identification and decision-making.

Control: Control is the action that implements the planning decision and evaluates performance.

Feed-back: Feed-back in the form of performance reports which are used by managers to improving their decision-making.

1.11 Self-Assessment Questions

What is Book-keeping? Distinguish between Book-keeping and Accounting?

Explain advantages and limitations of accounting?

Explain how accounting is useful to various users?

What are the systems of accounting?

1.12 Further Readings

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Lesson Writer

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Lesson 2: Basic Accounting Concepts, Double Entry System

Objective

After studying this lesson, you should be able to know:

- the classification of accounting principles (accounting concepts and conventions),
- what is double entry system, its advantages and limitations
- what is an accounting equation, what is an account and how to record transactions by following debit credit rules

Structure

2.1 Introduction

2.2 Classification of Accounting Principles

2.3 Double Entry System

2.4 Advantages of Double Entry System

2.5 Limitations of Double Entry system

2.6 Accounting Equation

2.7 Accounting Transactions

2.8 Classification of Accounts

2.9 Debit and Credit Rules

2.10 Key words

2.11 Self-Assessment Questions

2.12 Further readings

2.1 Introduction

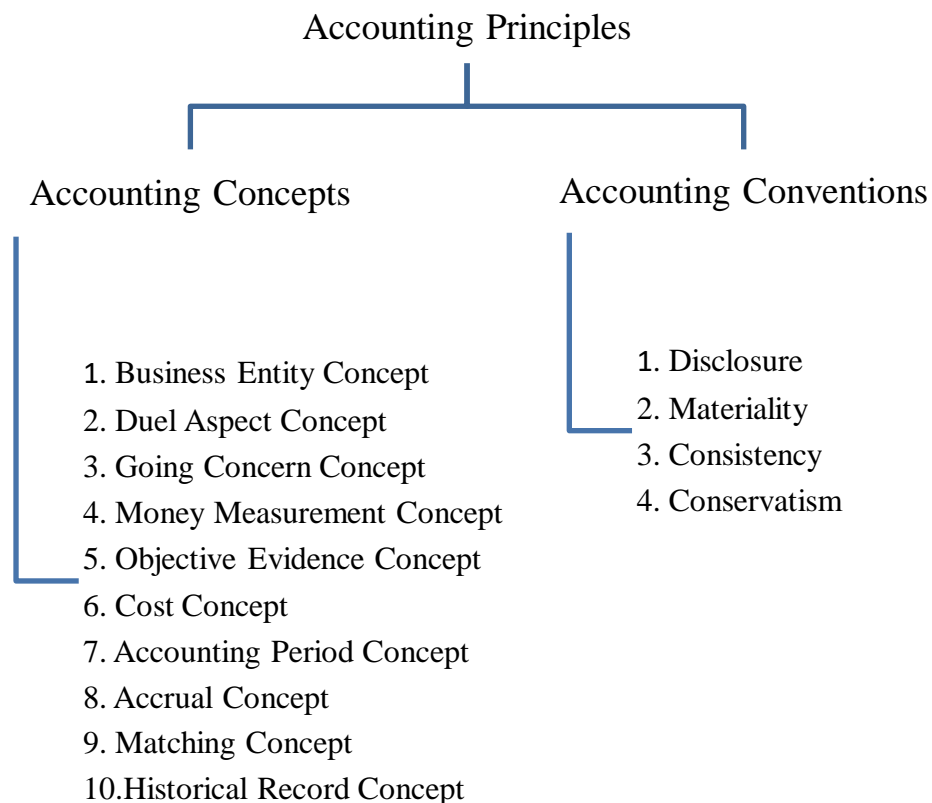
Accounting has been evolved over a period of several centuries. During this period, certain rules and conventions have been adopted. They serve as guidelines in identifying the events and transactions. They help in measuring, recording and summarizing the business transactions. The concepts are also useful in reporting the accounting results to the interested parties. These rules and conventions are termed as Generally Accepted Accounting Principles. Thus, the accounting concepts are the

fundamental ideas or basic assumptions underlying the theory and practice of financial accounting. They are the broad working rules for all accounting activities developed and accepted by the accounting profession.

2.2 Classification of Accounting Principles

Accounting principles can be broadly classified into two categories.

- A. Accounting Concept
- B. Accounting Conventions



Accounting Concepts

The ten concepts are: 1. Business Entity Concept 2. Going Concern Concept 3. Money Measurement Concept (Monetary Expression) 4. Cost Concept 5. Accounting Period Concept 6. Dual Aspect Concept 7. Matching Concept 8. Realisation Concept 9. Balance Sheet Equation Concept 10. Verifiable and Objective Evidence Concept.

1. Business Entity Concept:

Under this concept, it is assumed that the business unit is distinct and completely separate from its owners (including employees, officers, creditors and others who are associated with it). For accounting purposes, the business enterprise

exists in its own right. As a result, transactions should be recorded in the books of accounts with such persons and individuals together with the owners. It becomes necessary that accounting records of the business must be maintained in a manner which is free from any bias to any particular section of people related to it.

As such, accounts are maintained for business entity as distinguished from all categories of persons related to it. For recording transactions the pertinent question which arises is: How far such transactions affect the business itself, and not: How do they affect the people associated with it.

When the owner introduces cash to the business as capital, it simply means an inflow of cash to the business which is recorded in business books. But actually, to an owner, it is a shift from the personal cash to the business cash.

However, some practical difficulties may arise by defining a business entity for which accounts are kept, specially in case of sole proprietorship and partnership business, and that of the people who own it. That is, a sole trader is personally liable for his business debts and may be required to use non-business (Personal) assets in order to pay-off the business debts. On the contrary, business assets of the Sole-Proprietor may be utilised for paying-off the personal obligation of the Proprietor, i.e., in the eye of law, business and non-business (Personal) assets and liabilities are treated alike in the case of a Sole-Proprietor.

Same principle is, however, applicable in case of a partnership firm, i.e., after paying-off the business liabilities, if any surplus remains, the same can also be used in order to pay-off the personal obligation of the partners. In case of a company, however, the entity of the business is legally separated from that of the owners. The application of the concept becomes relatively easier in this case.

Practical difficulties arise by identifying business affairs of a group of companies under common management. Thus, if eight companies, under the same management, utilise common services like accommodation, office and administration service etc., the problem of allocation of such common services among all the eight companies would not be an easy task. Besides, at its initial stage, accounting had the basic stewardship function.

Consequently, the manager of the firm was supplied with the necessary funds by the owners and the lenders. It was the duty of the management to utilise such funds

properly and the reports of the financial accounting were designed to project how best the management discharged this stewardship function. The origin of this concept can be traced from this stewardship function.

Thus, accounting to this concept, suggested that the affairs of the business must not be mixed up with the private affairs of owners or other persons associated with it. As such, this concept helps to give a true picture of the financial conditions of a business enterprise.

2. Going Concern Concept:

This concept assumes that the business entity has a continuity of life or the future of a business enterprise is to be prolonged or extended indefinitely, i.e., continuance of the activity and not dissolution/liquidation is the normal business process. In other words, a business is viewed as a mechanism for continuous additions of value to the resources or utility used by such unit. The success or failure of the business is measured by the difference between the value of its output (sale/or services) and the cost of such output.

It has been stated above that the business entity has a continuity of life. Since there is some degree of continuity of every entity and no one can accurately predict the future of an entity due to the possibility of cessation of its life, it is more convenient to treat the same as a going concern. But this does not mean that the business entity has a perpetual life.

This concept recognises the value of the assets and liabilities of the business enterprises on the basis of their productivity and not on the basis of their current realizable value on the assumption that they are to be disposed of. Since they are held in a 'going concern' for earning revenue and not for resale, there is no such utility to show the expected realisable values in the Balance Sheet. Besides, under this concept, prepaid expenses are recognised as assets since the benefits will be utilised in future when the business entity will continue. Going Concern Concept helps other business undertakings to make contracts with specific business units for business dealings in future. It also stresses more emphasis on the earning capacity in judging the overall performance of the business.

3. Money Measurement Concept (Monetary Expression):

In accounting, all transactions are expressed and interpreted in terms of money. The benefit of this expression is that it provides a common denominator or unit of measurement by means of which heterogeneous facts about a business can be expressed in terms of quantities which can either be added or subtracted. Since different transactions occur they are recorded and interpreted in various accounts in monetary terms. So, accounting helps to express heterogeneous economic activities in terms of money.

Actually the basic purpose of using money is to implement an element of uniformity among diversity. Therefore, fixed assets, like Land, Furniture and Fixtures, are expressed in terms of money and not in terms of area (for land) or quantity (Furniture and Fixtures) for recording in accounts properly, like other assets, e.g. Cash in Hand and Cash at Bank (Which are expressed always in monetary terms).

This method suffers from the following limitations:

(a) It does not recognise the changes in the purchasing power of monetary unit.

(b) It fails to keep any record of such matters which cannot be expressed in terms of money—e.g. Human genius, which may be capable of being highly productive, is not considered in accounting as there is no acceptable value in exchange.

That is, in other words, a fact or an event which cannot be expressed in terms of money cannot be recorded in the books of accounts. Yet, for accounting purposes, it is the best means for measuring varied transactions, e.g. goods, service, natural resources etc.

4. Cost Concept:

Accounting is a historical record (on a monetary basis) of the transaction of a business entity. From the historical record of cost, one can ascertain the progress (or otherwise) of the accounting unit with the help of financial statements. According to this concept, an asset is recorded at its cost in the books of accounts, i.e., the price which is paid at the time of acquiring it. When an asset is acquired or purchased, its cost price is the only source by which the basis for all subsequent accounting in relation to the same can be made.

The asset, when it is acquired, is originally recorded at its cost price and gradually reduced by way of depreciation. Amount of depreciation is to be calculated on the basis of its cost prices and the effective life of the asset. The market value of the asset is not to be taken into consideration for the purpose of valuation or depreciation of such asset. This method is closely related to the 'Going Concern Concept' method.

This concept, however, has an advantage. Since the valuation of asset does not depend on the market value which again depends on the subjective views of accountants, accounts are maintained properly, i.e., without any personal bias of the accountants. But this concept also suffers from one limitation.

That is, as the cost concept ignores the effect of excessive inflation in the present economy it becomes irrelevant for the purpose of valuation of assets. In order to overcome this shortcoming, inflation accounting and current values of the assets are advocated. Though there are a number of practical difficulties, Cost Concept Method still serves as a fair and adequate basis for the valuation of assets.

5. Accounting Period Concept:

A business is assumed to continue indefinitely in order to ascertain the state of affairs of the business at different intervals. We are to choose the intervals for ascertaining the financial position and the operational results at each such interval which, in other words, is known as accounting period. Usually, a period of 365 days or 52 weeks is considered as the accounting period. Sometimes half-yearly or quarterly period is also taken into consideration.

Besides, the interested parties (viz. Shareholders, Creditors, Investors etc.) need periodical reports about accounting of business activities at specific intervals of time for understanding the business performances and for making necessary decisions which will be formulated in near future. However, this concept is particularly applicable to: (i) the valuation of assets and liabilities, (ii) costs between expired and unexpired, (iii) analytical description of financial transactions, (iv) the estimation of profits, (v) the presentation of the true and (vi) fair view of the financial position etc.

Besides, this method helps to measure the income generated during the specific accounting period which also helps to distribute the same periodically. The

Accounting Period Concept recognises division and appropriation of accounting records into specific periods. It recognises the measurements of the operating results of each such period. This method also reveals a clear demarcation of accrued or deferred items of incomes and expenses.

The performance of a period is measured by matching cost with revenue. Therefore, total costs and expenses pertaining to the generation of such revenue together with the expenses and cost incurred for the specific accounting period are matched against the revenue for the said period. As such, Accrual System or Mercantile System of accounting is of fundamental importance in accounting.

The segregation of expenditure between capital and revenue arises from this concept. That is, whether a particular item of expenditure will appear in the income/revenue statement (i.e. P & L A/c) or will appear in the Balance Sheet is to be determined by the accountant on the basis of this concept. Because, a capital expenditure may be treated as revenue one if the period is taken for a decade instead of a year. That is why Accounting Period Concept plays a very significant role in accounting.

6. Dual Aspect Concept:

This is, no doubt, the basic concept in accounting. Under this concept, every transaction has got a two-fold aspect—(i) yielding to or receiving of benefit, and (ii) giving of that benefit. For instance, when a firm acquires an asset (receiving of the benefit) it must pay cash (giving of the benefit). Therefore, two accounts are to be passed in the books of accounts, one—for receiving the benefit and the other—for giving the benefit. Thus, there will be a double entry for every transaction—Debit for receiving the benefit and Credit for giving the benefit. So, for each and every debit there must be a corresponding credit, and vice versa. This is the principle of Double Entry System of Accounting which, in other words, known as the ‘Dual Aspect Concept’.

The Accounting Equation, i.e. $\text{Assets} = \text{Equities (or, liabilities + capital)}$ is based on this concept.

Needless to mention that at each and every stage of operation, the assets of any unit must always be equal to its equities (i.e. both internal and external) in terms of money. In short, $\text{Assets} = \text{Equities}$

7. Matching Concept:

This concept recognises that the determination of profit or loss on a particular accounting period is a problem of matching the expired cost allocated to an activity period. In other words, the expenses which are actually incurred during a specific activity period, in order to earn the revenue for the said period, must be matched against the revenue which are realised for that period.

For this purpose, expenses which are specially incurred for earning the revenue of the related period are to be considered. In short, all expenses incurred during the activity period must not be taken. Only relevant cost should be deducted from the revenue of a period for periodic income statement, i.e., the expenses that are related to the accounting period shall be considered for the purpose of matching.

This process of relating costs to revenue is called matching process. It should be remembered that cost of fixed asset is not taken but only the depreciation on such fixed asset related to the accounting period is taken (For the purpose of matching, prepaid expenses are excluded from the total costs but outstanding expenses are added to the total cost for ascertaining the cost related to the period.) Like costs, all revenues earned during the period are not taken, but revenue which are related to the accounting period are considered.

Application of matching concept creates some problems which are:

(a) Some special items of expenses, e.g. preliminary expenses, expenses in connection with the issue of shares and debentures, advertisement expenses etc., cannot be easily identified and matched against revenues of a particular period.

(b) Another problem is that how much of the capital expenditure should be written-off by way of depreciation for a particular period for matching against revenue creates the problems of finding out the expected life of the asset. As such, accurate matching is not possible.

(c) In case of long term contracts, usually, amount is not received in proportion to the work done. As a result, expenditures which are carried forward and not related to the income received may create some problems.

8. Realization Concept:

According to this concept, revenue is considered as earned on the date when it is realised. In other words, revenue realised (either by sale of goods or by rendering

services) during an accounting period should only be taken in the income statement (Profit and Loss Account). Unearned/Unrealised revenue should not be taken into account. The revenue is treated as earned on some specific matters or transactions.

For example, when goods are sold to customers, they are legally liable to pay, i.e., as soon as the ownership of goods passes from the seller to the buyer. In short, when an order is simply received from a customer, it does not mean that the revenue is earned or realised.

On the other hand, when an advanced payment is made by a customer, the same cannot be treated as revenue realised or earned. In case of hire-purchase transactions, however, the title or ownership of the goods is not transferred from the seller to the buyer till the last instalment is paid, As such, the down payments and the instalment received or due should be treated as actual sale, i.e., revenue earned.

9. Balance Sheet Equation Concept:

The Historical Cost Concept needs support of two other concepts for practical purposes, viz. (i) the Money Measurement Concept (already discussed above), (ii) the Balance Sheet Equation Concept. Accounting process, however, conforms to an algebraic equation which, in other words, is involved in two laws of nature, i.e., the law of constancy of matter and the law that every effect originates from a cause.

In relation to the former, it may be deducted that all that has been received by us must be equal to (=) all that has been given to us (In accounts, receipts are classified as debits and giving or sacrifices are classified as credits.) Here, the equation comes : Debit = Credit

(That is, in other words, every debit must have a corresponding equal credit or vice versa.) All receipts (referred to above) may again be classified into : (i) benefits/services received and totally consumed (which are known as expenses), (ii) benefits or services received but not used properly or misused (which are known as losses) and (iii) benefits or services received but kept to be used in future (which are known as assets). Similarly, in the opposite case, all that have been given by others may also be classified into : (i) What has been given to us but-are not to be repaid (which are known as incomes or gains), and (ii) What has been given by the others but has to be repaid at a later date (which are known as liabilities).

Therefore, the above equation may again be rewritten as under:

$$\text{Expenses} + \text{Loss} + \text{Assets} = \text{Income} + \text{Gains} + \text{Liabilities}$$

10. Verifiable and Objective Evidence Concept:

It expresses that accounting data are subject to verification by independent experts, i.e., there must be documentary evidences of transactions which are capable of verification. Otherwise, the same will neither be verifiable nor be realizable or dependable. In other words, accounting data must be free from any bias. Because verifiability and objectivity imply reliability, trustworthiness, dependability — which are very useful for conveying the accounting data and information furnished in periodical accounting reports and statements.

There should always be some documentary evidences in establishing the truth reflected in the said reports or statements. Entries which are recorded in accounting from the transactions and data which are reported in financial statements must be based on objectively— determined evidence. The confidence of users of the financial statement cannot be maintained until there is a close adherence to this principle. Invoices and vouchers for purchases, sales and expenses, physical checking of stock in hand etc. are examples of objective evidence which are capable of verification.

Therefore, it must be said that every entry must be supported by some objective evidence, as far as possible and, as such, it will minimise the possibility of errors and frauds. But, evidence does not always play the most significant role since there are different occasions where significant role is being played by other factors, e.g. personal opinions and judgment, provision for bad debts, valuation of inventories, etc.

Accounting Conventions

Accounting conventions are guidelines used to help companies determine how to record certain business transactions that have not yet been fully addressed by accounting standards. These procedures and principles are not legally binding but are generally accepted by accounting bodies. Basically, they are designed to promote consistency and help accountants overcome practical problems that can arise when preparing financial statements.

Understanding Accounting Conventions

Sometimes, there is not a definitive guideline in the accounting standards that govern a specific situation. In such cases, accounting conventions can be referred to.

Accounting is full of assumptions, concepts, standards, and conventions. Concepts such as relevance, reliability, materiality, and comparability are often supported by accounting conventions that help to standardize the financial reporting process.

In short, accounting conventions serve to fill in the gaps not yet addressed by accounting standards.

1. Convention of Disclosure:

This convention requires that accounting statements should be honestly prepared and all significant information should be disclosed therein. That is, while making accountancy records, care should be taken to disclose all material information. Here the emphasis is only on material information and not on immaterial information.

This convention assumes greater importance in respect of corporate organisations where the management is divorced from ownership. That is why forms of Balance Sheet and Profit and Loss accounts are prescribed in Schedule VI of the Companies Act, 1956; so that significant information may not be left out to be disclosed.

The purpose of this convention is to communicate all material and relevant facts of financial position and the results of operations, which have material interests to proprietor, creditors and investors.

Sometimes, there may be time gap between the preparation of Balance Sheet and its publication and if there are material events — bad debts, destruction of plant or machinery etc., which occurred in the time gap, may also be known to users proprietors, creditors etc.

In short, full disclosure of all relevant facts in accounts is a necessity in order to make accounting record useful. Therefore, full disclosure is a very healthy convention, and is important.

2. Convention of Consistency:

Rules and practices of accounting should be continuously observed and applied. In order to enable the management to draw conclusions about the operation of a company over a number of years, it is essential that the practices and methods of accounting remain unchanged from one period to another. Comparisons are possible only if a consistent policy of accounting is followed.

If there are frequent changes in the treatment of accounts there is little or no scope for reliability. Comparison of accounting period with that in the past is possible only when the convention of consistency is adhered to.

According to Anthony, “the consistency requires that once a company had decided on one method, it will treat all subsequent events of the same character in the same fashion unless it has a sound “reason to do otherwise.”

This convention plays its role particularly when alternative accounting practice is equally acceptable. Moreover, consistency serves to eliminate personal bias. But if a change becomes desirable, the change and its effect should be clearly stated in the financial statements. Accounts should lend themselves easily to comparisons and contrasts.

This convention increases accuracy and comparability of accounting information for prediction or decision making. This convention does not prohibit changes. If there is any change, its effect should be clearly stated in the financial statements.

3. Convention of Conservatism:

“Anticipate no profit and provide for all possible losses” is the essence of this convention. Future is uncertain. Fluctuations and uncertainties are not uncommon. Conservatism refers to the policy of choosing the procedure that leads to understatement as against overstatement of resources and income.

The consequences of an error of understatement are likely to be less serious than that of an error of overstatement. For example, closing stock is valued at cost or market price whichever is lower. This is a convention of caution or playing safe and is adhered to while preparing financial statements. Showing a position better than what

it is, is not permitted. Moreover, it is not proper to show a position substantially worse than what it is.

Following are the examples:

- (a) The value of an asset should not be overestimated.
- (b) The value of a liability should not be underestimated.
- (c) The profit should not be overestimated.
- (d) The loss should not be underestimated.

Such conservatism is generally accepted to present a true and fair value of business in the financial statements.

4. Convention of Materiality:

American Accounting Association defines the term materiality as “An item should be regarded as material if there is reason to believe that knowledge of it would influence the decision of informed investor.” It refers to the relative importance of an item or event. Materiality of an item depends on its amount and its nature.

Theoretically, all items, large or small, should be treated alike. Materiality convention implies that the economic significance of an item will to some extent affect its accounting treatment.

Materiality in its essence is of relative significance. In the sense that some of the unimportant items are either left out or included with other items.

For instance, acquisition of items like fountain pen, stapler, pin cushion, punching machine etc., can be treated as part of assets, when considering their durability and span of life. But, it is not necessary to maintain separate ledgers. Such low cost items can be treated as expense for the period.

Therefore, unimportant items are either left out or merged with other items. The reason for this different treatment lies in the magnitude of their amount. The dividing line between material and immaterial varies according to the company, the circumstances of the transactions and economic significance. It should also be noted that an item considered to be material for one business firm, may be immaterial for another firm.

Similarly, an item of material in a year may not be material in the subsequent years. Similarly, most of the companies publish their financial statements in whole rupees round figures, by ignoring paise.

Omission of paise is immaterial, i.e., insignificant when figures appear in lakhs. In short, all material information should be disclosed that is necessary to make the financial statements clear and understandable.

2.3 Double Entry System

Double entry system is a scientific way of presenting accounts. As such all the business concerns feel it convenient to prepare the accounts under double entry system the taxation authorities also compel the business men to prepare the accounts under double entry system.

Under dual aspect concept the Accountant deals with the two aspects of business transactions i.e., (i) receiving aspect and (ii) giving aspect

‘Receiving aspect’ is known as ‘Debit aspect’ and ‘giving aspect’ is known as ‘Credit aspect’. In double entry book-keeping system these two aspects are recorded facilitating the preparation of Trial Balance and the Final Accounts there from.

Principles of Double Entry System

The systematic way of presenting the accounts is duly under the double entry system. Single entry system is in-fact not a system at all. It is nothing but an incomplete form of double entry.

Every business transaction has, where one account is debited and the other account is credited. If one account receives a benefit, there should be another account to impart the benefit. The principle of double entry is based on the fact that there can be no giving without receiving. The receiving account is debited (i.e., entered on the debit side of the account) and the giving account is credited (i.e., entered on the credit side of the account).

The principle under which both debit and credit aspects are recorded is known as the principle of double entry. According to this principle every debit must necessarily have a corresponding credit and vice-versa.

2.4 Advantages of Double Entry System

The following are the advantages of Double entry system:

1. **Scientific System:** Double entry system records, classifies and summarises business transactions in a systematic manner and, thus, produces useful information for decision-makers. It is more scientific as compared to single entry system of book-keeping.
2. **Full Information:** Full and authentic information can be had about all transactions as the trader maintains the ledger with all types of accounts.
3. **Assessment of Profit and Loss:** The business man / trader will be able to know correctly whether he had earned profit or sustained loss. It facilitates the trader to take such steps so as to increase the efficiency of the firm.
4. **Knowledge of debtors:** The trader will be able to know exactly what amounts are owed by different customers to the firm. If any amount is pending for a long time from any customer, he may stop credit facility to that customer.
5. **Knowledge of creditors:** The trader also knows the exact amounts owed by the firm to others and he will be able to arrange prompt payment to obtain cash discount.
6. **Arithmetical accuracy:** The arithmetical accuracy of the books can be proved by preparing trial balance.
7. **Assessment of Financial position:** The trader will be able to prepare the balance sheet which will help the interested parties to know fully about the financial position of the firm.
8. **Comparison of results:** It facilitates the comparison of current years results with those of previous years.
9. **Maintenance according to Income Tax Rules:** Proper maintenance of books will satisfy the tax authorities and facilitates accurate assessment. In India joint stock companies should maintain accounts under double entry system.
10. **Detection of frauds:** The systematic and scientific recording of business transactions on the basis of this system minimizes the chances of embezzlement and frauds. The frauds or errors can be easily detected by vouching, verification and auditing of accounts.

2.5 Limitation of Double Entry System

The double entry system however may not provide any solution of the following errors.

1.Errors of omission: In case the entire transaction is not recorded in the books of accounts, the mistake cannot be detected by accounting. The Trial Balance will tally inspite of the mistakes.

2.Errors of principle: Double entry is based upon the fact that every debit has its corresponding credit. It will not be able to detect the mistake such as debiting Ram's accounting- instead of Rao's account or Building accounting place of Repairs account.

3.Compensating errors: If Rahim's Account is by mistake debited with Rs.15/- lesser and Mohan's account is also by mistake credited with Rs.15 lesser, the Trial Balance will tally but mistake will remain in accounts.

2.6.Accounting Equation

The entire system of recording business transactions is based on accounting equation. Each transaction has a dual aspect, known as 'duality concept' in accounting. Accordingly each transaction will have two fold effects on the financial position of a business. Initially the resources of the firm are provided by the owner in the form of his capital, which in the language of accounting is called owners' equity. These initial resources are usually in the form of cash. And this cash is the asset of the firm. But according to business entity concept, simultaneously a liability has been created in the form of owner's equity or capital. One is balanced against the other or is equated with the other. This is the first accounting equation which can be put as:

Assets = Capital + Liabilities

Introduction of Creditors' Liability in Accounting Equation:*It has been accepted fact that business does not possess anything of its own.* The business receives funds from proprietors and creditors and retains all of them in the form of various assets. The fact can be presented in terms of accounting equation as under:

Equation

Capital + Liabilities = Assets or **C+L=A**

or

$$\text{Assets} = \text{Liabilities} + \text{Capital} \quad \text{or} \quad A=L+C$$

or

$$\text{Liabilities} = \text{Assets} - \text{Capital} \quad \text{or} \quad L = A - C$$

or

$$\text{Capital} = \text{Assets} - \text{Liabilities} \quad \text{or} \quad C = A - L$$

or

$$\text{Assets} - \text{Liabilities} - \text{Capital} = \text{Zero} \quad \text{or} \quad A - L - C = 0$$

2.7. Accounting Transactions

As explained above, a business transaction means any activity of business involving transfer of money or money's worth like Purchase, sale, receipt or payment of cash, rendering any service for payment etc., form part of business transactions. Transactions may be divided into two types: (i) cash transactions, (ii) credit transactions.

i) Cash transactions: If any property or goods are purchased for cash, it is called cash transaction. For example, purchase of goods from Raj for cash for Rs.1,000. Like wise if any property or goods are sold for cash, it is cash transaction. Any receipt or payment of cash is treated as cash transaction.

Example: Sold goods to Krishna for cash Rs.2,000.

ii) Credit transactions: If any property or goods are purchased on credit, it is called credit transaction. A credit transaction involves future payment.

Example: purchased goods from Pal for Rs.300.

Similarly, when goods or any property is sold on credit, it is credit transaction.

Example: Sold furniture to Ram & Sons for Rs.500.

What is an Account?

An account is a summarised record of all transactions relating to a particular person, a thing, or an item of income or expense. It is vertically divided into two halves and resembles the shape of the English Alphabet 'T' as under:

Dr		Syam Account		Cr			
ate	Particulars	olio	Amount	ate	Particulars	Olio	Amount

The left hand side is called the 'debit side'. It is indicated by 'Dr.' (abbreviation for debit) on the left hand top corner of the account. The right hand side, known as the 'credit side', is indicated by 'Cr.' (abbreviation for credit) on the right hand top corner of the account. The name of the account is written at the top in the centre. The word 'Account' or its abbreviation 'A/c' is added to the name of the account. For example, if the account is related to machinery, it is written as 'Machinery Account, or Machinery A/c.'

2.8 Classification of Accounts

All business transactions are broadly classified into three categories: (i) those relating to persons, (ii) those relating to property (assets), and (iii) those relating to income and expenses. Thus, three classes of accounts are maintained for recording all business transactions. They are:

- (i) Personal Accounts (Krishna A/c, Gopal A/c, HMT Ltd A/c)
- (ii) Real Accounts, (furniture a/c, stock a/c, cash a/c, Machinery a/c) and
- (iii) Nominal Accounts. (Salaries, wages, Interest, rent received, commission)

(i) Personal Accounts:

Accounts which show transactions with persons are called 'Personal Accounts'. A separate account is kept in the name of each person for recording the benefits received from, or given to the person in the course of dealings with him. Examples are: Krishna's Account, Gopal's Account, Kalyan's Loan Account etc.

Personal Accounts also include accounts in the names of firms, companies or institutions such as Malini & Sons Account, Nagarjuna Finance Limited Account, Andhra Bank Account etc.

(ii) Real Accounts:

Accounts relating to properties or assets are known as 'Real Accounts'. Every business needs assets such as machinery, furniture etc., for running its activities. A separate account is maintained for each asset owned by the business. All transactions relating to a particular asset are recorded in the concerned asset account. Cash account, Furniture account, Machinery account, Building account etc., are some examples of real accounts.

(iii) Nominal Accounts:

Accounts relating to expenses, losses, incomes and gains are known as 'Nominal Accounts'. A separate account is maintained for each item of expense, loss, income or gain. Wages account, Salaries account, Commission received account, and Interest account are some examples of nominal accounts.

2.9 Debit and Credit Rules

Before recording a transaction it is necessary to find out which of the accounts is to be debited and which is to be credited. The following Three different rules have been laid down for the three classes of accounts.

i) Personal Accounts: The Account of the person receiving benefit (receiver) is to be debited and the account of the person giving the benefit (giver) is to be credited.

Personal Accounts: Debit - the receiver Credit - the giver

ii) Real Accounts: When an asset is coming into the business, the account of that asset is to be debited. When an asset is going out of the business, the account of that asset is to be credited.

**Real Accounts: Debit - what comes in
Credit - what goes out**

iii) Nominal Accounts: When an expense is incurred or loss suffered, the account representing the expense or the loss is to be debited. When any income is earned or gain made, the account representing the income or the gain is to be credited.

**Nominal Accounts: Debit - all expenses and losses
Credit - all incomes and gains**

Ex.1: Paid Cash to Rajiv Rs.5,000

In this case the two accounts affected are Rajiv account and Cash account. Rajiv account is a personal account and Cash account is a real account. Rajiv has received the (Cash Rs.5,000) from the business and, therefore, his account has to be debited as per the first part of the rule for personal accounts **debit the receiver**. As cash has Cash account will be credited according to the second part of the rule for real accounts **credit what goes out**.

Ex.2: Received Cash from Sunil Rs.1,000

In this case Cash account and Sunil's account are the two accounts affected. Cash account is a real account and Sunil's account is a personal account. As cash has come in, Cash Account will have to be debited according to the first part of the rule for real accounts **debit what comes in**. Sunil has given the benefit (Cash Rs.1,000) to the business and therefore, his account will have to be credited as per the second part of the rule for personal accounts **credit the giver**.

Illustration.1: Analyse the following transaction and find out the two accounts involved. How do you treat them and why?

2002

Jan 1 Ganesh started his business with cash

Jan 3 Borrowed from Rao

Jan 5 Purchased Machinery

Jan 5 Purchased furniture from Raj on credit.

Jan 8 Purchased goods for cash.

Jan 12 Purchased goods from Vijay on credit

Jan 15 Sold goods for cash

Jan 18 Sold goods to Gupta on credit

Jan 20 Received cash from Gupta

Jan 22 Paid cash to Vijay

Jan 23 Deposited into Bank

Jan 25 Withdrew cash for personal use.

Jan 30 Withdrew from bank for office use

Jan 31 Paid salary

Jan 31 Paid rent by cheque

Solution: Before answering the question you have to be familiar with the following.

1. Ascertain what accounts are involved in a transaction
2. Ascertain what is the nature of the accounts involved

3. Ascertain which rule of debit and credit is applicable for each of the accounts involved.

4. Ascertain which account is to be debited and which is to be credited.

5. Record the date of transaction in the 'Date column'.

Date	Accounts involved	Nature of Accounts	How affected	Whether to be Debited or Credited
2002 Jan 1	Cash a/c Capital a/c	Real Personal	Cash is coming in Ganesh is the giver	Debit Credit
Jan 3	Cash a/c Loan from Raoa/c	Real Personal	Cash is coming in Rao is the giver	Debit Credit
Jan 5	Machinery a/c Cash a/c	Real Real	Machinery is coming in Cash is going out	Debit Credit
Jan 5	Furniture a/c Raj's a/c	Real Personal	Furniture is coming in Raj is the giver	Debit Credit
Jan 8	Purchases a/c Cash a/c	Nominal Real	Purchase is an expense Cash is going out	Debit Credit
Jan 12	Purchases a/c Vijay's a/c	Nominal Personal	Purchase is an expense Vijay is the giver	Debit Credit
Jan 15	Cash a/c Sales a/c	Real Nominal	Cash is coming in Sales is a revenue	Debit Credit
Jan 18	Gupta a/c Sales a/c	Personal Nominal	Gupta is the receiver Sales is the revenue	Debit Credit
Jan 20	Cash a/c Gupta a/c	Real Personal	Cash is coming in Gupta is the giver	Debit Credit
Jan 22	Vijay a/c Cash a/c	Personal Real	Vijay is the receiver Cash is going out	Debit Credit
Jan 23	Bank a/c Cash a/c	Personal Real	Bank is the receiver Cash is going out	Debit Credit
Jan 25	Drawing a/c Cash a/c	Personal Real	Ganesh is the receiver Cash is going out	Debit Credit
Jan 30	Cash a/c Bank a/c	Real Personal	Cash is coming in Bank is the giver	Debit Credit
Jan 31	Salary a/c	Nominal	Salary is an expense	Debit

	Cash a/c	Real	Cash is going out	Credit
Jan 31	Rent a/c	Nominal	Rent is an expense	Debit
	Bank a/c	Personal	Bank is the giver	Credit

2.10 Key Words

1. **Assets:** The valuable things owned by the business are known as assets. These are the properties owned by the business.

a. **Fixed assets:** These assets are acquired for long-term use in the business. They are not meant for resale. Land and Buildings, plant and machinery, vehicles and furniture etc., are some of the examples of fixed assets.

b. **Liquid assets:** These assets also known as circulating, fluctuating or current assets. These assets can be converted into cash as early as possible. Current assets are cash, bank balance, debtors, stock, investments.

c. **Fictitious assets:** Fictitious assets are those assets, which do not have physical form. They do not have any real value. The example of these assets are loss on issue of shares, preliminary expenses etc.

d. **Intangible assets:** Intangible assets are those having no physical existence. Goodwill, Patents, Trademarks are the examples.

e. **Wasting Assets:** Wasting assets are those assets which are consumed through being worked or used. Mines are the examples of wasting assets.

2. **Capital:** It is that part of wealth which is used for further production and thus capital consists of all current assets and fixed assets. Cash in hand, cash at bank, buildings, plant and furniture etc., are the capital of the business. Capital is classified fixed capital and working capital.

a. **Fixed Capital:** The amount invested in acquiring fixed assets is called fixed capital. Plant and machinery, vehicles, furniture and buildings etc., are some of the examples for fixed capital.

b. **Working Capital:** The part of capital available with the firm for day-to-day working of the business is known as working capital. Working capital can also expressed as under:

Working Capital = Current assets - Current liabilities

3. **Liabilities:** Liabilities are the obligations or debts payable by the enterprise in future in the form of money or goods. Liabilities can be classified as fixed, current and contingent liabilities.

- a. **Fixed liabilities:** These liabilities are payable generally, after a long period. Capital, loans, debentures, mortgage etc., are its examples.
- b. **Current Liabilities:** Liabilities payable within a year are termed as current liabilities. The value of these liabilities goes on changing. Creditors, bills payable and outstanding expenses etc., are current liabilities.
- c. **Contingent Liabilities:** These are not the real liabilities. Future events can only decide whether it is really a liability or not. Due to their uncertainty, these liabilities are termed as contingent (doubtful) liabilities.
4. **Transaction:** Any sale or purchase of goods or services is called the transaction. Transactions are of three types.
5. **Account:** A summarized statement of transactions relating to a particular person, thing, expense or income.
6. **Proprietor:** Proprietor is the person, who owns the business. He invests capital in the business with the object of earning profits. Proprietor is an individual in case of sole trading, partner in case of partnership firms and shareholder in case of companies.
7. **Drawings:** Cash or goods withdrawn by the proprietor from business for his personal or household use is termed as drawings.
8. **Solvent:** One who is able to pay one's debts when they become due?
9. **Insolvent:** The inability of a person to pay his debts when they become due. The condition in which the liabilities exceed assets.
10. **Debtors:** Debtor means a person who owes money to the trader.
11. **Creditor:** A creditor is a person to whom something is owed by the business. He is a person to whom some amount is payable for loan taken, services obtained or goods bought.
12. **Equity:** A claim which can be enforced against the assets of a firm is called equity. The equities of a firm are of two types.
 - a. Owner's equity or capital and
 - b. Creditor's equity.
13. **Goods:** All those things which a firm purchases for resale are called goods.
14. **Purchases:** Purchases means purchase of goods, unless it is stated otherwise. It also represents the goods purchased.

15. **Sales:** Sales means sale of goods, unless it is stated otherwise. It also represents the goods sold.
16. **Revenue:** Revenue in accounting means the amount realised or receivable from the sale of goods.
17. **Expenses:** Payments for the purchase of goods or services are known as expenses. It is the cost of use of things or services for the purpose of generating revenue.
18. **Discount:** There are two types of discounts :
 - a. **Cash discount:** An allowance made to encourage prompt payment or before the expiration of the period allowed for credit.
 - b. **Trade discount:** A deduction from the gross or catalogue price allowed to traders who buys them for resale.
19. **Voucher:** Accounting transactions must be supported by documents. These documentary proofs in support of the transactions are termed as vouchers.
20. **Reserve:** An amount set aside out of profits or other surplus and designed to meet contingencies.
21. **Losses:** It is to be distinguished from expense. An expense is supposed to bring some benefit to the firm, whereas a loss will not. Loss by fire or theft is an example.
22. **Accounting period:** A period of 12 months for which the accounts are usually kept, may be calendar year (January 1st to December 31st) or financial year (April 1st to March 31st).
23. **Gross profit:** The difference between the selling price and the cost price of goods, before the deduction of any expenses incurred in selling goods.
24. **Net profit:** The profit that remains after deducting all the expenses from the gross profit. It represents the real gain of the business.
25. **Profit and loss account:** It is a statement prepared by the businessman for the ascertainment of profit or loss during the accounting period.
26. **Balance sheet:** It is a statement of assets and liabilities prepared with a view to measure the exact financial position of a business on a particular date, generally the last date of the accounting period.

2.11 Self Assessment Questions

1. What are the concepts and conventions of accounting? Explain?

2. What is Double Entry system? Discuss its advantages and limitations?
3. Explain the accounting process?
4. How do you classify accounts? Explain the rules of debit and credit?
5. “For every debit there is a credit”. Illustrate your answer?

2.12 Further Readings

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Lesson Writer

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Lesson 3:**Journal, Ledger and Trial balance****Objective**

After studying this lesson, you should be able to know:

- Journal, ledger and trial balance and how to prepare
- Difference between journal and ledger
- Posting ledger and balancing ledger and suspense account

Structure**3.1 Introduction - Journal (Books of Prime entry)**

- 3.1.1 Functions of Journal
- 3.1.2 Advantages of Journal
- 3.1.3 Sub-division of Journals
- 3.1.4 Compound Journal, Opening Entry, Goods Account
- 3.1.5 Important Considerations for Recording Transactions in Accounts

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3.3 Introduction - Trial Balance

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3.4 Key words**3.5 Self-Assessment Questions****3.6 Further Readings****3.1 Introduction - Journal (Books of Prime entry)**

A journal is often referred to as Book of Prime Entry or the book of original entry. In this book transactions are recorded in their chronological order. The process

of recording transaction in a journal is called as 'Journalisation'. The entry made in this book is called a 'journal entry'.

3.1.1 Functions of Journal

- i) Analytical Function: Each transaction is analysed into the debit aspect and the credit aspect. This helps to find out how each transaction will financially affect the business.
- (ii) Recording Function: Accountancy is a business language which helps to record the transactions based on the principles. Each such recording entry is supported by a narration, which explain, the transaction in simple language. Narration means to narrate – i.e. to explain. It starts with the word – Being ...
- (iii) Historical Function: It contains a chronological record of the transactions for future references.

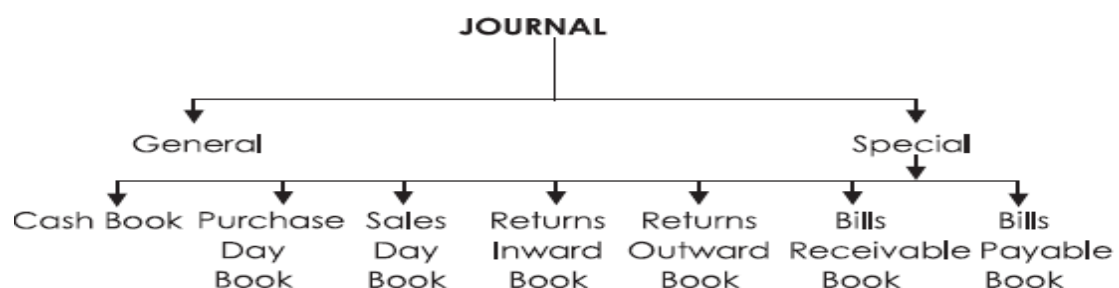
3.1.2 Advantages of Journal

The following are the advantages of a journal:

- (i) Chronological Record: It records transactions as and when it happens. So it is possible to get detailed day-to-day information.
- (ii) Minimizing the possibility of errors: The nature of transaction and its effect on the financial position of the business is determined by recording and analyzing into debit and credit aspect.
- (iii) Narration: It means explanation of the recorded transactions.
- (iv) Helps to finalize the accounts: Journal is the basis of ledger posting and the ultimate Trial Balance. The Trial balance helps to prepare the final accounts.

3.1.3 Sub-division of Journal

Journal is divided into two types -(i) General Journal and (ii) Special Journal.



(i) General Journal:

1. This is a book of chronological record of transactions.

2. This book records those transactions which occur so infrequently that they do not warrant the setting up of special journals.

Examples of such entries: (i) opening entries (ii) closing entries (iii) rectification of errors.

The specimen of a Journal book is shown below:

Date	Particulars	Voucher number	Ledger folio	Debit amount	Credit amount
Dd/mm/ Yy	Name of A/c to be debited Name of A/c to be credited (narration describing the transaction)		Reference of page number of the A/c in ledger		

Explanation of Journal

- (i) Date Column: This column contains the date of the transaction.
- (ii) Particulars: This column contains which account is to be debited and which account is to be credited. It is also supported by an explanation called narration.
- (iii) Voucher Number: This Column contains the number written on the voucher of the respective transaction.
- (iv) Ledger Folio (L.F.): This column contains the folio (i.e. page no.) of the ledger, where the transaction is posted.
- (v) Dr. Amount and Cr. Amount: This column shows the financial value of each transaction. The amount is recorded in both the columns, since for every debit there is a corresponding and equal credit.

All the columns are filled in at the time of entering the transaction except for the column of ledger folio. This is filled at the time of posting of the transaction to 'ledger'. This process is explained later in this chapter.

Illustration 1:

As per voucher no 31 of Roy Brothers, on 10.05.2013 goods of Rs: 50000 were purchased. Cash was paid immediately. Ledger Folios of the Purchase A/c and Cash A/c are 5 and 17 respectively. Journal entry of the above transaction is given below:

In the books of Roy Brothers Journal Entries

Date	Particulars	Voucher no	Ledger Folio	Amount	Amount
10.05.2013	Purchase a/c Dr To Cash a/c (Being goods purchased for cash)	31	5 17	50,000	50,000

3.1.4 Compound Journal, Opening Entry and Goods Account

A) Compound Journal

If for a single transaction, only one account is debited and one account is credited, it is known as simple journal. If the transaction requires more than one account which is to be debited or more than one account is to be credited, it is known as Compound Journal.

The following illustration will make it clear :

Illustration 2:

(i) Started business with Cash Rs:50,000; Plant Rs:24,000; Stock Rs:4,000

(ii) Sold Goods for Cash Rs:8,000 and to Ms. Agarwal for Rs:10,000

(iii) Ms. Agarwal settled her account less discount Rs:600

Solution:

In the books of

Journal

Date	Particulars	L.F	Debit	Credit
1	Cash a/c Dr Plant a/c Dr Stock a/c Dr To Capital a/c (Being business started with cash, plant and stock as capital)		50000 24000 4000	78,000
2	Cash a/c Dr MsAgarwal's a/c Dr To Sales a/c (Being goods sold for cash Rs:8,000 and on credit Rs:10,000)		8000 10000	18,000
3	Cash a/c Dr Discount allowed a/c Dr To Ms.Agarwal's a/c (Being cash received as final settlement and discount allowed)		9400 600	10,000

B) Opening Entry

A journal entry, by means of which the balances of various assets, liabilities and capital appearing in the balance sheet of previous accounting period are brought forward in the books of the current accounting period, is known as 'Opening Entry'. While passing an opening entry, all assets accounts (individually) are debited and all liabilities accounts (individually) are credited and the Net worth (i.e. excess of assets over liabilities) is credited to Proprietor's Capital Account (in case of a proprietary concern) or Partners' Capital Accounts (in case of a partnership concern).

Illustration 3: On 1st April 2006, Singh's assets and liabilities stood as follows:

Assets: Cash Rs. 6,000; Bank Rs. 17,000; Stock Rs. 3,000; Bills Receivable Rs. 7,000; Debtors Rs. 3,000; Building Rs. 70,000; Investments Rs. 30,000; Furniture Rs. 4,000

Liabilities: Bills payable Rs. 5000, Creditors Rs. 9000, Ram's Loan Rs. 13000

- Pass an opening Journal entry?

Solution:

Journal

Date	Particulars	L.F	Debit	Credit
2006	Cash a/c Dr		6000	
April 1	Bank a/c Dr		17000	
	Stock a/c Dr		3000	
	Bills receivable a/c Dr		7000	
	Debtors a/c Dr		3000	
	Buildings a/c Dr		70000	
	Investment a/c Dr		30000	
	Furniture a/c Dr		4000	
	To Bills payable a/c			5000
	To Creditors a/c			9000
	To Ram's loan a/c			13000
	To Singh's capital			113000
	(Being the opening balances of assets and liabilities)			

C) Goods Account

In accounting the meaning of goods is restricted to only those articles which are purchased by a businessman with an intention to sell it. For example, if a businessman

purchased typewriter, it will be goods for him if he deals in typewriter but if he deals in other business say clothes then typewriter will be asset for him and clothes will be goods.

Sub-Division of Goods Accounts

The goods account is not opened in accounting books. In place of goods account the following accounts are opened in the books of accounts.

Purchases Account: This is opened for goods purchased on cash and credit.

Sales Account: This account is opened for the goods sold on cash and credit.

Purchase Returns Account or Return Outward Account: This account is opened for the goods returned to suppliers.

Sales Returns Account or Return Inward Account: This account is opened for the goods returned by customers.

3.1.5 Important Considerations for Recording Transactions in Account

1. Trade Discount:

Trade discount is usually allowed on the list price of the goods. It may be allowed by producer to wholesaler and by wholesaler to retailer for purchase of goods in large quantity. It is not recorded in the books of account and entry is made only with the net amount paid or received. For example: purchased goods of list price Rs. 8,000 at 15% trade discount from X. In this case the following entry will be passed:

Purchases a/c	Dr	6800
To X a/c		6800

(Being goods purchased at 15% trade discount less list price)

2. Cash Discount:

Cash discount is a concession allowed by seller to buyer to encourage him to make early cash payment. It is a Nominal Account. The person who allows discount, treat it as an expense and debits in his books and it is called discount allowed and the person who receives discount, treat it as an income and it is called discount received and credited in his books of account as "Discount Received Account."

For example: X owes Rs. 6,000 to Y. He pays Rs. 5,950 in full settlement against the amount due.

In the books of X, the journal entry will be:

Y a/c	Dr	6000
-------	----	------

To Cash a/c	5950
To Discount received a/c	50
(Being cash paid and discount received)	

In the books of Y, the journal entry will be:

Cash a/c	Dr	5950
Discount allowed a/c	Dr	50
To X a/c		6000
(Being cash received and discount allowed)		

3. Goods distributed as free samples:

Sometimes business distribute goods as free samples for the purpose of advertisement. In this case, Advertisement Account is debited and Purchases Account is credited.

For example: goods costing Rs. 8000 were distributed as free sample. To record this transaction following entry will be passed:

Advertisement a/c	Dr	8000
To Purchases a/c		8000
(Being goods issued as free sample)		

4. Bad Debts:

Sometimes a debtor of business fails to pay the amount due from him. Reasons may be many e.g. he may become insolvent or he may die. Such irrecoverable amount is a loss to the business.

Entry:	Bad Debts a/c	Dr
	To Debtor's a/c	

5. Bad Debts Recovered:

When any amount becomes irrecoverable from any customer or debtor his account is closed in the books. If in future any amount is recovered from him then his personal account will not be credited because that does not exist in the books.

Entry:	Cash a/c	Dr
	To Bad debts Recovered a/c	

6. Loss of Goods by Fire/Accident/theft:

A business may suffer loss of goods on account of fire, theft or accident. It is a business loss and a nominal account. It also reduces the goods at cost price, and increases the loss/expenses of the business. The entry will be passed as:

Loss by fire/Accident/theft a/c	Dr.	(for loss)
Insurance Company a/c	Dr	(for insurance claim admitted)
To Purchases a/c		

7. Income Tax Paid:

Income Tax paid should be debited to Capital Account or Drawings Account and credited to Cash Account in case of sole proprietorship and partnership firms. The reason behind this is that income tax is a personal expense for the sole trader and partners because it is paid on income of proprietor. The entry will be as follows :

Capital a/c /Drawing a/c	Dr.
To Cash Account	

8. The events affecting business but they do not involve any transfer/exchange of money for the time being, they would not be recorded in the financial books.

9. Transactions relating to the Proprietor:

According to business entity concept separate accounts must be maintained in the ledger for recording transactions between the proprietor and his business. These two accounts are Capital account and Drawings account. The amount brought by the owner into the business is treated as his capital and credited to his Capital account. Similarly, when he withdraws cash from the business for his personal use, Drawings account will be debited with the amount withdrawn by him. Drawings account is also debited when the proprietor takes goods from business for domestic use.

Illustration 4: Journalise the following transactions with narration.

2018		Rs
April 1	Received cash from Swati	40,000
April 5	Purchased Goods from Saritha	15,000
April 8	Sold goods to Lalitha	25,000
April 10	Lalitha returned goods	500
April 15	Bought furniture from Kavitha	10,000

Solution:

Date	Particulars	L.F no	Debit Rs.	Credit Rs.
2018 April 1	Cash A/c Dr To Swati (Being cash received)		40,000	40,000
April 5	Purchases A/c Dr To Saritha (Being credit purchases)		15,000	15,000
April 8	Lalitha A/c Dr To Sales A/c (Being Credit sales)		25,000	25,000
April 10	Sales returns A/c Dr To Lalitha A/c (Being goods returned by Lalitha)		500	500
April 15	Furniture A/c Dr To Kavitha (Being furniture purchased on credit)		10,000	10,000

Illu.5 Journalize the following transactions 2018

	Rs.
Jan 1 Ramki started business	10,000
Jan 2 Purchased goods from Bhagat	8,000
Jan 3 Sale of goods to charanfor cash	7,000
Jan 4 sample goods distributed	1,000
Jan 25 cash used for personal purpose	1,000

Solution:

Date	Particulars	L.Fno	Debit Rs.	Credit Rs.
2018 Jan 1	Cash A/c Dr To Capital A/c (Being capital brought)		10,000	10,000
Jan 2	Purchases A/c Dr To Bhagat (Being credit purchases)		8,000	8,000
Jan 3	Cash A/c Dr To Sales A/c (Being cash sales)		7,000	7,000
Jan 4	Advertisement A/c Dr To Purchases A/c (Being goods distributed for promotion purpose)		1,000	1,000
Jan 25	Drawings A/c Dr To Cash A/c (Being cash used for personal purpose)		1,000	1,000

3.2 Ledger

As stated above all transactions, irrespective of their nature, are recorded in the Journal in a chronological order. After a certain period, if you want to know whether a particular account is showing a debit or credit balance it becomes very difficult. So, the ledger is designed to accommodate the various accounts maintained by a trader. It contains the final and permanent record of all the transactions in a duly classified form. A ledger is a book which contains various accounts. The process of transferring the entries from the Journal into the ledger is called posting.

3.2.1 Features of ledger

A ledger may be defined as a summary statement of all the transactions relating to a person, asset, expense or income, which have taken place during a given period of time. The up-to-date state of any account can be easily known by referring to the ledger. Thus:

- i) Ledger contains all the accounts – personal, real and nominal;
- ii) It is a permanent record of business transaction;
- iii) It provides a means of easy reference; and
- iv) It provides final balance of the accounts.

Ledger is the principal book of accounts because it helps us in achieving the objectives of accounting. It gives answers to the following pertinent questions.

1. How much amount is due from others to the business?
2. How much amount is owed to others?
3. What are the total sales to an individual customer and what are the total purchases from an individual supplier?

Each account in the ledger is divided into two equal parts by a vertical line. The left hand side of the account is known as debit side and the right hand side is called credit side. Each of the two sides further divided into four columns for 'Date, Particulars, Folio and amount.

Sub-division of ledger:

As the ledger contains all the transactions of the trader the size of the ledger may become very big. As such for the sake of convenience the ledger may be sub-divided into personal ledger and impersonal ledger. Big trading concerns may further divide personal ledger into creditors ledger and debtors ledger. The personal ledger contains only personal accounts. Since separate ledgers are not maintained for each person,

there is no needed to add 'A/c' for personal accounts. Finally the total of sundry creditor and sundry debtors will be shown in the trial balance.

The impersonal ledger, on the other hand, contains all real and nominal accounts

Creditor's ledger: All accounts are credits will be found in this book. It can also be called 'suppliers ledger'.

Debtor's ledger: All accounts are debtors will be found in this book. It can also be called 'customers ledger'.

General Ledger: it contains all accounts other than debtors and creditors. Accounts of owner's expenses, incomes, capital etc., will be found in this book. It may also be called 'impersonal ledger'.

Private ledger: Some times, the capital account and drawings account of the proprietor may be separately maintained in another ledger called private ledger.

3.2.2 Differences between Journal and Ledger

Journal	Ledger
1. Journal is the book of first or original entry	1. The ledger is the book of second entry
2. Transactions in the journal will be recorded immediately.	2. Depending upon his conventions the trader records the transactions in the ledger.
3. Journal will be maintained on chronological order i.e., recording of transaction on date basis	3. Posting the journal entries is only the main aim here
4. The transactions relating to an individual or institution may appear in different pages of journal.	4. All transactions relating to a specific account will be posted on the same page or pages
5. Journal may not reveal whether one customer is a debtor or creditor	5. Ledger, however, will reveal whether one person is a debtor or creditor to the business
6. When once the entries are posted into ledger, the journal losses its importance.	6. It will never loose it's importance as it is the main book of accounts which is relied upon permanently.

7. In the preparation of final accounts journal is not useful.	7. In the preparation of trail balance and final accounts ledger is must.
8. The tax authorities generally may not depend on journal.	8. In the finalization of income tax to be paid, the tax authorities depend on ledger.

3.2.3 Posting of Ledger and Balancing Ledger Accounts

A) Posting of Ledger

Posting is the process of entering in the ledger the entries given in the journal. Posting in to the ledger is done periodically, may be weekly or fortnightly as per the conventions of the business. The following are the guidelines for posting transactions in to ledger.

1. After the completion of journal entry only posting is to be made in to the ledger.
2. For each item in the journal a separate account is to be opened. Further, for each new item a new account is to be opened.
3. Depending upon the number of transactions space for each account is to be determined in the ledger.
4. For each account there must be a name. This should be written on the top of the account in the middle. At the end of name the word 'Account' is to be added. For example, Ramaiah Account, Salaries Account etc.,
5. The debit side of the journal entry is posted to the debit side of the account by starting with 'To'.
6. The Credit side of the journal entry is posted on the credit side of the account by starting with 'By'.

For example: Salaries paid on January 31st will appear in journal in the following way

Date	Particulars	L.Fno	Debit Rs.	Credit Rs.
Jan 31	Salaries A/c Dr To Cash A/c (Being salaries paid to staff)		10,000	10,000

Ledger: The above journal entry will be posted into ledger in the following way

Dr				Cr			
Salaries A/c							
Date	Particulars	Lf	Amount Rs.	Date	Particulars	Lf	Amount Rs.
Jan 31	To Cash A/c		10,000				

Dr				Cr			
				Cash A/c			
Date	Particulars	Lf	Amount Rs.	Date	Particulars	Lf	Amount Rs.
				Jan 31	By Salaries A/c		10,000

B) Balancing of Ledger accounts

Various accounts in the ledger are balanced with a view to prepare the final accounts. The procedure of balancing accounts is as follows:

1. Take the total of the two sides of the accounts concern and enter the highest balance on both the sides.
2. Ascertain the differences between the total of two sides.
3. Enter the differences in the amount column of the side showing less total; writing against the difference in the particulars column. "To Balance c/d" (c/d means Carried down) on the debit side of the account and "By Balance c/d" on the credit side of the account. In this way, the total off two sides will agree.
4. The balance is brought forward at the beginning of the next period. If "To Balance c/d" is written on the debit side before balancing, it is brought forward on the credit side and "By Balance b/d" (b/d means brought down) is written against the balance in the particulars column and vice-versa.
5. Sometimes the totals of the debit side and the credit side of an account are equal. It implies that the account has nil balance. In such a situation the account is said to have closed having no closing and operating balance.
6. An account is said to have a debit balance if the total of its debit side is more than the total of its credit side. On the other hand, an account is considered to have a credit balance if the total of its credit side is more than the total of its debit side.

7. Illustration 6: Journalise the following transactions and post them into ledger in the books of Sankar

Date	Particulars	L.Fno	Debit Rs.	Credit Rs.
2018 Mar. 1	Cash A/c Dr To Sales A/c (Being goods sold for cash)		2,600	2,600
Mar. 2	Purchases A/c Dr To Cash (Being goods purchased for cash)		200	200
Mar. 3	Purchases A/c Dr To Kumar A/c (Being goods purchased form Kumar)		3,000	3,000
Mar. 4	Manikyam A/c Dr To Sales A/c (Being goods sold for cash)		4,000	4,000
Mar. 5	Cash A/c Dr To Manikyam A/c (Being cash received from Manikyam)		2,500	2,500
Mar. 6	Kumar A/c Dr To Cash A/c (Being cash paid to Kumar)		2,000	2,000
Mar. 7	Furniture A/c Dr To Cash A/c (Being Furniture purchased for cash)		300	300

2018	Rs.
Mar. 1 Goods sold for cash	2,600
Mar. 2 Goods Purchased for cash	200
Mar. 3 Purchase of goods on credit from Kumar	3,000
Mar. 4 Sale of goods to Manikyam on credit	4,000
Mar. 5 Cash received from Manikyam	2,500
Mar. 6 Cash paid to Kumar	2,000
Mar. 7 Furniture purchased for cash	300

Solution: Journal Entries

Ledger

Dr Cash A/c

Cr

Date	Particulars	Lf	Amount Rs.	Date	Particulars	Lf	Amount Rs.
2018 Mar.1	To Sales A/c		2,600	2018 Mar. 2	By Purchases A/c		200

Mar.5	To Manikyam		2,500	Mar. 6	By Kumar A/c		2,000
				Mar. 7	By Furniture A/c		300
				Mar.31	By balance c/d		2,600
			<u>5,100</u>				<u>5,100</u>

Dr

Purchases A/c

Cr

Date	Particulars	Lf	Amount Rs.	Date	Particulars	Lf	Amount Rs.
2018				2018			
Mar.2	To Cash A/c		200	Mar.31	By balance c/d		3,200
Mar.3	To Kumar		<u>3,000</u>				
			3,200				<u>3,200</u>

Dr

Sales A/c

Cr

Date	Particulars	Lf	Amount Rs.	Date	Particulars	Lf	Amount Rs.
2018				2018			
Mar.31	To Balance c/d		6,600	Mar. 1	By Cash A/c		2,600
				Mar. 4	By Manikyam A/c		4,000
			<u>6,600</u>	Mar.31			<u>6,600</u>
					By balance b/d		6,600

Dr

Manikyam A/c

Cr

Date	Particulars	Lf	Amount Rs.	Date	Particulars	Lf	Amount Rs.
2018				2018			
Mar.4	To Sales A/c		4,000	Mar. 5	By Cash A/c		2,500
				Mar.31	By balance c/d		1,500
			<u>4,000</u>				<u>4,000</u>
	To Balance b/d		1,500				

Dr				Kumar A/c				Cr			
Date	Particulars	Lf	Amount Rs.	Date	Particulars	Lf	Amount Rs.	Date	Particulars	Lf	Amount Rs.
2018				2018							
Mar.6	To Cash A/c		2,000	Mar. 3	By Purchases		3,000				
Mar.31	To Balance c/d		1,000		A/c						
			<u>3,000</u>	Mar.31			<u>3,000</u>				
					By balance b/d		1,000				

Dr				Furniture A/c				Cr			
Date	Particulars	Lf	Amount Rs.	Date	Particulars	Lf	Amount Rs.	Date	Particulars	Lf	Amount Rs.
2018				2018							
Mar.7	To Cash A/c		300	Mar.31	By balance c/d		300				
			<u>300</u>				<u>300</u>				
	To Balance b/d		300								

3.3 Trial Balance

After the transactions are posted to various ledger accounts (either from journal or from subsidiary books) and they are balanced, the next stage is to draw up the list of all balances. We know that some ledger accounts will show ‘debit balance’ (debit side greater than the credit side), while the other will reflect a ‘credit balance’ (credit side being higher than debit side). All account balances are listed to ensure that the total of all debit balances equals the total of all credit balances. Why does this happen? Remember the dual aspect concept studied earlier in this study note? According to this concept, every debit has equal corresponding credit. This list of balances is called Trial Balance.

Definition:

1. According to the ‘Dictionary for Accountants’ by Eric L. Kohler, Trial Balance is defined as “a list or abstract of the 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”.

2. According to Rolland, “The final list of balances, totaled and combined, is called Trial Balance”.

As this is merely a listing of balances, this will always be as on a particular date. Further it must be understood that Trial Balance does not form part of books of account, but it is a report prepared by extracting balances of accounts maintained in the books of accounts.

When this list with tallied debit and credit balances is drawn up, the arithmetical accuracy of basic entries, ledger posting and balancing is ensured. However, it does not guarantee that the entries are correct in all respect.

Although it is supposed to be prepared at the end of accounting period, computerized accounting packages are capable of providing instant Trial Balance reports even on daily basis, as the transactions are recorded almost on line.

3.3.1 Features of a Trial Balance

1. It is a list of debit and credit balances which are extracted from various ledger accounts.
2. It is a statement of debit and credit balances.
3. The purpose is to establish arithmetical accuracy of the transactions recorded in the Books of Accounts.
4. It does not prove arithmetical accuracy which can be determined by audit.
5. It is not an account. It is only a statement of account.
6. It is not a part of the final statements.
7. It is usually prepared at the end of the accounting year but it can also be prepared anytime as and when required like weekly, monthly, quarterly or half-yearly.
8. It is a link between books of accounts and the Profit and Loss Account and Balance Sheet.

3.3.2 Preparation of Trial Balance

1. It may be prepared on a loose sheet of paper.
2. The ledger accounts are balanced at first. They will have either “debit-balance” or “credit balance” or “nil-balance”.

3. The accounts having debit-balance is written on the debit column and those having credit-balance are written on the credit column.

The sum total of both the balances must be equal, for “Every debit has its corresponding and equal credit”.

3.3.3 Purpose of a Trial Balance

It serves the following purposes:

1. To check the arithmetical accuracy of the recorded transactions.
2. To ascertain the balance of any Ledger Account.
3. To serve as an evidence of fact that the double entry has been completed in respect of every transaction.
4. To facilitate the preparation of final accounts promptly.

Is Trial Balance indispensable?

It is a mere statement prepared by the accountants for their own convenience and if it agrees, it is assumed that at least arithmetical accuracy has been done although there may be a lot of errors.

Trial Balance is not a process of accounts, but its preparation helps us to finalise the accounts. Since it is prepared on a particular date, as at / as on is stated.

3.3.4 Forms of a Trial Balance & Methods of preparation of Trial balance

A) Forms of a Trial Balance

A trial balance may be prepared in two forms, they are –

1. Journal Form
2. Ledger Form

The trial balance must tally irrespective of the form of a trial balance.

1. Journal Form: This form of a Trial Balance will have a format of Journal Folio. It will have a column for serial number, name of the account, ledger folio, debit amount and credit amount columns in this journal form.

The ledger folio will show the page number on which such account appears in the ledger.

Trial balance as on...

Sl.no	Name of the Account	L.F	Debit	Credit

2. Ledger Form: This form of a trial balance has two sides i.e. debit side and credit side. In fact, the ledger form of a trial balance is prepared in the form of an account. Each side of the trial balance will have particulars (name of the account) column, folio column and the amount column.

Trial balance as on

Name of the account	L.F	Amount	Name of the account	L.F	Amount

B) Methods of Preparation of Trial Balance

1. Total Method or Gross Trial Balance.
2. Balance Method or Net Trial Balance.
3. Compound Method.

These are explained as under:-

1. Total Method or Gross Trial Balance: Under this method, two sides of the accounts are totaled. The total of the debit side is called the “debit total” and the total of the credit side is called the “credit total”. Debit totals are entered on the debit side of the Trial Balance while the credit total is entered on the credit side of the Trial Balance.

If a particular account has total in one side, it will be entered either in the debit column or the credit column as the case may be.

Advantages:

- (a) It facilitates arithmetical accuracy of the accounts.
- (b) Extraction of ledger balances is not required at the time of preparation of Trial Balance.

Disadvantages: Preparation of final accounts is not possible.

2. Balance Method or Net Trial Balance: Under this method, all the ledger accounts are balanced. The balances may be either “debit-balance” or “credit balance”.

Advantages:

- (a) It helps in the easy preparation of final accounts.
- (b) It saves time and labour in constructing a Trial Balance.

Disadvantages:

- (a) Errors may remain undisclosed irrespective of the agreement of Trial Balance.

3. **Compound Method:** Under this method, totals of both the sides of the accounts are written in theseparate columns. Along with this, the balances are also written in the separate columns. Debitbalances are written in the debit column and credit balances are written in the credit column ofthe Trial Balance.

Advantages: It offers the advantage of both the methods.

Disadvantages: Lengthy process and more time consuming in the preparation of a TB.

3.3.5 Advantages of Trial Balance

1. It forms the basis for preparation of Financial Statements i.e. Profit and Loss Account and BalanceSheet.
2. A tallied trial balance ensures the arithmetical accuracy of the entries made. If the trial balancedoes not tally, the errors can be found out, rectified and then financial statements can be prepared.
3. It acts as a quick reference. One can easily find out the balance in any ledger account withoutactually referring to the ledger.
4. If the listing of ledger accounts is systematically done in the trial balance, one can do quick timeanalysis. Hence, listing is usually done in the sequence of Asset accounts, Liability accounts, Capitalaccounts, Owner's equity accounts, Income or gain accounts and Expenses or losses accounts inthat order.

3.3.6 Trial Balance and Errors

We have seen that a tallied Trial Balance (T. B.) ensures arithmetical accuracy. What does it mean? It means entries have been passed as per double entry, that every debit has equal corresponding credit. If the T.B. does not tally, there could be errors in transaction entry. Such errors are called 'Errors affecting trial balance'. These can be:

- (a) Only one effect of a transaction is posted to ledger e.g. for rent paid in cash, if entry is posted tocash but not to rent account, then obviously the T.B. will not match.
- (b) Posting of wrong amount in one of the ledger accounts e.g. rent of Rs: 1,000 is paid in cash. Theposting to Rent A/c is done for Rs: 1,000, Cash A/c is recorded at Rs: 10,000. The T.B. will not tally.
- (c) If one of the posting is entered twice, T.B. will not match.
- (d) If the balance in a ledger is not correctly taken to the T.B. e.g. the Rent A/c has a balance of Rs: 1,000,but while taking it to the T.B. it is taken as Rs: 100, the T.B. will through up difference.

- (e) Taking balance to the wrong side in the T.B. e.g. a debit balance of Rs: 5,00,000 in Debtors A/c mistaken as credit balance in the TB, then there will be a mismatch.
- (f) Wrong carry forwards also will result in the T.B. mismatch.

No financial statements can be prepared if the T.B. does not tally. Hence, the errors will have to be rectified before proceeding further. The accountants therefore make an effort to minimize errors by being more careful and by doing periodical scrutiny of the entries.

Errors which are not disclosed by a Trial Balance

The following errors cannot be detected by a Trial Balance:

- (a) Errors of Omission: When the transaction is not at all recorded in the books of accounts, i.e. neither in the debit side nor in the credit side of the account – trial balance will agree.
- (b) Errors of Commission: Where there is any variation in figure/amount, e.g. instead of Rs:800 either Rs: 80 or Rs: 8,000 is recorded, in both sides of ledger accounts – trial balance will agree.
- (c) Errors of Principal: When accounts are prepared not according to double entry principle e.g. Purchase of a Plant wrongly debited to Purchase Account – Trial balance will agree.
- (d) Errors of Missposting: When wrong posting is made to a wrong account instead of a correct one although amount is correctly recorded, e.g., sold goods to B but wrongly debited to D's Account – trial balance will agree.
- (e) Compensating Errors: When one error is compensated by another error e.g. Discount Allowed Rs:100 not debited to Discount Allowed Account, whereas interest received Rs:100, but not credit to Interest Account – trial balance will agree.

3.3.7 Suspense Account

If there is any difference in Trial balance due to the errors stated above, the difference will be transferred temporarily to an account known as 'Suspense Account'. Suspense Account is an account to which the difference in the Trial Balance has been put temporarily. After locating the errors and passing the necessary entries, suspense account will be closed later.

The suspense account if it shows debit balance, it will be shown in the asset side of the balance sheet. On the other hand, the account shows credit balance, it will be shown in the liabilities side of the balance sheet.

In the problem, if we are given only balances and not the trial balance, first we have to prepare the trial balance to find out whether the trial balance tallies or not. If it is not tallied, the balance is to be transferred to suspense account and should be treated accordingly.

3.3.8 Trial Balance –At a Glance

Trial Balance as at / as on

Heads of Accounts	Side of Trial Balance	Reasons
Cash in hand	Debit	Assets
Cash at Bank	Debit	Assets
Cash at Bank (overdrawn)	Credit	Liability
Bank Overdraft	Credit	Liability
Capital	Credit	Liability
Opening stock	Debit	Assets
Wage	Debit	Expenses
Purchase	Debit	Expense/Increase in stock
Carriage Inwards	Debit	Expenses
Freight	Debit	Expenses
Royalty on production	Debit	Expenses
Gas, Water, Fuel	Debit	Expenses
Motive Power	Debit	Expenses
Import Duty	Debit	Expenses
Sales	Credit	Income/Decrease in stock
Discount Allowed	Debit	Losses
Discount Received	Credit	Gains
Bad Debts	Debit	Losses
Reserve /Provision for		
Bad & Doubtful Debt (Opening)	Credit	Gains (Part of Retained Earnings)
Commission Received	Credit	Incomes
Salaries	Debit	Expenses
Commission paid	Debit	Expenses

Rent, rates, and taxes	Debit	Expenses
Repairs and maintenance	Debit	Expenses
Insurance	Debit	Expenses
Carriage outward	Debit	Expenses
Trade charges	Debit	Expenses
Royalty on sales	Debit	Expenses
Interest paid	Debit	Expenses
Interest received	Credit	Income
Advertisement	Debit	Expenses
Sundry expenses	Debit	Expenses
Miscellaneous expenses	Debit	Expenses
Miscellaneous receipts	Credit	Incomes
Income tax	Debit	Drawings/Assets
L.I.C. Premium	Debit	Drawings/Assets
Office expenses	Debit	Expenses
Export duty	Debit	Expenses
Allowances	Debit	Losses
Rebates	Debit	Losses
Sales tax	Debit	Expenses
Horses and Carts	Debit	Assets
Watch Dog Squad	Debit	Assets
Loan Secured	Credit	Liability
Loans Advanced	Debit	Assets
Reserve Funds	Credit	Liability
Sinking Fund	Credit	Liability
Sinking Fund Investments	Debit	Assets
Ecology Fund	Credit	Liability
Ecology Fund Investments	Debit	Assets
Building Fund	Credit	Liability
Building	Debit	Assets
Land	Debit	Assets
Plant	Debit	Assets
Machinery	Debit	Assets

Furniture & fittings	Debit	Assets
Motor vehicles	Debit	Assets
Computer	Debit	Assets
Office equipments	Debit	Assets
Goodwill	Debit	Assets
Patent rights	Debit	Assets
Copyrights	Debit	Assets
Trade marks	Debit	Assets
Investments	Debit	Assets
Shares & Securities	Debit	Assets
G. P. Notes	Debit	Assets
Sundry debtors	Debit	Assets
Sundry creditors	Credit	Liability
General Reserve	Credit	Liability
Bill Receivable	Debit	Assets
Bills Payable	Credit	Liability
Provision for Discount on Debtors	Credit	Liability
Provision for Discount on Creditors	Debit	Assets
Lighting and Heating	Debit	Expense
Drawings	Debit	Assets
Contribution to Provident Fund	Debit	Assets
Prize Fund	Credit	Liability
Depreciation	Debit	Losses
Provision for Depreciation	Credit	Liability
Returns Inwards	Debit	Losses
Returns Outwards	Credit	Gains
Freehold Property	Debit	Assets
Premises	Debit	Assets
Leasehold Property	Debit	Assets
Loose Tools	Debit	Assets
Petty Cash	Debit	Assets
Provident Fund	Credit	Liability
Debentures Purchased	Debit	Assets
Debentures (from Public)	Credit	Liability

Loan on Mortgage	Credit	Liability
Prepaid Expenses	Debit	Assets
Outstanding Expenses	Credit	Liability
Bad Debts Recovered	Credit	Gains
Accrued Incomes	Debit	Assets
Apprenticeship Premium received	Credit	Income
Books	Debit	Assets
Newspaper and Magazine	Debit	Expenses
Profit and Loss A/c (Dr.)	Debit	Losses
Profit and Loss A/c (Cr.)	Credit	Gains
Accumulated Depreciation	Credit	Liability
Postage and Telegram	Debit	Expense
Travelling & Conveyance	Debit	Expenses

Illustration 7:

From the following ledger account balances, prepare a Trial Balance of Mr. Sen for the year ended 31st March, 2013. Capital Rs:80,000; Sales Rs:10,00,000; Adjusted Purchase Rs:8,00,000; Current A/c(cr) Rs:10,000; Petty Cash Rs:10,000; Sales Ledger Balance Rs:1,20,000; Purchase Ledger Balance Rs:60,000; Salaries Rs:24,000; Carriage Inwards Rs:4,000; Carriage Outward Rs:6,000; Discount Allowed Rs:10,000; Building Rs:80,000; Outstanding Expenses Rs:10,000; Prepaid Insurance Rs:2,000; Depreciation Rs:4,000; Cash at Bank Rs:80,000; Loan A/c (cr) Rs:66,000; Profit & Loss A/c(cr) Rs:20,000; Bad Debts Recovered Rs:2,000; Stock at 31.03.2013 Rs:1,20,000; Interest Received Rs:10,000; Accrued Interest Rs:4,000; Investment Rs:20,000; Provision for Bad Debts (01.04.2012) Rs:6,000; General Reserve Rs:20,000.

Solution:

Trial Balance of Mr. Sen Dr. as on 31st March, 2013 Cr.

Heads of Accounts	Amount (Rs:)	Heads of Accounts	Amount (Rs:)
Adjusted Purchase	8,00,000	Capital	80,000
Petty Cash	10,000	Sales	10,00,000
Sales Ledger Balance	1,20,000	Current A/c	10,000

Salaries	24,000	Purchase Ledger Balance	60,000
Carriage Inward	4,000	Outstanding Expenses	10,000
Discount Allowed	10,000	Loan A/c	66,000
Building	80,000	Profit & Loss A/c(cr)	20,000
Prepaid Insurance	2,000	Bad Debts Recovered	2,000
Depreciation	4,000	Interest Received	10,000
Cash at Bank	80,000	Provision for Bad debts	6,000
Stock (31.03.2013)	1,20,000	General Reserve	20,000
Accrued Interest	4,000		
Investment	20,000		
Carriage outward	6,000		
	12,84,000		12,84,000

Note: Closing Stock will appear in Trial Balance since there is adjusted purchase.

Adjusted purchase = Opening Stock + Purchase - Closing Stock.

It may be noted that if only adjusted purchase is considered then the matching concept is affected. Hence, to satisfy the matching concept, closing stock is also considered in Trial Balance.

Illustration 8:

From the following transactions prepare journal, ledger and trial balance in the books of Murugan.

2002	Rs
Mar. 1 Started business with	10,000
Mar. 2 Sold goods to Muttu on credit	4,300
Mar. 6 Sold goods to Anand for cash	5,000
Mar. 8 Commission received	50
Mar.14 Goods returned by Muttu	100
Mar.16 Purchased goods from Murali on credit	2,000
Mar.19 Purchased goods from Mohan for cash	2,400
Mar.20 Stationary purchased	75
Mar.21 Goods returned to Murali	300
Mar.21 Paid cash to Murali	1,700

Mar.22	Purchased goods for cash	600
Mar.31	Salaries paid	300
Mar.31	Wages	200
Mar.31	Electricity expenses	100

Solution:

Date	Particulars	L.Fn o	Debit Rs.	Credit Rs.
2002 Mar. 1	Cash A/c Dr To Capital A/c (Being cash invested in business)		10,000	10,000
Mar. 2	Muttu A/c Dr To Sales A/c (Being goods sold to Muttu)		4,300	4,300
Mar. 6	Cash A/c Dr To Sales A/c (Being goods sold to Anand for cash)		5,000	5,000
Mar. 8	Cash A/c Dr To Commission A/c (Being commission received)		50	50
Mar.14	Sales returns A/c Dr To Muttu A/c (Being goods returned by Muttu)		100	100
Mar.16	Purchases A/c Dr To Murali A/c (Being goods purchased from murali for credit)		2,000	2,000
Mar.19	Purchases A/c Dr To Cash A/c (Being goods purchased from mohan for cash)		2,400	2,400
Mar.20	Stationary A/c Dr To Cash A/c (Being stationary purchased for cash)		75	75
Mar.21	Murali A/c Dr To Purchase returns A/c (Being goods returned to murali)		300	300
Mar.21	Murali A/c Dr To Cash A/c (Being cash paid to murali)		1,700	1,700
Mar.22	Purchases A/c Dr To Cash A/c		600	600

	(Being purchase of goods for cash)			
Mar.31	Salaries A/c Dr To Cash A/c (Being salariespaid)		300	300
Mar.31	Wages A/c Dr To Cash A/c (Being wages paid)		200	200
Mar.31	Electricity Expenses A/c Dr To Cash A/c (Being electricity expensespaid)		100	100

Murgan's Ledger Dr Cash A/c Cr

Date	Particulars	Lf	Amount Rs.	Date	Particulars	Lf	Amount Rs.
2002				2002			
Mar.1	To Capital A/c		10,000	Mar.19	By Purchase A/c		2,400
Mar.6	To Sales A/c		5,000	Mar.20	By Stationary A/c		75
Mar.8	To Commission A/c		50	Mar.21	By Murali A/c		1,700
	E			Mar.22	By Purchases A/c		600
				Mar.31	By Salaries A/c		300
				Mar.31	By Wages A/c		200
				Mar.31	By Electricity A/c		100
				Mar.31	By Balance c/d		9,675
	To Balance b/d		<u>15,050</u> 9,675				<u>15,050</u>

Dr Sales A/c Cr

Date	Particulars	Lf	Amount Rs.	Date	Particulars	Lf	Amount Rs.
2002				2002			
Mar.31	To Balance c/d		9,300	Mar. 1	By Muttu A/c		4,300
				Mar. 4	By Cash A/c		5,000
			<u>9,300</u>	Mar.31	By balance b/d		<u>9,300</u> 9,300

Dr Purchase A/c Cr

Date	Particulars	Lf	Amount Rs.	Date	Particulars	Lf	Amount Rs.
2002				2002			
Mar.16	To Murali A/c		2,000	Mar.31	By Balance c/d		5,000
Mar.19	To Cash A/c		2,400				
Mar.22	To Cash A/c		600				
			<u>5,000</u>				<u>5,000</u>
	To Balance b/d		5,000				

Dr

Muttu A/c

Cr

Date	Particulars	Lf	Amount Rs.	Date	Particulars	Lf	Amount Rs.
2002				2002			
Mar.2	To Sales A/c		2,000	Mar.14	By Salesreturns		100
				Mar.31	A/c		4,200
			<u>4,300</u>		By Balance c/d		
	To Balance b/d		4,200				<u>4,300</u>

Dr

Murali A/c

Cr

Date	Particulars	Lf	Amount Rs.	Date	Particulars	Lf	Amount Rs.
2002				2002			
Mar.21	To Purchase returns A/c		300	Mar.16	By Purchases A/c		2,000
Mar.21	To Cash A/c		<u>1,700</u>				
			<u>2,000</u>				<u>2,000</u>

Murugan's Trial balance as on 31st March, 2002

S.No.	Particulars	Debit Rs.	Credit Rs.
	Capital A/c	9,675	10,000
	Cash A/c	5,000	
	Purchases A/c		
	Sales A/c		9,300
	Purchase returns A/c	100	300
	Sales returns A/c	4,200	
	Muttu A/c		
	Commission A/c	75	50
	Stationery A/c	300	
	Salaries A/c	200	
	Wages A/c	100	
	Electricity Expenses A/c		
		19,650	19,650

3.4 Key words

1. Journal: It means a day book where in day-to-day business transactions are recorded in chronological order. It is treated as the book of original entry or first entry or prime entry.
2. Ledger: A ledger is a book containing accounts in which the classified and summarized information from the journals is posted as debits and credits.
3. Creditor's ledger: All accounts are credits will be found in this book. It can also be called 'suppliers ledger'.
4. Debtor's ledger: All accounts are debtors will be found in this book. It can also be called 'customers ledger'.
5. General Ledger: it contains all accounts other than debtors and creditors. Accounts of owner's expenses, incomes, capital etc., will be found in this book. It may also be called 'impersonal ledger'.
6. Private ledger: Some times, the capital account and drawings account of the proprietor may be separately maintained in another ledger called private ledger.
7. Suspense Account: Suspense Account is an account to which the difference in the Trial Balance has been put temporarily. After locating the errors and passing the necessary entries, suspense account will be closed later.
8. Trial Balance: Trial Balance is a report prepared by extracting balances of accounts maintained in the books of accounts. But it does not form part of books of account.

3.5 Self-Assessment Questions

1. What are the differences between journal and ledger?
2. What is ledger? What is meant by subdivision of ledger?
3. “The agreement of a Trial Balance is not a conclusive proof as to the accuracy of the books.” Explain.
4. What are the errors not disclosed by the trial balance?
5. What are the errors disclosed by the trial balance?
6. What are the points to be considered in preparation of trial balance?

3.5 Further Readings

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Lesson Writer

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Lesson 4: Cash Book

Objective

After studying this lesson, you should be able to know:

- What is cash book
- Types of cash books
- How to prepare petty cashbook

Structure

4.1 Introduction

4.2 Types of Cash Book

4.3 Petty Cash Book

4.4 Key words

4.5 Self-Assessment Questions

4.6 Further readings

Introduction

A Cash Book is a special journal which is used for recording all cash receipts and all cash payments. Cash Book is a book of original entry since transactions are recorded for the first time from the source documents. The Cash Book is larger in the sense that it is designed in the form of a Cash Account and records cash receipts on the debit side and cash payments on the credit side. Thus, the Cash Book is both a journal and a ledger.

Cash Book as the only Book of Original Entry

This Cash Book records all types of transactions even if there are some credit transactions i.e. all transactions are recorded and not like the ordinary Cash Book where only cash transactions are recorded. For non cash transactions, that will be two entries in the cash Book, ultimately that will be no effect in Cash Balance. For example, if goods are sold to Mr. X on credit for Rs: 5,000, the entries will be

(1)	Cash A/c To Sales A/c	Dr	5,000	5,000
(2)	X A/c To Cash A/c	Dr	5,000	5,000

Although the original entry is

	X A/c To Sales A/c	Dr	5,000	5,000
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4.2 Types of Cash book

There are different types of Cash Book as follows:

(i) Single Column Cash Book- Single Column Cash Book has one amount column on each side. All cash receipts are recorded on the debit side and all cash payments on the payment side, this book is nothing but a Cash Account and there is no need to open separate cash a/c in the ledger.

(ii) Double Column Cash Book- Cash Book with Discount Column has two amount columns, one for cash and other for Discount on each side. All cash receipts and cash discount allowed are recorded on the debit side and all cash payments and discount received are recorded on the credit side.

(iii) Triple Column Cash Book- Triple Column Cash Book has three amount columns, one for cash, one for Bank and one for discount, on each side. All cash receipts, deposits into bank and discount allowed are recorded on debit side and all cash payments, withdrawals from bank and discount received are recorded on the credit side. In fact, a triple-column cash book serves the purpose of Cash Account and Bank Account both. Thus, there is no need to create these two accounts in the ledger.

Dr Specimen of **Single** Column Cash Book Cr.

Receipts				Payments			
Date	Particulars	LF	Cash	Date	Particulars	LF	Cash

Dr Specimen of **Double** Column Cash Book Cr.

Receipts					Payments				
Date	Particulars	LF	Cash	Discount Allowed	Date	Particulars	LF	Cash	Discount received

Dr Specimen of **Triple** Column Cash Book Cr.

Receipts						Payments					
Date	Particulars	LF	Cash	Bank	Discount Allowed	Date	Particulars	LF	Cash	Bank	Discount received

Double Column Cash Book containing contra transaction and cheque transaction

The double column Cash book has columns on both the sides of the Cash book. This cash book can have two columns on both the sides as under:

- (a) Cash and Discount Columns,
- (b) Cash and Bank columns,
- (c) Bank and Discount columns.

(I) Contra Transactions

Transactions which relates to allowing discount or receiving discount in cash after the settlement of the dues are known as Contra Transactions.

Example:

1. Received Rs:500 as discount from Mr. Ghosh whose account was previously settle in full.

Cash A/c	Dr.	500
To Discount Received A/c		500

(Being cash received as discount from Mr. Ghosh whose account was previous settled in full)

2. Paid Rs:400 as discount to Mr. GhoshDastidar who settled his account in full previously.

Discount Allowed A/c	Dr.	400
To Cash A/c		400

(Being discount allowed in cash to Mr. GhoshDastidar who settled his account in full)

(II) Cheque Transactions

When a cheque is received and no any other information at a later date about the same is given, it will be assumed that the said cheque has already been deposited into bank on the same day when it was received. Then the entry should be as under:

Bank A/c	Dr.	To Debtors/Party A/c
----------	-----	----------------------

But if it is found that the said cheque has been deposited into the bank at a later date, then the entry will be:

- (i) When the cheque is received

Cash A/c	Dr.	To Debtors/Party A/c
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- (ii) When the same was deposited into bank at a later date

Bank A/c	Dr.	To Cash A/c
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- (iii) When the said cheque is dishonored by the bank

Debtors/Party A/c	Dr.	To Bank A/c
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Illustration 1: Prepare Triple column cash book in the books of Mr. Abhishek

March 1 Opening cash balance was Rs:3,800 and bank balance was Rs:27,500

March 4 Wages paid in cash Rs:1,500

March 5 received cheque of Rs:19,800 from KBK enterprises after allowing discount of Rs:200

March 7 Paid consultancy charges by cheque for Rs:7,500

March 10 Cash of Rs:2,500 withdrawn from bank

March 12 Received a cheque for Rs:4,500 in full settlement of the account of Mr. X at a discount of 10% and deposited the same into the Bank.

March 15 X's cheque returned dishonoured by the Bank

Solution:

In the Books of Mr. Abhishek

Dr.

Cash Book

Cr.

Receipts						Payments					
Date	Particulars	Lf	Cash	Bank	Discount	Date	Particulars	Lf	Cash	Bank	Discount
1-Mar.	Opening balance		3800	27500		4-Mar.	Wages paid		1500		
5-Mar.	Recd from KBK		-	19800	200	7-Mar.	Consultancy fee			7500	
10-Mar.	Cash withdrawn		2500			10-Mar.	Cash withdrawn			2500	
12-Mar.	Mr.X			4500	500	15-Mar.	Mr.X			4500	500
							Closing balance		4800	37300	
			6300	51800	700				6300	51800	500

Note: Please note that the balance of discount columns is not taken and these are posted directly to the respective ledger account separately. The balance of cash and bank columns are posted into cash and bank accounts periodically.

4.3 Petty Cash Book

We have seen that all the cash receipts and cash payments will be recorded in the cash book. But in case of big concerns if all transactions like postage, cleaning charges etc., are recorded in the cash book, the cash book becomes bulky and unwieldy. So, all petty disbursements of cash are recorded in a separate book called petty cash book.

Generally, petty cash book is maintained on the imprest system. Under this system petty expenditure for a given period is estimated and a cheque for an equal amount is drawn. The petty cashier is asked to keep the cash with him. He maintains the record of all petty payments for that period. At the end of the period, the petty cashier submits a copy of it to the cashier together with vouchers. After verifying the payments made there in, the cashier issues a fresh cheque for the exact amount spent in the period. This amount and the balance left over with the petty cashier will become the opening balance for the next year. Suppose, out of Rs:100 given to the petty cashier in the beginning, he spends Rs:90. So, at the end of the period he will be paid Rs:90 and total amount in his hand now becomes Rs:100 (Rs:90+Rs:10). This

practice will also serve as a cheque on the record of petty cashier as the cashier verifies all payments together with vouchers.

For example, on 1st March 2002 petty cashier was issued a cheque for Rs:200. In the month of March, he spend Rs:187.50 towards the actual expense incurred by him during the previous month. The petty cashier will be maintaining the same amount on the first of every month.

Analytical Petty Cash Book: In business, the petty payments are numerous. They are entered in a petty cash book in columnar form. There will be a separate column for each head of petty expense and a column for the total. Every petty payment is entered in both these columns. Thus, provision is made in the petty cash book to show the details of the payment. Such book showing an analysis of the payments is called analytical or columnar petty cash book.

Advantages of Petty cash book:

1. **Simple method:** It is a simple method of petty expenses. Petty cash book is divided into certain columns which the cashier is required to complete on payment of expenses. The maintenance of petty cash book does not required specialized knowledge of accounting.
2. **Effective control over cash disbursements:** cash control is possible because of division of work. Chief cashier can control big payments directly and petty payments by keeping a proper check on the petty cashier.
3. **Economy of time:** The maintenance of petty cash book is simple and requires lesser time in recording. It also saves time of Chief cashier.
4. **Easy posting:** Individual petty expenses accounts are not prepared. The total of all petty expenses is posted in the main cash book. It is, therefore, easy and convenient to make posting through petty cash book.
5. **Lesser chances of mistakes:** The petty cash book is checked by the chief accountant at the end of the period. He satisfies himself that the payments have been actually made and duly recorded in the petty cash book. The requisite amount paid is technically known as replenishment after scrutiny of patty cash book. This process minimizethe chances of mistakes.
6. **Lesser chances of fraud:** Every petty expense had to be supported by a voucher which indicates 'the amount paid', 'the purpose of payment', 'the date of payment', 'authorization of payment' and 'cancellation of voucher'. Recording

transactions on the basis of voucher and checking of cash book by chief accountant minimizes the chances of fraud.

Balancing petty cash book: At the end of the period, i.e., a week or a month, the total of the Total column, individual expenses column and sundries column is obtained. It should be ascertained that the total of the petty expenses columns and sundries columns must be equal to the total of total column. The total of the total column is compared with the total of receipts columns and the balance is obtained. The closing balance is shown as 'By balance c/d'. The closing balance is carried forward to the next week or month. It is shown as 'To balance b/d'.

Illustration2: Prepare Petty Cash Book from the following information on the system.

2002	Rs.
Jan.1 Received Rs.500 for petty cash	
Jan.2 Paid rickshaw charges	5.00
Jan.5 Paid cartage	12.00
Jan.12 Paid for postage	15.50
Jan.18 Paid for stationery	34.00
Jan.19 Paid for tonga charges	18.00
Jan.20 Paid for repairs	65.00
Jan.20 Paid for bus fare	6.00
Jan.25 Paid for cartage	24.00
Jan.28 Paid for postage	27.00
Jan.30 Paid for tonga charges	33.00
Jan.30 Paid for cartage	23.50
Jan.31 Paid for stationery	42.00
Jan.31 Paid for refreshment to customers	35.00

Solution Petty Cash Book

Receipts Rs	Date	Particulars	Total	Traveling-Rs	Cartage Rs	Stationary - Rs	Postage Rs	Sundries Rs
500.00	Jan 1	To Cash						
	Jan 2	By Traveling	5.00	5.00				
	Jan 5	By Cartage	12.00		12.00			
	Jan 12	By Postage	15.50				15.50	
	Jan 18	By Stationary	34.00			34.00		
	Jan 19	By Traveling	18.00	18.00				
	Jan 20	By Repairs	65.00					65.00
	Jan 20	By Traveling	6.00	6.00				
	Jan 25	By Cartage	24.00		24.00			
	Jan 28	By Postage	27.00				27.00	
	Jan 30	By Traveling	33.00	33.00				
	Jan 30	By Cartage	23.50		23.50			
	Jan 31	By Stationary	42.00			42.00		
	Jan 31	By General exp	35.00					35.00
	Jan 31	By Balance c/d						
	Feb 1	To Balance b/d						
	Feb 1	To Cash						
			406 94	62	59.50	76	42.50	100
500			500					
94 406								

4.4 Self-Assessment Questions

1. 'Cash book is a journal as well as ledger'. Discuss?
2. State various types of cash book. Explain how they differ from one another?
3. What is petty cash book? Explain its advantages?
4. Explain the nature of cash book?
5. Prepare a proforma of petty cash book with hypothetical figures?

Exercise 1: From the following transactions pass Journal entries and post them in the appropriate Ledger Accounts in the books of Avinash & Co.

2014 May 1	Started business with	Rs.100000
May 5	Purchased goods from Rahul & Co.	Rs. 10000
May 7	Sold goods worth	Rs. 20000
May 10	Salaries paid	Rs. 1500
May 11	Purchased Stationery worth	Rs. 1000
May 15	Bought furniture worth	Rs. 20000
May 18	Cash deposited into bank	Rs. 9000
May 20	Paid wages	Rs. 5000

May 24 Cash withdrawn from bank	Rs. 3000
May 28 Paid rent by cheque	Rs.180

4.5 Further reading

1. G.Prasad, V.ChandrasekharaRao, Accounting for Managers, Jai Bharat Publishers, Guntur, Andhra Pradesh, 2006.
2. Asish K. Bhattacharyya, Financial Accounting, Prentice Hall of India, New Delhi, 2005.
3. Tulsian, P.c., Accountancy Tata McGraw-Hill Publishing Company Limited, New Delhi

Lesson Writer

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Lesson 5: Final Accounts

Objective

After studying this lesson, you should be able to know:

- **Trading Account & Profit and Loss Account**
- **Preparation of Balance Sheet**
- **Adjustment in the Final Accounts preparation**

Structure

5.1 Introduction

5.2 Steps in the preparation of Final Accounts

5.3 Capital and Revenue

5.4 Trading Account

5.5 Profit and Loss Account

5.6 Balance Sheet

5.7 Treatment of Adjustment in Final Accounts

5.8 Key words

5.9 Self-Assessment Questions

5.10 Further readings

5.1 Introduction

Preparation of final accounts is the final destination of the accounting process. As discussed earlier these final accounts include two statements – Income statement which reflects the outcome of business activities during an accounting period (i.e. profit or loss) and the balance sheet which show the position of the business at the end of the accounting period (i.e. resources owned as assets and sources of funds as liabilities plus capital). The objective of financial statements is to provide information about the financial strength, performance and changes in financial position of an enterprise that is useful to a wide range of users in making economic decisions. Financial statements should be understandable, relevant, reliable and comparable. Reported assets, liabilities and equity are directly related to an organization's financial

position. Reported income and expenses are directly related to an organization's financial performance.

Financial statements are intended to be understandable by readers who have "a reasonable knowledge of business and economic activities and accounting and who are willing to study the information diligently".

5.2 Steps in the preparation of Final Accounts

1. Preparation of Trial balance: Trial balance should be prepared before preparing Trading and Profit and loss Account and Balance sheet. If the debit and credit sides of trial balance do not tally the difference should be provisionally transferred to suspense account and the suspense account should be shown in the Balance Sheet.

2. Showing items from Trial balance at one place: All the items appearing in the trial balance are shown at one place only i.e., in Trading account and Profit and Loss Account or in Balance Sheet.

3. Posting from Trial balance: Accounts appearing at the debit side of Trial balance are shown at the debit side of Trading Account and Profit and Loss a/c or at the assets side of the balance sheet. In the same way, accounts appearing at the credit side of trial balance are shown at the credit side of trading and profit and loss account or at the liabilities side of the balance sheet.

4. Posting of expenses: All direct expenses, i.e., expenses for manufacturing and acquiring goods are debited to trading account. Indirect expenses and losses regarding selling and distribution of goods are debited to the profit and loss account.

5. Personal and Real accounts: All the personal and real accounts are recorded in the balance sheet.

6. Factory and office expenses: All factory expenses are direct expenses. They are to be shown at the debit side of trading account, Office expenses are indirect expenses and they are to be shown at the debit side of profit and loss account.

7. Treatment of rent, discount, interest and commission: Rent, discount, interest and commission or expenses; if these are paid, and hence to be debited to profit and

loss a/c. if they are received they are to be taken as income and hence to be credited to the profit and loss account. If the trial balance is not given any specific word as allowed or received, these items should be treated as expenses and posted to the debit side of the profit and loss account.

5.3 Capital and Revenue

All items of revenue nature (expenditure, loss, income or receipt) should be taken to trading and profit and loss account and all capital items should be shown in the Balance Sheet. Though it is very difficult to lay down rules and making a clear distinction between capital and revenue items, an attempt has been made to explain general norms for making distinction between capital and revenue items.

A) Capital Expenditure:

An expenditure will be treated as capital expenditure in the following circumstances.

1. If it results in acquisition of fixed assets. An addition to the fixed assets or amount spent on the purchase of fixed asset is a capital expenditure. For example, purchase of a Machinery costing Rs:50,000 is a capital expenditure.
2. If an expenditure results in a benefit which will last for a long time (for more than a year), it is a capital expenditure and it is to be spread over the years of benefit.
Ex: Expenditure on acquisition of patents, copyright or trademarks.
3. If any expenditure is incurred in putting the newly acquired asset into working condition, the expenditure upto the point, will be capital expenditure. Thus, installation charges or acquisition expenses like freight, insurance, carriage, brokerage, wages etc., in respect of an asset newly acquired will form part of the cost of that asset.
4. If the expenditure results in increasing the capacity of the asset it will be treated as capital expenditure. For example, expenditure for extensive alteration to the building so that more space may be available, shall be treated as an asset and will be capitalized.
5. If the expenditure results in economy in operation, it will be treated as capital expenditure. For example, any amount spent for making alteration in the plant and machinery in order to reduce the cost of production per unit, will be treated as capital expenditure.

6. If the expenditure results in the replacement of an existing fixed asset or part of it, it will be treated as capital expenditure. For example, as old machine is substituted by a new machine. The acquisition cost of the new machine is capital expenditure.

B) Revenue Expenditure:

Expenditure will be treated as revenue in the following circumstance:

1. Expenditure to acquire raw materials or finished goods is revenue expenditure because the expenditure is to earn profits.
2. Expenditure whose benefit will expire within the year. Thus, all administrative expenses, manufacturing expenses or selling expenses are revenue expenditure. For example, salaries, rent of building, commission on sales, wages paid etc., are revenue expenditure.
3. Expenditure incurred to maintain assets in working order is revenue expenditure. Thus, repairing, major and minor nature of an asset, alteration, renewals and replacement (if it does not result in extra capacity) stores consumed in the process of manufacturing such as cotton waste, lubricants etc., are all revenue expenditure.
4. Expenditure incurred to defend or protect one's right to an asset is treated as revenue expenditure. For example, legal expenses are revenue.
5. All types of losses whether of stock in trade or of other current assets or of fixed assets are revenue losses.

All revenue expenditures are to be debited profit and loss account and all capital expenditures are to be taken to balance sheet.

C) Deferred Revenue Expenditure:

A heavy expenditure of revenue nature whose benefit will be available for more than one year cannot be fairly treated as revenue expenditure. Therefore, the whole of such expenditure cannot be debited to profit and loss account only in one year. Such expenditure is classified as deferred revenue expenditure. Heavy advertisement on introducing a new product, preliminary expenses, exceptional repairs, research and development expenses etc., are examples of such nature.

Such expenditure is spread over the years of benefit and the proportionate part for that year is charged to profit and loss account of that year and the remaining part is shown as an asset in the Balance Sheet. For example, the company spend huge

amount on advertisement amounting to Rs.30,000 and benefit will be available for 5 years. This is deferred revenue expenditure and it will be charged to Profit and Loss Account at Rs.6,000 every year for 5 years. The remaining part of the expenditure will be shown as an asset in the Balance Sheet every year until written off.

D) Capital and Revenue receipts:

As it is necessary to make a distinction between capital and revenue expenditure, it is also necessary to distinguish between capital and revenue receipts. The capital receipts will be shown in the Balance Sheet whereas revenue receipts will be shown in the Profit and Loss Account. The following rules can be observed in this respect:

1. Money received on sale of goods (in which the firm deals) is revenue receipt, whereas money received on the sale of assets, or investments or by way of loan is a capital receipt.
2. Amount received from the proprietor is of a capital nature and should be shown as capital in the liabilities side of the Balance Sheet.
3. If money received is not to return to the person from whom it is received or the benefit of that amount has already been given by the firm, the amount is revenue receipt and should be credited to P&L Account. For example, rent received or interest received or subsidy received from government etc., are all of revenue nature.
4. Any profit on the sale of fixed asset should be treated as revenue receipt, but if the amount is too heavy, it should be capitalized to transfer it either to the capital reserve or general reserve or to a special reserve.

5.4 Trading Account

It is an account which is prepared by a merchandising concern which purchases goods and sells the same during a particular period. The purpose of it is to find out the gross profit or gross loss which is an important indicator of business efficiency.

The following items will appear in the debit side of the Trading Account:

(i) Opening Stock: In case of trading concern, the opening stock means the finished goods only. The amount of opening stock should be taken from Trial Balance.

(ii) **Purchases:** The amount of purchases made during the year. Purchases include cash as well as credit purchase. The deductions can be made from purchases, such as, purchase return, goods withdrawn by the proprietor, goods distributed as free sample etc.

(iii) **Direct expenses:** It means all those expenses which are incurred from the time of purchases to making the goods in suitable condition. This expense includes freight inward, octroi, wages etc.

(iv) **Gross profit:** If the credit side of trading A/c is greater than debit side of trading A/c gross profit will arise. The following items will appear in the credit side of Trading Account:

(i) **Sales Revenue:** The sales revenue denotes income earned from the main business activity or activities. The income is earned when goods or services are sold to customers. If there is any return, it should be deducted from the sales value. As per the accrual concept, income should be recognized as soon as it is accrued and not necessarily only when the cash is paid for. The Accounting standard 7 (in case of contracting business) and Accounting standard 9 (in other cases) define the guidelines for revenue recognition. The essence of the provisions of both standards is that revenue should be recognized only when significant risks and rewards (vaguely referred to as ownership in goods) are transferred to the customer. For example, if an invoice is made for sale of goods and the term of sale is door delivery; then sale can be recognized only on getting the proof of delivery of goods at the door of customer. If such proof is pending at the end of accounting period, then this transaction cannot be taken as sales, but will be treated as unearned income.

(ii) **Closing Stocks:** In case of trading business, there will be closing stocks of finished goods only. According to convention of conservatism, stock is valued at cost or net realizable value whichever is lower.

(iii) **Gross Loss:** When debit side of trading account is greater than credit side of trading account, gross loss will appear.

Dr. For the year ended 31st March, 2013. Cr.

Particulars	Amount	Amount	Particulars	Amount	Amount
To Opening Stock:	1,60,000	10,000	By Sales	3,00,000	
To Purchases	<u>10,000</u>		Less: Sales Returns	<u>16,000</u>	2,84,000
Less: Purchase returns	1,50,000	1,53,000		20,000	
Less: Goods taken by proprietor	<u>3,000</u>		By Closing stock	<u>10,000</u>	
	1,47,000	34,000	Add: Stock destroyed	30,000	
Add: Goods in transit	<u>6,000</u>			<u>6,000</u>	
To Wages	30,000	10,000			36,000
Add: Outstanding	<u>4,000</u>				
To Carriage inwards	8,000				
To Freight	<u>1,000</u>	7,000			
Less: Prepaid		6,000			
To Royalty on production		2,000			
To Gas & fuel		98,000			
To Gross Profit		<u>3,20,000</u>			<u>3,20,000</u>

Note: (a) Stock should be valued as per cost price or market price whichever is lower.

(b) The claim which was admitted by insurance company and the loss of stock will not appear in Trading Account.

5.5 Profit and Loss Account

The business man is always interested in knowing his net income or net profit. Net profit represents the excess of gross profit plus other revenue incomes over sales expenses including sales costs and other expenses. The debit side of P&L a/c shows the expenses and the credit side the incomes. If the total of the credit side is more, it will be net profit. And if the debit side happens to be more, it would be net loss.

In preparing the P&L a/c it must be remembered that expenses relating to the owner or partners are not to be accounted for in the P&L a/c of the firm. They are personal expenses and hence are transferred to the Drawing a/c of the owner or partners. These expenses are usually (i) Life insurance premium, (ii) income-tax, and (iii) House hold or personal expenses.

The following items will appear in the **debit side of the Profit & Loss A/c**:

(i) Cost of Sales: This term refers to the cost of goods sold. The goods could be manufactured and sold or can be directly identified with goods.

(ii) Other Expenses: All expenses which are not directly related to main business activity will be reflected in the P & L component. These are mainly the Administrative, Selling and distribution expenses. Examples are salary to office staff, salesmen commission, insurance, legal charges, audit fees, advertising, freesamples, bad debts etc. It will also include items like loss on sale of fixed assets, interest and provisions. Students should be careful to include accrued expenses as well.

(iii) Abnormal Losses: All abnormal losses are charged against Profit & Loss Account. It includes stock destroyed by fire, goods lost in transit etc.

The following items will appear in the **credit side of Profit & Loss A/c**:

(i) Revenue Incomes: These incomes arise in the ordinary course of business, which includes commission received, discount received etc.

(ii) Other Incomes: The business will generate incomes other than from its main activity. These are purely incidental. It will include items like interest received, dividend received, etc. The end result of one component of the P & L A/c is transferred over to the next component and the net result will be transferred to the balance sheet as addition in owners' equity. The profits actually belong to owners of business. In case of company organizations, where ownership is widely distributed, the profit figure is separately shown in balance sheet.

Dr	Profit and Loss account for the year ended	Cr
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Particulars	Amount	Particulars	Amount
To Gross Loss (transferred from trading account)		By Gross Profit (transferred from trading account)	
To Administrative expenses		By Other Income	
To Office salaries		By Interest received	
To Communication		By Commission received	
To Travel & Conveyance		By Profit on sale of assets	
To Office rent		By Rent received	
To Depreciation of office assets		By Net loss	
To Audit fees			
To Insurance			
To Repairs & maintenance			

To Selling & Distribution exp			
To Advertising			
To Salesmen commission			
To Delivery van			
To expenses/Depreciation on delivery vans/Bad debts			
To Financial expenses			
To Bank charges			
To Interest on loans			
To Loss on sale of assets			
To Net profit			
Total		Total	

Illustration 2:

From the following particulars presented by Sri Shankar for the year ended 31st March 2013, prepare Profit and Loss Account. Gross Profit Rs: 1,00,000, Rent Rs: 22,000; Salaries, Rs: 10,000; Commission (Cr.) Rs: 12,000; Insurance Rs: 8,000; Interest (Cr.) Rs: 6,000; Bad Debts Rs: 2,000; Provision for Bad Debts (1.4.2012) Rs: 4,000; Sundry Debtors Rs:40,000; Discount Received Rs: 2,000; Plant & Machinery Rs: 80,000.

Adjustments:

- (a) Outstanding salaries amounted to Rs: 4,000;
- (b) Rent paid for 11 months;
- (c) Interest due but not received amounted to Rs: 2,000
- (d) Prepaid Insurance amounted to Rs: 2,000;
- (e) Depreciate Plant and Machinery by 10% p.a.
- (f) Further Bad Debts amounted to Rs: 2,000 and make a provision for Bad Debts @5% on Sundry Debtors.
- (g) Commissions received in advance amounted to Rs: 2,000.

Solution

In the Books of Sri Shankar profit and Loss Account for the year ended 31st March 2013

Dr.

Cr.

Particulars	Amount	Amount	Particulars	Amount	Amount
To Rent	22,000		By Trading A/c (Gross profit)		1,00,000
add: Outstanding	2,000	24,000	By Commission	12,000	
To Salaries	10,000		Less: Received in advance	2,000	10,000
add: Outstanding	4,000	14,000	By Interest	6,000	
To Insurance	8,000		Add: Accrued interest	2,000	8,000
less: prepaid	2,000	6,000	By Discount Received		2,000
To Bad Debts	2,000		By Provision for Bad debts	4,000	
add: further bad debts	2,000	4,000	Less: New provision @ 5%		
To Depreciation on plant & Machinery @ 10% on Rs: 80,000		8,000	On (40,000-2,000) x 5%	1,900	2,100
To Capital A/c (net profit transferred)		66,100			
		1,22,100			1,22,100

Profit and Loss Appropriation Account:

We know that the net profit or loss is added to or deducted from owner's equity. The net profit may be used by the business to distribute dividends, to create reserves etc. In order to show these adjustments, a P & L Appropriation A/c is maintained. Distribution of profits is only appropriation and does not mean expenses. After passing such distribution entries, the remaining surplus is added in owner's equity.

The format is as follows.

Dr

P & L Appropriation A/c for the year ended

Cr

Particulars	Amount	Particulars	Amount
To Proposed dividend		By Net profit transferred from P & L A/c	
To Transfer to General Reserve			
To Surplus carried to Capital			

A/c			
Total		Total	

Illustration 3

X, Y and Z are three Partners sharing profit and Losses equally. Their capital as on 01.04.2012 were: X Rs: 80,000; Y Rs: 60,000 and Z Rs: 50,000.

They mutually agreed on the following points (as per partnership deed)

(a) Interest on capital to be allowed @ 5% P.a. (b) X to be received a salary @ Rs: 500 per month (c) Y to be received a commission @ 4% on net profit after charging such commission. (d) After charging all other items 10% of the net profit to be transferred General Reserve.

Profit from Profit and Loss Account amounted to Rs: 66,720. Prepare a Profit and Loss Appropriation Account for the year ended 31st March, 2013.

Solution:**In the books of X, Y and Z Profit and Loss Appropriation Account**

Dr.		For the year ended 31st March, 2013		Cr.	
Particulars	Amount	Amount	Particulars	Amount	Amount
To Interest on Capital			By Profit & loss A/C		66,720
X	4,000				
Y	3,000				
Z	2,500	9,500			
To Salaries – 'X' (500x12)		6,000			
To Commission – 'Y'		1,970			
To General Reserve		4,925			
To Net Divisible Profit					
X	14,775				
Y	14,775				
Z	14,775	44,325			
		66,720			66,720

Workings notes:

1. Net Profit before charging Y's Commission = $(66,720 - 15,500)$ = 51,220

Less: Y's Commission @ 4% i.e., $(4/104) \times 51,220$ = 1,970

49,250

2. Transfer to General Reserve = $49,250 \times 10\% = 4,925$

5.6 Balance Sheet

The Balance sheet may be described as a statement of the financial position of a concern at a given date. The financial position of a concern is revealed by its assets on a given date and its liabilities on that date. Excess of assets over liabilities represents Capital. Such excess may be taken as an indicator of the financial soundness of a concern. On the left-hand side of this statement the liabilities and the capital are shown. On the right-hand side all the assets are shown. Therefore, the two sides of the Balance Sheet must always be equal. Otherwise, there is an error somewhere.

Liabilities

(a) Capital: This indicates the initial amount the owner or owners of the business contributed. This contribution could be at the time of starting business or even at a later stage to satisfy requirements offunds for expansion, diversification etc. As per business entity concept, owners and business are distinctentities, and thus, any contribution by owners by way of capital is liability.

(b) Reserves and Surplus: The business is a going concern and will keep making profit or loss year byyear. The accumulation of these profit or loss figures (called as surpluses) will keep on increasing ordecreasing owners' equity. In case of non-corporate forms of business, the profits or losses are addedto the capital A/c and not shown separately in the balance sheet of the business.

(c) Long Term or Non-Current Liabilities: These are obligations which are to be settled over a longer period of time say 5-10 years. These funds are raised by way of loans from banks and financial institutions. Such borrowed funds are to be repaid in installments during the tenure of the loan as agreed. Suchfunds are usually raised to meet financial requirements to procure fixed assets. These funds should notbe generally used for day-to-day business activities. Such loan are normally given on the

basis of some security from the business e.g. against a charge on the fixed assets. So, long term loan are called as “Secured Loan” also.

(d) Short Term or Current Liabilities: A liability shall be classified as Current when it satisfies any of the following:

- It is expected to be settled in the organisation’s normal Operating Cycle,
- It is held primarily for the purpose of being traded,
- It is due to be settled within 12 months after the Reporting Date, or
- The organization does not have an unconditional right to defer settlement of the liability for at least 12 months after the reporting date (Terms of a Liability that could, at the option of the counterparty, result in its settlement by the issue of Equity Instruments do not affect its classification)

Current liabilities:

(i) Sundry Creditors: Amounts payable to suppliers against purchase of goods. This is usually settled within 30-180 days.

(ii) Advances from customers: At times customer may pay advance i.e. before they get delivery of goods. Till the business supplies goods to them, it has an obligation to pay back the advance in case of failure to supply. Hence, such advances are treated as liability till the time they get converted to sales.

(iii) Outstanding Expenses: These represent services procured but not paid for. These are usually settled within 30–60 days e.g. phone bill of Sept is normally paid in Oct.

(iv) Bills Payable: There are times when suppliers do not give clean credit. They supply goods against a promissory note to be signed as a promise to pay after or on a particular date. These are called as bills payable or notes payable.

(v) Bank Overdrafts: Banks may give fund facilities like overdraft whereby, business is permitted to issue cheques up to a certain limit. The bank will honour these cheques and will recover this money from business. This is a short term obligation.

Assets:

In accounting language, all debit balances in personal and real accounts are called as assets. Assets are broadly classified into fixed assets and current assets.

(a) Fixed Assets: These represent the facilities or resources owned by the business for a longer period of time. The basic purpose of these resources is not to buy and sell them, but to use for future earnings. The benefit from use of these assets is spread over a very long period. The fixed assets could be in tangible form such as buildings, machinery, vehicles, computers etc, whereas some could be in intangible form viz. patents, trademarks, goodwill etc. The fixed assets are subject to wear and tear which is called as depreciation. In the balance sheet, fixed assets are always shown as “original cost less depreciation”.

(b) Investments: These are funds invested outside the business on a temporary basis. At times, when the business has surplus funds, and they are not immediately required for business purpose, it is prudent to invest it outside business e.g. in mutual funds or fixed deposit. The purpose is to earn a reasonable return on this money instead of keeping them idle. These are assets shown separately in balance sheet.

Investments can be classified into Current Investments and Non-current Investments.

Non-current Investments are investments which are restricted beyond the current period as to sale or disposal.

Whereas, current investments are investments that are by their nature readily realizable and is intended to be held for not more than one year from the date on which such investment is made.

(c) Current Assets: An asset shall be classified as Current when it satisfies any of the following:

- It is expected to be realised in, or is intended for sale or consumption in the organisation’s normal Operating Cycle,
- It is held primarily for the purpose of being traded,
- It is due to be realised within 12 months after the Reporting Date, or
- It is Cash or Cash Equivalent unless it is restricted from being exchanged or used to settle a Liability for at least 12 months after the Reporting Date.

Current assets comprise of:

(i) Stocks: This includes stock of raw material, semi-finished goods or WIP, and finished goods. Stocks are shown at lesser of the cost or market price. Provision for obsolescence, if any, is also reduced. Generally, stocks are physically counted and compared with book stocks to ensure that there are no discrepancies. In case of discrepancies, the same are adjusted to P & L A/c and stock figures are shown as net of this adjustment.

(ii) Debtors: They represent customer balances which are not paid. The bad debts or a provision for bad debt is reduced from debtors and net figure is shown in balance sheet.

(iii) Bills receivables: Credit to customers may be given based on a bill to be signed by them payable to the business at an agreed date in future. At the end of accounting period, the bills accepted but not yet paid are shown as bills receivables.

(iv) Cash in Hand: This represents cash actually held by the business on the balance sheet date. This cash may be held at various offices, locations or sites from where the business activity is carried out. Cash at all locations is physically counted and verified with the book balance. Discrepancies if any are adjusted.

(v) Cash at Bank: Dealing through banks is quite common. Funds held as balances with bank are also treated as current asset, as it is to be applied for paying to suppliers. The balance at bank as per books of accounts is always reconciled with the balance as per bank statement, the reasons for differences are identified and required entries are passed.

(vi) Prepaid Expenses: They represent payments made against which services are expected to be received in a very short period.

(vii) Advances to suppliers: When amounts are paid to suppliers in advance and goods or services are not received till the balance sheet date, they are to be shown as current assets. This is because advances paid are like right to claim the business gets.

Please note that both current assets and current liabilities are used in day-to-day business activities. The current assets minus current liabilities are called as working capital or net current assets. The following report is usual horizontal form of balance sheet. Please note that the assets are normally shown in descending order of

their liquidity. Also, capital, long term liabilities and short term liabilities are shown in that order.

Specimen of Balance sheet

Liabilities		Amount	Assets	Amount
Capital (separate figures are shown for each owner) <u>Long term Liabilities:</u> Loans from banks or financial Institutions <u>Current Liabilities:</u> Sundry creditors Bills payable Advances from customers Outstanding expenses			<u>Fixed Assets:</u> Land less depreciation Building less depreciation Plant and Machinery less depreciation Vehicles less depreciation Computer systems less depreciation Office equipments less depreciation <u>Current Assets:</u> Stocks Sundry debtors less provisions Bills receivables Cash in hand Cash at bank Prepaid expenses Advances to suppliers	
Total			Total	

5.7 Treatment of Adjustments in Final Accounts

Treatment of Adjustment in Final Accounts

SNo	Adjustments	Trading, P&L Account	Balance Sheet
1	Closing Stock	Posted at the credit side of Trading A/c	Shown at the Assets side
2	Depreciation	Posted at the debit side of	Shown as deduction from

		P&L A/c	concerned asset
3	Appreciation of assets	Posted at the credit side of P&L A/c	To be added to concerned asset. If the appreciation amount is huge, it is to be added to capital at the liabilities side and to be added to the concerned asset at the assets side of Balance sheet
4	Outstanding expenses	Added to the concerned expense at the debit side of P&L or Trading a/c	Shown at the Liabilities side
5	Prepaid expenses	Deducted from the concerned expense at the debit side of P&L a/c	Shown at the Assets side
6	Accrued income	Added to the concerned income at the credit side of P&L a/c	Shown at the Assets side
7	Unearned income	Deducted from concerned income at the credit side of P&L a/c	Shown at the Liabilities side
8	Interest on Capital	Posted at the debit side of P&L a/c	Added to capital at the liabilities
9	Interest on Drawings	Posted at the credit side of P&L a/c	Deducted from capital at the Liabilities
10	Interest on Investment	Posted at the credit side of P&L a/c	Added to investment at the Assets side
11	Interest on Loans	Posted at the debit side of P&L a/c	Added to Loan A/c at the Assets side
12	Interest on Loans	Posted at the credit side of	Added to Loan A/c at the

	(advances)	P&L a/c	Assets side
13	Bad debts	Posted at the debit side of P&L a/c	Deducted from debtors at the Assets side
14	Provision for bad debts	Posted at the debit side of P&L a/c	Deducted from debtors at the Assets side
15	Provision for bad debts (where already provision exists)	If new provision is more than old provision, the difference is to be debited to P&L A/c and vice-versa	New provision is to be deducted from Debtors at the Assets side
16	Provision for discount on debtors	Posted at the debit side of P&L a/c	Deducted from debtors at the Assets side
17	Provision for discount on creditors	Posted at the credit side of P&L a/c	Deducted from Creditors at the Liabilities side
18	Accidental loss of stock (not insured)	Posted at the credit side of Trading A/c and also the debit side of P&L a/c	No effect
19	Accidental loss of stock (insured partial admission of claim)	Insurance Co. A/c will be shown with the amount of claim admitted by Co. loss of stock will be shown with the amount of the claim not admitted at the credit side of Trading A/c. Loss of Stock will also be shown at the debit side of P&L A/c	Amount due from Insurance company will be shown at the Asset side.
20	Loss of assets by fire (not insured)	Loss by fire A/c will be shown at the debit side of P&L a/c	Loss will be deducted from the Assets at the assets side
21	Accidental loss of	Loss by fire A/c will be shown at the debit side of	Amount due from Insurance co. will be shown at the

	assets (insured)	P&L a/c	Assets side. Loss by fire a/c will be deducted from the Asset.
22	Outstanding Manager's Commission	Posted at the debit side of P&L a/c	Shown at the liabilities side
23	Goods taken by the proprietor for personal use (Drawings)	Amount of goods taken by proprietor will be deducted from purchases in Trading A/c	Amount of goods taken by proprietor will be deducted from Capital at the liabilities side
24	Goods given as charity	Deducted from purchases in Trading A/c	Deducted from Capital at the liabilities side
25	Wages paid for construction of building was debited to wages a/c	The amount will be deducted from wages at the debit side of Trading a/c	The amount will be added to building a/c at the assets side

Illustration 4:

From the following particulars prepare a Balance Sheet of Mr. X, for the year ended 31st March, 2013.

Capital-Rs:2,00,000; Drawings-Rs:40,000; Cash in Hand-Rs:20,000, Loan from Bank-Rs:40,000, Sundry Creditors-Rs:40,000; Bills Payable-Rs:20,000; Bank Overdraft-Rs:20,000; Goodwill-Rs:60,000; Sundry Debtors-Rs:80,000; Land and Building-Rs:50,000; Plant and Machinery-Rs:80,000; Investment-Rs:20,000; Bills Receivable-Rs:10,000.

The following adjustments are made at the time of preparing final accounts:

1. Outstanding Liabilities for: Salaries-Rs:10,000; wages-Rs:20,000; Interest on Bank Overdraft-Rs:3,000; and Interest on Bank Loan-Rs:6,000.
2. Provide Interest on Capital @ 10% p.a.
3. Depreciation on Plant and Machinery by 10% p.a.
4. Bad Debts amounted to Rs:10,000 and make a provision for Bad Debts @ 10% on Sundry Debtors.
5. Closing stock amounted to Rs:1,20,000.

Net profit for the year amounted to Rs:96,000 after considering all the above adjustments.

Solution:

In the books of Mr. X

Balance Sheet as at 31.03.2013

Liabilities	Amount	Amount	Assets	Amount	Amount
Capital	2,00,000		Goodwill		60,000
Add: interest on capital @10%	20,000		Land & Building		50,000
Add: Net profit	96,000		Plant & Machinery	80,000	
	3,16,000		Less: Depreciation @ 10%	8,000	72,000
Less: Drawings	40,000	2,76,000	Investment		20,000
Bank Overdraft	20,000		Closing Stock		1,20,000
Add: Outstanding interest	3,000	23,000	Sundry Debtors	80,000	
Bank Loan	60,000		Less: Bad debts	10,000	
Add: Outstanding interest	6,000	66,000		70,000	
Sundry creditors		40,000	Less: Provision for bad debts	7,000	63,000
Bills Payables		20,000	Bills Receivable		10,000
Outstanding liabilities:			Cash at Bank		40,000
Salaries	10,000		Cash in hand		20,000
Wages	20,000	30,000			
		4,55,000			4,55,000

Illustrations 5

Following is the Trial Balance of M/s Basha and Sons. Prepare final accounts for the year ended on 31st March 2013.

Particulars	Debit (Rs)	Credit (Rs)
Stock as on 01.04.2012: Finished goods		2,00,000
Purchases and Sales	22,00,000	35,00,000
Bills receivables		50,000
Returns	1,00,000	50,000

Carriage Inwards		50,000
Debtors and Creditors	2,00,000	4,00,000
Carriage Outwards		40,000
Discounts	5,000	5,000
Salaries and wages		2,20,000
Insurance		60,000
Rent		60,000
Wages and salaries		80,000
Bad debts		10,000
Furniture		4,00,000
Basha's capital		5,00,000
Basha's drawings		70,000
Loose tools		1,00,000
Printing & stationery		30,000
Advertising		50,000
Cash in hand		45,000
Cash at bank		2,00,000
Petty Cash		5,000
Machinery		3,00,000
Commission	10,000	30,000
Total	44,85,000	44,85,000

Adjustments: (i) Finished goods stock. Stock on 31st March was valued at Cost price Rs: 4,20,000 and market price Rs: 400,000. (ii) Depreciate furniture @ 10% p.a. and machinery @ 20% p.a. on reducing balance method. (iii) Rent of Rs: 5,000 was paid in advance. (iv) Salaries & wages due but not paid Rs: 30,000. (v) Make a provision for doubtful debts @ 5% on debtors. (vi) Commission receivable Rs: 5,000.

Solution

Dr Trading Account for the year ended 31st March 2013**Cr.**

Particulars	Amount	Amount	Particulars	Amount	Amount
<u>Opening Stock:</u>			Sales	35,00,000	
Finished goods		2,00,000	Less: Returns	1,00,000	34,00,000
Purchases	22,00,000		<u>Closing Stock:</u>		
Less: Returns	50,000	21,50,000	Finished goods		4,00,000
Carriage inwards		50,000			
Wages & salaries		80,000			
Gross Profit c/d		13,20,000			
		38,00,000			38,00,000

Dr**Profit & Loss Account for the year ended 31st March 2013****Cr.**

Particulars	Amount	Amount	Particulars	Amount	Amount
Administrative expenses		-	Gross Profit b/d		13,20,000
Salaries & wages	2,20,000		Discount received		5,000
Add: Not paid	30,000	2,50,000	Commission received	30,000	
Depreciation on furniture		40,000	Add: receivable	5,000	35,000
Depreciation of Machinery		60,000			
Insurance		60,000			
Rent	60,000				
Less: Paid in advance	5,000	55,000			
Printing & Stationery		30,000			
<i>Selling & Distribution expenses:</i>					
Advertising		50,000			
Carriage Outwards		40,000			
Discounts		5,000			
Bad debts		10,000			
Commission		10,000			
Provision for doubtful debts		10,000			
Net profit		740,000			
		13,60,000			13,60,000

Balance Sheet as on 31st March 2013

Liabilities	Amount	Amount	Assets	Amount	Amount
Basha's Capital	5,00,000		<u>Fixed Assets:</u>		
Less : Drawings	70,000		Furniture	400,000	
Add: Net Profit	7,40,000	11,70,000	Less: Depreciation	40,000	3,60,000
<u>Long term Liabilities:</u>		-	Machinery	300,000	
<u>Current Liabilities:</u>			Less: Depreciation	60,000	2,40,000
Sundry creditors		4,00,000	Loose tools		1,00,000
Outstanding salaries & wages		30,000	<u>Current Assets:</u>		
			Stocks		4,00,000
			Sundry debtors	200,000	
			Provision for doubtful debts	10,000	1,90,000
			Bills receivables		50,000
			Cash in hand		45,000
			Cash at bank		2,00,000
			Petty cash		5,000
			Prepaid Rent		5,000
			Commission receivable		5,000
		16,00,000			16,00,000

Notes:

1. Closing stock is valued at market price here as it is less than cost price (conservatism concept).
2. Returns in debit column mean sales return, while that in credit column means purchase returns
3. Discounts in debit column mean allowed (expense) and that in credit means received (income)
4. Commission in debit column mean allowed (expense) and that in credit means received (income)
5. There are two peculiar items given in the Trial Balance. One is Salaries & wages and the other is Wages and salaries. The interpretation is – where first reference is made to wages, it's assumed to be directly for goods and taken to Trading A/c. If the first reference is to salaries, it's assumed to be related to office and taken to P & L.

5.8 Key words

1. **Gross profit:** The difference between the selling price and the cost price of goods, before the deduction of any expenses incurred in selling goods.
2. **Net profit:** The profit that remains after deducting all the expenses from the gross profit. It represents the real gain of the business.
3. **Profit and loss account:** It is a statement prepared by the businessman for the ascertainment of profit or loss during the accounting period.
4. **Balance sheet:** It is a statement of assets and liabilities prepared with a view to measure the exact financial position of a business on a particular date, generally the last date of the accounting period.
5. **Proprietor:** Proprietor is the person, who owns the business. He invests capital in the business with the object of earning profits. Proprietor is an individual in case of sole trading, partner in case of partnership firms and shareholder in case of companies.
6. **Drawings:** Cash or goods withdrawn by the proprietor from business for his personal or household use is termed as drawings.
7. **Solvent:** One who is able to pay one's debts when they become due.
8. **Insolvent:** The inability of a person to pay his debts when they become due. The condition in which the liabilities exceed assets. '
9. **Debtors:** Debtor means a person who owes money to the trader.
10. **Creditor:** A creditor is a person to whom something is owed by the business. He is a person to whom some amount is payable for loan taken, services obtained or goods bought.
11. **Equity:** A claim which can be enforced against the assets of a firm is called equity. The equities of a firm are of two types.
 - a. Owner's equity or capital and
 - b. Creditor's equity.

5.9 Self-Assessments Questions

1. What are the important points to be followed in the preparation of trading and profit & loss account?
2. Explain the importance and purpose of Final accounts?

3. What do you mean by adjusting entries? Why is it necessary to pass adjusting entries at the time of preparing final accounts?
4. Discuss 'capital and revenue' in terms of expenditure?

Exercise 1: From the following Trail Balance of Surya & Sons' Co prepare Trading and P&L a/c for the year ended 31-03-2014 and a Balance Sheet as on that date:

	Debit (Rs.)	Credit (Rs.)
Sales		1,80,000
Purchases	1,15,000	
Sales Returns	6,000	
Purchase Returns		4,000
Opening Stock	13,000	
Freight	1,200	
Salaries	18,000	
Interest Received		830
Wages	3,250	
Office Expenses	2,650	
Discount	650	450
Rent	6,300	
Drawings	2,800	
Bills Payable		5,550
Bills Receivable	8,560	
Furniture	26,000	
Machinery	76,000	
General Expenses	1,500	
Postage & Telegrams	850	
Capital		1,01,500
Sundry Debtors	19,000	
Cash in hand	1,250	
Cash at bank	3,950	
Sundry Creditors		13,630
Total	3,05,960	3,05,960

Adjustments:

Closing Stock Rs.27, 500

Outstanding Wages Rs.750

Prepaid Rent Rs.800

Depreciate Machinery by 10% and Furniture by 5%.

Write off bad debts Rs.1000 and provide 3% reserve for doubtful debts

Interest on Capital to be @10% per annum.

(Ans: GP 72,300, NP 23,840, B/s 1,52,620)

5.10 Further Readings

1. .Prasad, V.ChandrasekharaRao, Accounting for Managers, Jai Bharat Publishers, Guntur, Andhra Pradesh, 2006.
2. Asish K. Bhattacharyya, Financial Accounting, Prentice Hall of India, New Delhi, 2005.
- 3.Maheswari, S.N., Maheswari, S.K., Advanced Accountancy (Vol.I), Vikas Publishing House Pvt. Ltd., New Delhi, 2005

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Lesson- 6

Objectives:

After studying this lesson, you should be able to know:

1. the concept of Non Trade organisations
2. Understand the issues of Non Trade concerns
3. Some Top Non Trade organisations

Structure

6.1 Characterisation of Non Trade concerns

6.2 Receipts & Payments accounts

6.3 Income & Expenditure accounts

6.4 Balance Sheet

6.5 Top charities/Non Trade concerns

6.6 Keywords

6.7 Self assessment questions

6.8 Further Readings

Introduction :

Business undertakes motive is to earn a profit. But, there are some organizations which work with a motive to provide service to its members as well as to the general public. The trustees of these organizations are fully accountable to the members and the public. Hence Accounting, for Non-Profit Organizations, become necessary. Examples of such organisations are charitable institutions, religious organisations, clubs, educational institutions, trade unions, etc.,

Not-for-Profit Organisations are organisations which are set up for the welfare of the society or for the promotion of art and culture in the society. These are usually set up as a charitable institution with the service motive. The trustees manage these organisations. The members of the organisation elect the trustees. The Not-for-Profit Organisations raise funds from its members as well as from the general public for meeting their objectives.

The main motive of these organisations is to provide service. However, they may earn profits in the due course. Generally, these organisations do not manufacture, purchase or sell goods or provide services. Thus, they do not need to prepare Trading and Profit and Loss A/c. They credit the funds received to the Capital Fund or General Fund A/c.

Characteristics of Not-for-Profit Organizations

1. **Service Motive:** These organisations have a motive to provide service to its members or a specific group or to the general public. They provide services free of cost or at a bare minimum price as their aim is not to earn the profit. They do not discriminate among people on the basis of their caste, creed or colour. Examples of services provided by them are education, food, health care, recreation, sports facility, clothing, shelter, etc.
2. **Members:** These organisations are formed as charitable trusts or societies. The subscribers to these organisations are their members.
3. **Management:** The managing committee or the executive committee manages these organisations. The members elect the committee.
4. **Source of Income:** The major sources of income of not-for-profit organisations are subscriptions, donations, government grants, legacies, income from investments, etc.
5. **Surplus:** The surplus generated in the due course is distributed among its members.
6. **Reputation:** These organisations earn their reputation or goodwill on the basis of the good work done for the welfare of the public.
7. **Users of accounting information:** The users of the accounting information of these organisations are present and potential contributors as well as the statutory bodies.

Accounting for Non-Profit Organisations

As we know that the not-for-profit organisations do not trade in goods or provide services with a profit motive. But, they also require to keep proper records of incomes, expenses, assets, and liabilities. Their major source of income is donations,

subscriptions, grants, etc. Therefore, most of their transactions are in cash or through the bank account.

They need to keep proper books firstly because they are accountable to the members and the contributors and secondly because the law requires them to maintain proper books so that the government can keep proper control over the grants. Also, proper accounting reduces the risk of fraud and embezzlement. In addition to the ledgers and cash book, they are also required to maintain a stock register. Also, in a Stock register, a complete record of all fixed assets and consumables is maintained.

In accounting for non-profit organizations, instead of maintaining a Capital A/c, these organizations maintain Capital Fund or General Fund A/c. They credit this account with the surplus, life membership fees, donations, legacies, etc.

The not-for-profit organisations also require to prepare the final accounts or the financial statements at the end of the accounting year as per the accounting principles. The final accounts of these organisations consist of:

1. **Receipts and Payments A/c:** It is the summary of the cash and bank transactions. It helps in the preparation of Income and Expenditure A/c and Balance Sheet. We also need to submit it to the Registrar of Societies along with Income and Expenditure A/c and Balance Sheet.
2. **Income and Expenditure A/c:** It is similar to the Profit and Loss A/c and ascertains the surplus or deficit if any.
3. **Balance Sheet:** We prepare it in the same manner as the Balance Sheet of concerns with a profit motive.

Example : Ashraya is an organisation that works for the welfare and betterment of street children. It sponsors their food and clothing. It also provides basic education to children. The sources of its income are donations, subscriptions and government grants. Identify the type of organization stating the reasons thereof. Also, mention the accounting procedure that it shall follow.

Ans: Ashraya is a non-profit organization. It works for the welfare of children and society. Also, the sources of its income are donations, grants, and subscriptions from the members. Hence, it is clear that it works on a service motive and not for profit.

However, non-profit organizations also need to maintain proper books of accounts. The financial statements help them in acquiring donations from the present and future contributors. Also, the financial statements help them to receive grants from various institutions, authorities.

The following are the financial statements that they prepare at the end of the year:

- Receipts and Payments A/c
- Income and Expenditure A/c &
- Balance Sheet

Balance Sheet

Preparing the final accounts is the last stage of the accounting cycle. They help in determining the financial position of the business at the end of the financial as well as the accounting year. These include Trading account, Profit and loss account, and Balance sheet. The balance sheet is a statement which states the assets and liabilities of a firm as at a certain date. As even a single transaction can make a difference in assets or liabilities, the balance sheet is true only at a particular period of time. This is the significance of “asset” in the balance sheet. It is based on the accounting equation that is:

$$\text{Total assets} = \text{Total liabilities} + \text{Capital}$$

As balance sheet is a statement and not an account so there is no debit or credit side. So, Assets are shown on the right-hand side and liabilities on the left-hand side of the balance sheet.

Classification of Assets and Liabilities

Assets: Assets can be classified as:

a. Long term assets: Long-term assets are those assets which are not to be sold by the firm and to be used for a long period of time, such types of assets are also known as Fixed assets. For example, land and building, plant and machinery, vehicles, equipment, etc.

b. Current assets: Currents assets are those assets which can be converted into cash easily from the market. Generally within a year. For example, cash in hand, cash at bank, trade receivables, inventory, etc.

c. Intangible assets: Intangible assets are those which cannot be seen or touched. For example, goodwill, patents, copyrights, etc.

Liabilities

Liabilities can be classified as:

a. Long term liabilities: Long-term liabilities are those which exists for one or more than one year. For example, long-term loan from the bank.

b. Current liabilities: Current liabilities or short-term liabilities are those which are to be settled within a year. For example, trade payables, creditors, outstanding expenses, etc.

Ashraya, a non-profit organization has to follow the above accounting procedure.

Top 10 Charity Organizations of India

Charities (charitable organisations) are the non profit organizations which are dedicated to the change of socio economic condition of the world. In India a charitable society may be established charitable purposes defined under the Trust Act in force in the state. Charities serve people during different kind of crisis, being financial or natural or national. So if you are interested in helping peoples you can do it by either joining or by helping any charitable society. There are a lot of charities throughout the world but before helping the world we should help ourselves, i.e. we should help our country. So here we are presenting to you the top 10 charities of India.

10.) Pahal India Foundation: Registered from Jaipur, Rajasthan the NGO Pahal India Foundation works on the key issues of agriculture, elderly, children, disaster management, civic issues, drinking water, literacy, environment, HIV/AIDS, human rights, employment, land resources and much more. It operates near about all over Rajasthan. Its major achievements are blood donation camps and poor children school fees.

9.) Toybank: Founded by Shweta Chari ,headquarter in Mumbai, an electronics Engineer the toybank have a vision of a world with happy children and healthy childhood. Their main concern is to provide toys to each and every child. They

provide toys to street children to distract them from the hazardous environments. They believe in imparting the education through a toy curriculum.

8.) Jorai Youth Society: From Jorai, the Jorai Youth Society works on agriculture, animal husbandry, children, aged, disaster management, differently abled and more. It also provides ambulance service, health education and common service. Being from the small place of Jorai, Jalpaiguri district its usefulness in the area increases manifold. One of the best organisations from West Bengal.

7.) Help Age India: It is Fighting isolation poverty, neglect Help Age India works for the elderly people established 1978 in India. It makes life better of 15 lakh elders yearly. Along with the Help Age services they also provide physio care to the elders. They encourage Value Education on Age Care all over India. Technique from IIT Guwahati collaborates with Help Age India and they are also enjoying Microsoft's contribution.

6.) Bhumi: Bhumi is a youth volunteer NGO having the mission of grooming transformational leaders for bringing large scale sustainable transformation of the society. Benefitting more than 1600 students from colleges and schools so far it works for the slum children. They conduct help camps, wellness center and a community library at Rasoolpura. Their constant efforts got 6 of the slum students admission in engineering for the first time in history of slums of Rasoolpura.

5.) Pragma Network Educational Society: Pragma Network Educational Society from Delhi works for elderly, art and culture, agriculture, children, education and literacy, disaster management and many more fields. Its main aim is to utilise the modern computer education for the development of the society. It provides training and also generates employment for the women and youth living in villages and slum.

4.) Urmila Brundaban Nayak Memorial Educational Trust: Urmila Brundaban Nayak Memorial Educational Trust from Surat works for civil issues, Disaster management, human rights, children, legal awareness and aid and Advocacy. It has 175 million professionals sharing ideas and opportunities. They support all kind of charities especially for the children's educational services. With a huge line of professionals to follow they are one of the strongest charities of India.

3.) Make A Difference: With the mission of bridging the inequalities through education in society MAD is one of the best charities in India. They are using youth

force to teach the under privileged children. They are providing quality education to the orphanage and street children. They are using self prescribed syllabi for the purpose. All of their students have passed 10th standard. Being fluent in English and having great communication skills they are now facing a bright future.

2.) Child Rights and You (CRY): CRY main objective is to raise fund for children and education. They work on the base of partnership. They have transformed 6700 villages and slums in 18 states by awaking them of their rights. With the help of the public they have changed life of more than 15 lakh children across India. Running from the last 33 years CRY is still restoring the children rights.

1) Asha for Education: Same as CRY their main aim is to raise fund for children and education. They believe in changing the socio economic condition of the country by educating the underprivileged children. They are involved in secular and education related projects. Having more than 73 chapters worldwide (45-US, 14-India, 7-Europe) where their volunteers indentify education related projects for India. They organise their events world wide and organise Asha India Conference.

Concept of Audit

Internal audit is an important function of any information security and compliance program and is a valuable tool for effectively and appropriately managing risk. Are we ensuring we are doing what we say we're doing? Are there gaps in our policies and procedures? Which Areas for improvement? Are we meeting our compliance goals? These important questions are addressed through internal audit.

Importance of Audit in an Organisation

Audit is nothing but an independent and systematic examination of statutory records, books of accounts, documents and vouchers of an organization. This mainly performed or conduct to ascertain how far the financial statements as well as non-financial disclosures present a true and fair view of the concern. Audit is an activity that attempts to ensure that the books of accounts are properly maintained by the concern as required by law.

Academics have started identifying an "Audit Society" .Since, auditing has become an ubiquitous phenomenon in the corporate as well as the public sector. It is an individual that perceives and recognises the propositions before them for

examination. Auditor obtains evidence and formulates an opinion on the basis of his judgement which is communicated through their audit report.

Third party assurance is provided by the auditor on every subject matter. There are many other areas which are commonly audited such as Secretarial & Compliance Audit, Internal Controls, Quality Management, Project Management, Water Management, and Energy Conservation.

In case Small Business owners, the thought of a financial audit is formality. The financial position and organization of a business can be revealed by auditor. Through this, Small Businesses can receive tremendous benefits from better understanding their financial position. Financial audits are also beneficial in highlighting areas of success or concern in a business and help the management team find greater pathways to future success.

Following are the Benefits of Legal and Financial Audit

Better rate of securing financing

Preparation for business growth

Lower interest rates on business loans

Identifying business weaknesses to avoid future tax penalties

Financial review leads greater familiarity to business owner of how the business operates, uses cash and assumes risk.

Importance of Legal and Financial Audit for Small Businesses in India

Evaluation of effectiveness of the company's internal controls is a work performed in audit. There are ways to maintain effective system of internal controls which is vital for achieving a company's business objectives. This also includes obtaining reliable financial reporting on its operations, prevention of fraud and misappropriation of its assets, and minimizing its cost of capital. Auditors contribute in Both internal as well as independent audit system in different but important ways.

Objective of audit is to pursue and attain its various corporate objectives. Company should follow audit system. There are various forms needed in Business processes to facilitate supervision and monitoring, prevent and detect irregular transactions, measure ongoing performance, maintain adequate business records and

to promote operational productivity. It also enables further investigation by management if it is warranted under the circumstances.

Risk of Misstatement is assessed by the Auditor in a Company's financial reports. Company would not be able to create reliable financial reports for internal or external purposes or system of internal controls. It is not easy to allocate resources to know which of its segments or product lines are profitable. Management of affairs and also it would not have the ability to tell the status of its assets and liabilities and would be rendered undependable in the marketplace due to its inability to consistently produce its goods and services in a reliable fashion.

Fraud Prevention can be obtained internal audit as it serves an important role for companies. Maintenance of rigorous systems of internal controls can prevent and detect various forms of fraud and other accounting irregularities. It can also in analyzing company's operations. Deterrence is one of the important part of fraud prevention. In case a company is known to have an active and diligent audit system in place, by reputation alone it may prevent an employee or vendor from attempting a scheme to defraud the company.

Cost of Capital is a n important aspect for every company taking size into consideration. It largely comprises of the risk associated with an investment and in case the investment is at more risk then there is a requirement of higher rate of returns. Strong audit system has to reduce various forms of risk in an enterprise which also risk of improper information.

Summary

A non-trading concern is also known as a non-profit making entity that receives donations and grants from the public and government and uses them to serve the community. The excess of income over expenditure of a non-trading concern is never distributed among the members but rather kept for providing better services in future. The management is responsible for the accounts of a non-trading concern and prepares a balance sheet and income and expenditure account at year end.

Key Words

Accounting is the process of systematically recording, measuring, and communicating information about financial transactions.

Receipts: a written acknowledgment of having received, or taken into one's possession, a specified amount of money, goods, etc. **receipts**, the amount or quantity received. the act of receiving or the state of being received.

Payments: Payment is the transfer of one form of goods, services, or financial assets in exchange for another form of goods, services, or financial assets in acceptable proportions that have been previously agreed upon by all parties involved. Payment can be made in the form of funds, assets or services.

Income: Income is money (or some equivalent value) that an individual or business receives, usually in exchange for providing a good or service or through investing capital.

Expenditure: the act of expending something, especially funds; disbursement; consumption.

Balance Sheet: A balance sheet is a financial statement that reports a company's assets, liabilities and shareholders' equity at a specific point in time, and provides a basis for computing rates of return and evaluating its capital structure. It is a financial statement that provides a snapshot of what a company owns and owes, as well as the amount invested by shareholders.

Charities: A charitable organization or charity is a nonprofit organization whose primary objectives are philanthropy and social well-being.

Self Assessment Questions

- 1.Explain the concept of Non Trade concern
- 2.Discuss the various issues of Non Trade organization
- 3 Explain the importance of Non Trade Business organizations

Further Readings

1. Asish K. Bhattacharyya, Financial Accounting, Prentice Hall of India, New Delhi, 2005.

2. Maheswari, S.N., Maheswari, S.K., Advanced Accountancy (Vol.I), Vikas Publishing House Pvt. Ltd., New Delhi, 2005
3. Tulsian, P.c., Accountancy, Tata McGraw-Hill Publishing Company Limited, New Delhi
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Lesson 7

Objectives

After studying this lesson, you should be able to:

1. Know the objectives of Non Trade concerns(NTCs)
2. Know the treatment of some special items of Non Trade organisations
3. Know the features and prominence of Non Trade organisation

Structure

7.1 Objectives of NTCs

7.2 Features of NTCs

7.3 Treatment of items

7.4 Merits and Demerits of NTCs

7.5 Key Words

7.6 Self Assessment questions

7.7 Further Readings

Non-trading concerns are simply non-profit making entities that exist solely for the betterment of the society by providing quality services. Unlike trading concerns that sell goods and services to earn profit, the non-trading concerns accept donations and receipts from the general public, corporate entities and government to run its operations. Some of the common examples of non-trading concerns are as follows:

- Orphanages
- Sports clubs
- Civil hospitals
- Libraries
- Charities
- Government owned educational institutions
- Civil Hospitals

Objective of Non-Trading Concerns (NTCs):

The main objective of a non-trading concern is to serve the community. It accepts donations and grants from general public and government to meet day to day expenditures.

Sources of income: The main sources of income for a non-trading concern are donations, fees and government or municipal grants. The income should generally be received through a proper banking channel in order to provide an audit trail.

Components of Non-Profit Accounting

There are certain areas where accounting for nonprofit organizations differs from that of the general organization whose aim is to earn a profit. The following are the different components that are different in the case of non-profit accounting.

The non-profit organizations receive donations from various individuals and business entities where the donations can be a general donation or specific donation where a general donation can be used for any purpose in the organization whereas the specific donation can be used only for the purposes for which the donor has given the donation. These donations are shown in the statement of the financial position under the head assets.

The main motive of a nonprofit organization is to provide the services for the welfare of the society and there are certain programs that are conducted by the nonprofit organizations and the accounting for such programs are done separately to know separate surplus/deficit from such program.

In normal profit-making companies, there is a separate head that reports shareholders' equity but shareholders and investors are not there in the nonprofit organizations, hence, there is no equity stake in such organizations. Thus in the case of the non-profit organizations, net assets take place of the equity in the statement of the financial position.

In the case of non-profit organizations, the statement of activities is prepared which calculates surplus/deficit instead of profit and loss account which calculates profit/loss in the profit-making organization and in place of the Balance sheet statement of the financial position is prepared for the non-profit organization. Cash flow statements are prepared in both type of organizations and statement of equity is

not prepared in case of a nonprofit organization as equity shareholders and investors are not there.

Apart from this, in the case of the Non-profit organizations, one extra report known as the statement of the functional expenses is prepared which actually records the funds accounting of the company. This report shows the total expenses incurred by the company along with the details of the expenses spent by the company.

Advantages

The various advantages related to Non-Profit Accounting are as follows:

In the case of the Non-profit organizations, one extra report known as the statement of the functional expenses is prepared which actually records the funds accounting of the company. This report shows the total expenses incurred by the company along with the details of the expenses spent by the company by dividing it into the fund and category wise.

There are certain programs that are conducted by the non-profit organizations and the accounting for such programs are done separately to know separate surplus/deficit from such a program. This will enable the management to make the analysis of every program in a proper manner.

Disadvantages

Though a Non-Profit Accounting is useful in the above-mentioned ways, there are certain disadvantages also. The various disadvantages related to Non-Profit Accounting are as follows:

Non-profit accounting is more immune to the frauds when compared with accounting for the profit organizations. There are chances when the person responsible for the accounting does not account for some of the grants received by the organizations. In order to overcome this problem, organizations should place a better internal control in the organization and assigning the financial duty to multiple persons instead of assigning it to a single person.

Accounting for the Non-Profit is different from the For-Profit organization so, the person who is responsible for accounting should have proper knowledge of the

accounting principles and standards that are applicable to the non-profit organization and ensure proper compliance with that.

Accounting for non-trading concerns:

The accounting for a non-trading concern is generally as per the principles of double entry bookkeeping system. They generally only maintain a cash book to record receipts and payments made during the year. The cash book is converted into receipt and payment account at the end of the year. The receipts and payments account is a summarized form of cash book and is considered a more useful source of information for preparing final accounts of the entity. By using information from receipt and payment account and from other sources, the entity prepares its income and expenditure account and balance sheet at the end of the period. The income and expenditure account shows a surplus or deficit for the year and balance sheet shows the assets and liabilities of the entity at the end of the year.

Surplus or excess of income over expenditure ascertained by the income and expenditure account is never distributed among the people who support the organization but rather saved to be used by the organization in future to improve the quality of services and to buy assets necessary to carry out operations of the organization.

Management and control: The responsibility for the management and control of a non-trading concern rests with the board of trustees who came together to make the organization in the first place.

Chances of fraud: There is a medium to high risk of fraud in a non-trading concern as individuals within the organization may misappropriate donations or grants received and run away with the money. Therefore the control over assets is generally very strict. Only some certain trusted individuals have access to the assets of the organization. Moreover, the operations of non-trading concerns are closely watched and regulated by the government through strict laws.

Features of Not For Profit Concerns :

1. Such concerns are formed to promote welfare of the people in general.
2. They prohibit the payment of any dividend to their members.

3. They are formed for the purpose of promoting commerce, art, science, charity or any other useful object.
4. They collect the income from source like donations, subscriptions, admission fees, government grant etc.

Normally, the following types of statements are prepared by non-trading organization at the end of financial year:-

- Receipt and Payment Account
- Income and Expenditure Account

All non-trading organizations maintain the Receipts and Payment Account. For example – all voluntary organizations like sports clubs, trade unions, political associations, consumer co-operatives, medical association, automobile associations, educational institutions, hospitals, charitable trusts etc.

The aim of these organizations is not to earn the profit out of their activities. At the Annual General Meeting, the treasurer submits Receipt and Payment Account and Income and Expenditure Account to its members.

So, Non-trading organizations do not exist to make a profit but instead to provide voluntary services to its members and the public. Since this type of organization does not trade for a profit, they get their sources of income from:

- Government grants
- Donations from the public and private sectors
- Fund raising activities i.e. raffles, fairs, dance, competitions etc.
- Subscription/Membership dues
- Rental of facilities and equipments
- Competition fees/Competition entry fees
- Gain on the sale of fixed asset

Even though non-trading organizations do not trade, there are financial records that must be kept. These records are prepared almost on the same way trading organizations prepare the financial records except with different names.

Accounting treatment of some special items of Non-trading concerns

There are some special items which are used in the accounts of non-trading concerns or non-profit organizations which are as under.

1. **SUBSCRIPTIONS:** It is an amount paid by the members of non-trading concerns at regular intervals to keep their membership alive. It is the main and regular source of income of non-profit organizations. The name of a member may be deleted from the membership roll if he does not pay his subscriptions within a specified time. Normally it is paid annually.

ACCOUNTING TREATMENT: It has already been mentioned that subscriptions are the main source of income of non-profit organizations. Therefore, it should be written as an income in Income and Expenditure Account. Subscriptions may be received for previous, current and next year, so care should be taken that subscription relating to current year only would be treated as an income.

Example: Suppose, 2019 is a current year for which income and Expenditure Account is being prepared.

2. **ADMISSION FEE OR ENTRANCE FEE:** Amount received from the new members at the time of their admission in addition to the subscriptions is called admission fee or entrance fee. Every member pays admission fee once only, at the time of becoming a member.

ACCOUNTING TREATMENT: The accountants are divided on the treatment of admission fee.

Some accountants are of the view that admission fee is received only once from a member, so it is a receipt of non-recurring nature and should be treated as capital receipt and should be added to the capital fund.

Another opinion is that, though it is received only once from the members, but membership remains open throughout the year. Every year many new members take admission, in this way admission becomes a receipt of a recurring nature and it is treated as an income. Generally, it is treated as an income.

Where the amount of admission fee is small, just to cover the expenses of admission, it should be treated as revenue receipt and should be recorded on income side of Income and Expenditure Account.

When a specific direction has been given it should be treated accordingly.

3. SALE OF NEWSPAPERS: Old newspapers and periodicals (Magazines) are sold at regular intervals. Amount realized so is very nominal and recurring in nature.

Also Check: Differences between trading and non-trading concerns

ACCOUNTING TREATMENT: It is a revenue receipt and treated as an income and should be credited to Income and Expenditure Account.

4. SALE OF OLD SPORTS MATERIAL

It is a routine activity of the sports clubs that they sell their old sports material on regular basis because sports material gets older soon due to extensive use.

ACCOUNTING TREATMENT: Proceeds from the sale of old sports material is a revenue receipt and should be credited to Income and Expenditure Account.

If, however, depreciation is being charged on sports material, then sports material is an asset and sale of old sports material will be deducted from sports material on the assets side of Balance Sheet.

5. DONATIONS: Amount or item received by way of gift from members and general public is called donation. Amount of subscriptions may not sufficient to meet the expenses of non-trading concerns that's why they receive donations. Donations may be received for general or specific purpose. For example, donation received for the constructions of a new building.

ACCOUNTING TREATMENT: If the donation is received for any specific purpose, it will be treated as capital receipt and will be recorded on liabilities side in the Balance Sheet.

If the donation is not for a specific purpose and amount received is not a fairly large amount, it would be treated as an income and be recorded on the income side in Income and Expenditure Account.

When a specific direction has been given, it should be treated accordingly.

6. LIFE MEMBERSHIP FEE: Sometimes an organization offers its members to become lifetime member by paying a lump sum amount. Thus the lump sum amount

received by a non-profit organization from its members to give them lifetime membership is called Life Membership Fee.

ACCOUNTING TREATMENT: Amount received as Life Membership Fee is treated as capital receipt because organizations will have to provide services to these members for lifetime. Amount of Life Membership Fee will be recorded as a liability in the Balance Sheet. An amount equal to annual subscription is transferred every year to Income and Expenditure Account as an income. The balance will be shown as a liability in the Balance Sheet.

If amount of Life Membership Fee is small then it may be treated as an income.

When a specific direction has been given, it should be treated accordingly.

7. LEGACY: The amount or property received by non-trading concerns by way of the will of a deceased person is called a legacy. It is a non-recurring receipt in its nature.

ACCOUNTING TREATMENT: It is a capital receipt and will be added in the capital fund on the liabilities side of the Balance Sheet.

8. SPECIAL SUBSCRIPTIONS OR SECTIONAL SUBSCRIPTION: The additional amount collected from members for some special purposes is called special subscription. A special fund is created and special subscription is transferred to this fund for example Building fund, Tournament Fund and Prize Fund etc.

ACCOUNTING TREATMENT: Amount of special subscription is credited to the special fund that is recorded as a liability in Balance Sheet.

Any expenses out of these funds will be deducted from the special fund in Balance Sheet and will not be recorded as an expense in Income and Expenditure Account.

9. SALE OF ASSETS: Sometimes non-trading concerns sell their old assets such as old furniture or old equipment etc. it is non-recurring in nature.

ACCOUNTING TREATMENT: Sale of assets is not an income rather it is a decrease in assets and will be deducted from the respective assets in Balance Sheet.

Any loss on sale of asset is recorded on the debit side of Income and Expenditure Account.

Any profit on sale of assets will be added to capital fund on liabilities side of Balance Sheet.

10. HONORARIUM: It is a token payment made to a person, who is invited to give a lecture or to perform for the members of the non-profit organizations. For example, payment made to a singer or renowned scholar.

ACCOUNTING TREATMENT: It is a revenue payment and being an expense, will be recorded on debit side of Income and Expenditure Account.

11. PURCHASE OF NEWSPAPERS AND PERIODICALS: It is a recurring expense and recorded on the expenditure side of the Income and Expenditure Account.

12. PURCHASE OF SPORTS MATERIAL: In organizations such as Sports Clubs, Sports material is destroyed in a very short time. Therefore, sale and purchase of sports material is a routine activity for such clubs.

ACCOUNTING TREATMENT: Purchase of sports material is treated as revenue expenditure and it is recorded as an expense on debit side of Income and Expenditure Account

If, however, depreciation is being charged on sports material or Sports Equipment, it is treated as an asset.

Also Check: Difference between receipt and payment account and income and expenditure account

13. DEPRECIATION: A permanent and gradual decrease in the value of fixed assets, due to their wear and tear and usage, is called depreciation.

ACCOUNTING TREATMENT: It is revenue expenditure and it will be recorded on the debit side of Income and Expenditures Account.

14. CAPITAL FUND: It is nothing, but the capital of non-trading concerns. It is made up of contribution of the members, special donations, by capitalizing admission fee and by transferring surplus. Thus the excess of total assets over total liabilities of non-trading concerns is called “capital fund”.

ACCOUNTING TREATMENT: Just like capital of trading concerns, it is recorded on the liabilities side of Balance Sheet. “Surplus” is added in it and “Deficit” is deducted from it.

15. **UNRESTRICTED FUND:** The fund which is at the disposal of the management committee of the non-trading concerns is called unrestricted fund. It is available for use as authorized by the management committee.

16. **RESTRICTED FUND:** The fund, the use of which is restricted by the donor is called restricted fund.

17. **ENDOWMENT FUND:** Endow means to provide permanent income for. An endowment fund is that the principal of which is kept in an income-producing investment for an indefinite time period.

ACCOUNTING TREATMENT: Endowment fund like other funds is treated as a liability.

Investment made out of endowment fund is treated as an asset.

Interest on investment of endowment fund is treated as an income.

18. **ANNUITY FUND:** A fund established by non-trading concerns to make specified payment periodically for a specified time period for the assets received.

19. **LOAN FUND:** This fund is established by the non-profit organizations to grant loans to the members.

20. **AGENCY FUND:** This fund is created with the amount held by the non-profit organizations as custodian. For example, a fund established with the security deposits of the members. It is shown as a liability in the Balance Sheet.

Conclusion

Thus the Non-profit accounting is the unique system followed in the non-profit organization for the purpose of recording and reporting of the business transactions done by them. The main motive of a nonprofit organization is to provide the services for the welfare of the society and not to earn the profit, and thus it receives a huge amount of the contributions from the different parties without any expectations to receive the return on such contributions.

The accounting approach thus followed by the non-profit organization differs from that of the for-profit organizations. There are three main reports in the financial statement of the non-profit organizations which include a statement of the financial position, statement of the activities and the statement of the functional expenses.

Key Words

Objectives: A specific result that a person or system aims to achieve within a time frame and with available resources. In general, **objectives** are more specific and easier to measure than goals. **Objectives** are basic tools that underlie all planning and strategic activities.

Feature: a typical quality or an important part of something: The town's main **features** are its beautiful mosque and ancient marketplace. Our latest model of phone has several new **features**.

Component : a part that combines with other parts to form something bigger

Item: something that is part of a list or group of things

Self Assessment Questions

1. what are the objectives of Non Trade concerns
2. Discuss the Treatment of some special items of Non Trade organizations
3. Explain the advantages and Disadvantages of Non Profit organization for the public

Further Readings

1. Asish K. Bhattacharyya, Financial Accounting, Prentice Hall of India, New Delhi, 2005.
2. Maheswari, S.N., Maheswari, S.K., Advanced Accountancy (Vol.I), Vikas Publishing House Pvt. Ltd., New Delhi, 2005
3. Tulsian, P.c., Accountancy, Tata McGraw-Hill Publishing Company Limited, New Delhi
4. Shukla, M.C., Grewal, T.S., Gupta, S.C., Advanced Accounts (Vol.I) S.Chand& Company Ltd., New Delhi, 2005.

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Lesson 8

Objectives

After studying this lesson, you should be able to:

1. Know the Registration of NTCs
2. Know the difference between Trading & Non Trading concerns
3. Know the difference between income & expenditure accounting

Structure

- 8.1 Difference between Trading & Non Trading Concerns
- 8.2 Difference between Receipts & Payments accounting
- 8.3 Difference between Income & Expenditure accounting
- 8.4 Limitations of the Accounts
- 8.5 Key Words
- 8.6 Self Assessment questions
- 8.7 Further Readings

8.1 Difference between Trading Concern and Non Trading Concern:

Profit Making Concern / Trading Concern –

1. The main purpose is to earn profit through trading.
2. They purchase and sale goods, they carries on a trade and so they prepare Trading account.
3. They work for profit earning and so they prepare Profit and loss account.
4. The final account of such concerns involves Trading account, profit and loss account and balance sheet.
5. Such concerns are basically formed for profit earning and so :
 - (i) Credit balance of profit and loss account is termed as “ Net profit “.
 - (ii) Debit balance of profit and loss account is termed as a “ Net loss “.
6. The excess of assets over the liabilities is termed as capital worth / Net worth .

7. Detailed books of accounts required to be maintained such as subsidiary books, ledger, cash book, petty cash book etc.
8. In general, summary of cash book not requires to be published.
9. The owners provides capital from own funds, if required they borrow funds. So the items like donations, grants, entrance fees etc. not appeared in the books.

Non profit making concerns / Non Trading concerns –

1. The main purpose is to provide services to society for development.
2. In general they do not purchase or sale Trading goods and so they do not prepare Trading Account.
3. They work for social welfare so they do not prepare profit and loss account, they prepare income and expenditure account.
4. The final accounts of such concerns involve income and expenditure A/c, balance sheet. A summary of cash transactions I.e. Receipts and payments account is also prepared.
5. Such concerns are basically formed for social benefit and not for profit and so
 - (i) Credit balance of income and expenditure account is termed as Surplus / Excess of income over expenditure .
 - (ii) Debit balance of income and expenditure account is termed as Deficit / Excess of expenditure over income .
6. There is no capital account and so the Excess of assets over liabilities is termed as a Capital Fund / General Fund .
7. Such concerns have to maintain limited number of books such as Cash book, members registers, ledger etc.
8. These concerns have to make public the summary of cash transactions so that the people should know how the total cash raised is distributed for various reasons.
9. Such concerns collect the funds from Donations from people, subscription, administration fees, grant etc.

8.2 & 8.3 The Difference Between Receipt And Payment Account And Income And Expenditure Account

Following are the differences between these two accounts:-

<u>Receipt and Payment Account</u>	<u>Income and Expenditure Account</u>
It is a real account.	It is a nominal account
It is cash account of non-trading organizations.	It is like profit and loss account
All receipts are shown in debit side of this account.	All expenses and losses are shown in debit side of this account.
All payment are shown in credit side of this account.	All incomes are shown in credit side of this account
Opening balance of cash is shown in beginning of this account.	No such balance is shown in beginning of this account
Balance at the end represents as closing balance of cash.	Balance at the end represents excess of income over the expenditure or <i>vice versa</i> .
All revenue and capital receipts are recorded in this account.	It records only revenue receipts.
It shows all receipts and payment whether they relate to other financial year.	It show income and expenditures of current year only.
Depreciation, bad debits etc. are not recorded in this account.	Depreciation, bad debits are recorded in this account since these are the losses to the organization.
As it is a cash account, it will always show debit balance.	This account may show debit or credit balance according to loss or profit.

Meaning of Receipt and Payment Account

It is prepared at the end of the financial year. It shows the summary of all receipts and payment of cash transactions under some important or desired heads. Since this account gives only the summary of cash transactions, the details of all the transaction can be seen in cash book.

Illustration:

Prepare the Receipts and Payment Account on 31.03.2016 from the following transactions of Delhi Sports Club:-

Particulars	Amount (In Rs.)
Entrance Fees	5000/-
Subscription Collected	20000/-
Salaries Paid	10000/-
Donation for Club pavilion	200000/-
Construction for Club pavilion	150000/-
Rent paid	8800/-
News Papers and Periodicals	10000/-
Prakruti Miscellaneous expenses	4000/-
Tournament Expenses	20000/-
Furniture purchased	10000/-
Outstanding Salaries and Rent	3000/-
Opening Cash in Hand	10000/-

Delhi Sports Club Receipts and Payment Account As On 31.03.2016 Solution:

RECEIPTS	AMOUNT	PAYMENTS	AMOUNT
	(IN RS.)		(IN RS.)
OPENING BALANCE	10000	SALARIES	10000
ENTRANCE FEES	5000	CONSTRUCTION FOR –	
DONATION FOR CLUB PAVILION	200000	CLUB PAVILION	150000
SUBSCRIPTIONS	20000	RENT	8800
		NEWSPAPERS & PERIODICALS	10000
		MISCELLANEOUS EXPENSES	4000
		FURNITURE PURCHASED	10000
		TOURNAMENT EXPENSES	20000
		CLOSING BALANCE OF CASH	22200
TOTAL	235000	TOTAL	235000

8.4 Limitations of Receipt and Payment Account

Following are the limitations of Receipt and Payment Accounts:-

- Expenses and incomes are not shown on accrual basis.
- It is very difficult to know whether these types of organizations are able to meet the expenses out of the income.

Income and Expenditure Account

Income and Expenditure account shows the summary of all incomes and

RECEIPTS	AMOUNT	PAYMENTS	AMOUNT
	(IN RS.)		(IN RS.)
OPENING BALANCE	18000	SALARIES	48000
SALE OF INVESTMENTS	20000	STATIONERY	2000
DONATIONS	1000	DEFENCE BONDS	30000
SUBSCRIPTIONS	90000	RENT	5000
SALE OF OLD FURNITURE	3000	CYCLE PURCHASED	3000
(BOOK VALUE RS.4000/=)		FURNITURE PURCHASED	20000
		CLOSING BALANCE OF CASH	24000
TOTAL	132000	TOTAL	132000

expenditures of an organization for complete year. It is just like Profit and Loss Account. Following points should be noted in respect of Income and Expenditure Account:-

- It is a nominal account.
- All the expenses are shown in debit side.
- All incomes are shown in credit side.
- It shows income and expenditure of current year only on accrual basis.
- Only revenue expenses are shown in this account. No capital expenditure is shown in this account.

Illustration:-

Prepare the Income and Expenditure Account of XYZ Club for the financial year 2015-16 from the following transactions:-

Solution:

XYZ Club Income and Expenditure Account As On 31.03.2016

	DEBIT		CREDIT
EXPENDITURE	AMOUNT	INCOME	AMOUNT
	(IN RS.)		(IN RS.)
SALARIES	48000	SUBSCRIPTIONS	90000
RENT	5000	DONATIONS	1000
STATIONERY	2000		
LOSS ON SALE OF FURNITURE	1000		
EXCESS OF INCOME OVER-			
EXPENDITURE	35000		
TOTAL	91000	TOTAL	91000

Note:

- Sale of investment is not revenue income.
- Loss on sale of furniture is to be shown in expenditure side. i.e. Book value less sale value.
- Purchase of Defence Bonds is not expenditure. It is an investment.
- Furniture is a capital expenditure.
- Cycle is also capital expenditure.

Below are the different terms used between a trading and non-trading organization.

Trading Organizations	Non-trading Organizations
Capital (assets – liabilities)	Accumulated fund (asset – liabilities)
Cash Book	Receipts and Payments
Trading Account	Bar Trading/Activity Trading
Profit and Loss Account	Income & Expenditure Account
Balance Sheet	Balance Sheet
Profit	Surplus (excess of income over expenditure)
Deficit	Loss (excess of expenditure over income)
Debtor	Subscription in arrears
Creditor	Subscription in advance

Accumulated fund is calculated the same way as capital:(assets – liabilities = accumulated fund).**Receipts and Payments Account:** This account is prepared to record **money received and paid out** during the current year. The receipts and payments account usually begin with the balance b/d from the previous year. **Receipts are recorded on the debit side** of the account and **payments are recorded on the credit side** of the account. There is no recording for adjustments (prepayments and arrears) or assets that are already on the books.

8.5 Key words

Audit: an official inspection of an organization's accounts, typically by an independent body.

Small businesses: Small businesses are privately owned corporations, partnerships, or sole proprietorships that have fewer employees and/or less annual revenue than a regular-sized **business** or corporation.

Non Trade Invoice: A **non-trade** invoice is a **document**, another type of invoice, issued for those transactions that are not directly related to the company's operations or production. As we are all aware, invoices are given when there is a direct exchange of mutual agreement for a purchase of product or taking advantage of a particular service.

Licence: A license or licence is an official permission or permit to do, use, or own something. A license can be granted by a party to another party as an element of an agreement between those parties.

Nonprofit organization: A non profit organization, also known as a non-business entity, not-for-profit organization, or nonprofit institution, is an organization dedicated to furthering a particular social cause or advocating for a shared point of view.

8.6 Self assessment questions

1. Discuss the Receipt and Payment Accounts
2. Explain the Income & Expenditure Accounts
3. Discuss the Balance sheet of Non Trade concerns with examples

8.7 Further Readings

1. Asish K. Bhattacharyya, Financial Accounting, Prentice Hall of India, New Delhi, 2005.
2. Maheswari, S.N., Maheswari, S.K., Advanced Accountancy (Vol.I), Vikas Publishing House Pvt. Ltd., New Delhi, 2005
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Lesson 9: Financial Statements Analysis – Introduction**Objective**

After studying this lesson, you should be able to know:

the Types of Financial Statements

Tools of Financial Statements analysis.

Structure**9.1 Introduction****9.2 Financial Statements****9.3 Financial Statements Analysis****9.4 Types of Financial Analysis****9.5 Objectives of Financial Analysis****9.6 Tools of Financial Analysis****9.7 Key words****9.8 Self-Assessment Questions****9.9 Further readings****9.1 Introduction**

Accounting process involves recording, classifying and summarizing various business transactions. The daily transactions of a business are recorded in different subsidiary books. These transactions are posted into various ledger accounts and the balances are taken out at the end of a financial period. The aim of maintaining various records is to determine profitability of enterprise from operations of the business and also to find out its financial position. The term analysis of financial statements is applied to almost every kind of detail inquiry into financial data.

The analysis of financial statements is an attempt to determine the significance and meaning of the financial statements data so that the forecast may be made of the future prospects for earnings, ability to pay interest and debt maturities and profitability.

9.2 Financial Statements

Financial Statements or Final Accounts are the summaries of financial accounts prepared periodically by a business. These are the end products of Financial Accounting. It includes the following:-

1. Income statement or Profit and Loss Account
2. Statement of Retained Earnings or Statement of Changes in Owner's Equity
3. Balance sheet or Position Statement
4. Funds flow statement
5. Cash flow statement
6. Schedules

Note: There is no legal format for the profit and loss account. Therefore, it can be presented in traditional 'T' form, or vertically in statement form as given below.

1. Income statement or Profit and Loss Account

The **income statement** is one of the major financial statements used by accountants and business owners. The income statement is sometimes referred to as the profit and loss statement (P&L), statement of operations, or statement of income. It is prepared according to the matching concept of accounting principle. It is a summary of all revenue expenses and incomes relating to an accounting period. The result of income statement is either net profit or net loss

Income Statement of X Ltd., for the year ended 31/03/2012

Gross Sales	
Less: Returns	
Net Sales	
Less: Cost of Goods Sold	
Gross Profit	
Less: Operating Expenses	
Operating Profit	
Add: Non Operating Income	
Less: Non Operating Expenses	
Net Profit Before Tax	

Less: Income Tax	
Net Profit After Tax	

2. Statement of Retained Earnings or Profit and Loss Appropriation Account

It explains changes in owners' equity over the accounting period and discloses all appropriations made out of net profits during the period and net surplus added to capital or owners' equity.

Statement of Retained Earnings for the year ended.....

Net profit for the year	
Less: Appropriations made out of profits	
Dividend paid/ Drawings	
Transfer to General Reserve	
Transfer to Dividend Equalization fund	
Transfer to Sinking Fund	
Add: Balance of profit carried forward from previous year	
:: Balance Carried forward to Balance Sheet	

3. Balance Sheet or Position Statement

It is a list of all balances of accounts left after preparing the Income Statement together with the balance of the income statement. It discloses the financial position of the business on the last day of the accounting period. Balance sheet always satisfies the accounting equation "shareholders Equity + Long term debt = Fixed assets + Working Capital"

4. Funds flow statements

It is a statement which discloses the sources and applications of funds or working capital. It explains reasons for changes in working capital during an accounting year. It is also known as statement showing changes in financial position prepared on working capital basis.

5. Cash flow statement

A cash flow statement discloses the movement in liquid cash between two balance sheet dates. The term cash includes cash in hand, cash at bank and cash equivalents like Government Securities, Treasury Bills etc.

6. Schedules

These are the statements which explain the items given in income statement and balance sheet. Schedules are part of financial statements which give detailed information about the financial position of a business organization.

9.3 Financial Statement Analysis

It is a process of evaluating the relationship between component parts of a financial statement to obtain a better understanding of a firm's position and performance.

According to John Myer, "Financial statement analysis is largely a study of relationship among the various financial factors in a business as disclosed by single set of statements and a study of the trend of these factors as shown in a series of statements.

According to Kennedy and Muller, "The analysis and interpretations of financial statements reveal each and every aspect regarding the well-being financial soundness, operational efficiency and creditworthiness of the concern concerned."

9.4 Types of Financial Analysis

Two types of analysis are undertaken to interpret the position of an enterprise. They are: (1) Vertical Analysis; (2) Horizontal Analysis. The Companies Act, 1956 permits the companies to present the financial statements in vertical as well as horizontal form.

1. Vertical analysis:

It is the analysis of relationship as between different individual components. It is also the analysis between these components and their totals for given period of time. Such an analysis examines only the relationship as between different components for a given point of time. It does not focus light on characteristic behaviors of the above relationships. It is also regarded as static analysis. Comparison of current assets to current liabilities or Comparison of debt to equity for one

particular time are the examples of vertical analysis. Thus, the vertical analysis can be done in the following ways.

1. By preparation of common size statements of the two similar units.
2. By preparing common size statement of different years of the same business unit.

2. Horizontal analysis:

It is the analysis of changes in different components of the financial statements over different periods with the help of a series of statements. Such an analysis makes it possible to study periodic fluctuations in different components of the financial statements. Study of trends in debt or share capital or their relationship over the past ten year period or study of profitability trends for a period of five or ten years are examples of horizontal type of analysis. Horizontal analysis is also known as 'dynamic analysis' since this reflects changes in financial position of the company over a long period of time. It comprises:

1. Comparison of the financial statements of different years of the same business unit.
2. Comparison of Financial Statement of a particular year of different business units.

9.5 Objectives of Financial Analysis

Analysis of financial statements may be made for a particular purpose in view. However, the following are generally considered to be the objectives of financial analysis.

1. To find out the financial stability and soundness of the business enterprise.
2. To assess and evaluate the earning capacity of the business.
3. To estimate and evaluate the fixed assets, stock, etc., of the concern.
4. To estimate and determine the possibilities of future growth of business.
5. To assess and evaluate the firm's capacity and ability to repay short-term and long-term loans.
6. To evaluate the administrative efficiency of the business enterprise.

Importance of Financial Analysis:

Analysis of financial statements is carried out to measure the enterprise's liquidity, profitability, solvency and other indicators to assess its operating efficiency, financial position and performance. Financial analysis serves the following purpose.

1. **Know the Operational Efficiency of the Business:** The financial analysis enables the management to find out the overall efficiency of the firm. Department wise efficiency can also be judged from the available data. This will enable the management to locate weak spots of the business and take necessary remedial action.
2. **Helpful in measuring the solvency of the business:** The firm must know its financial soundness. It should satisfy itself that its current resources are sufficient to meet its current liabilities. This is possible through the calculation of liquid ratios. On the other hand, the long term financial position can be measured by calculating Debt equity, Proprietary and fixed assets ratio. Thus, the financial analysis helps the decision makers in taking appropriate decisions for strengthening the short-term as well as long-term solvency of the firm.
3. **Comparison of past and present results:** Financial statements of the previous years can be compared on the trend regarding various expenses, purchases, sales, gross profit and net profit can be ascertained. The cost of goods sold, values of assets and liabilities can be compared and the future prospects of the business can be indicated.
4. **Helps in measuring the profitability:** Financial statements show the gross profit, net profit and other expenses. The relationship of these items can be established with sales by calculating operating ratio. This type of analysis helps the managers in taking certain decisions for improving the profitability or reducing the losses of the firm.
5. **Inter-firm comparison:** The financial analysis makes it easy to make inter-firm comparison. Various financial characteristics like profitability, liquidity, solvency of different firms can be compared. This comparison can also be made for various time periods.
6. **Helps in judging the solvency of the undertaking:** Creditors are always interested in knowing the solvency i.e., the capacity of the business to repay their loans. Through financial analysis it is possible to know
 - a. Whether current assets are sufficient to meet current liabilities.

- b. Proportion of liquid assets to current assets.
 - c. Future prospects of the business
 - d. Whether debentures and other loans are secured or not
 - e. Managerial efficiency of the company
7. **Bankruptcy and failure:** financial statement analysis is a significant tool in predicting the bankruptcy and failure of the business enterprises. Financial statement analysis accomplishes this through the evaluation of solvency position.
8. **Helps in forecasting:** the financial analysis will help in assessing future development by making forecasts and preparing budgets. Capital budgets are prepared after taking into account the profitability of various alternative proposals. The Trend shown by financial analysis will cover for the future.

9.6 Tools of Financial Analysis

Various tools and techniques are used for financial analysis. The most widely used tool is the ratio analysis. Given are the important tools of financial analysis:

- 1. Comparative Financial Statement analysis
- 2. Common Size Statement analysis
- 3. Trend Analysis
- 4. Cost Volume Profit Analysis
- 5. Ratio analysis
- 6. Funds flow analysis
- 7. Cash flow Analysis

9.6.1 Comparative Statement Analysis:

Comparative financial statements are those statements which are designed to provide time perspective to the consideration of various elements of financial position embodied in such statements. In these statements figures for two or more periods are shown side by side to facilitate comparison. Both the income statement and balance sheet can be prepared in the form of comparative financial statements.

i) Comparative Income statement: A comparative income statement presents the results of multiple accounting periods in separate columns. The intent of this format is to allow the reader to compare the results of multiple historical periods, thereby giving a view of how a business is performing over time.

There is no standard comparative income statement format. The easiest way to create a comparative income statement is to list the accounts in the left column. Then, create columns for each accounting period with the most current closest to the left. Take a look at each example of a comparative income statement.

ii) Comparative Balance sheet:

A comparative balance sheet showcases:

- Assets and liabilities of business for the previous year as well as the current year
- Changes (increase or decrease) in such assets and liabilities over the year both in absolute and relative terms

Thus, a comparative balance sheet not only gives a picture of the assets and liabilities in different accounting periods. It also reveals the extent to which the assets and liabilities have changed during such periods.

Furthermore, such a statement helps managers and business owners to identify trends in the various performance indicators of the underlying business.

9.6.2 Common size Statement Analysis

Common size statement is financial tool of studying key changes and trends in financial position of a company. In common size statement, each item is stated as a percentage of the total of which that item is a part, each percentage exhibits the relation of the individual item to its respective total. Therefore, the common size percentage method represents a type of ratio analysis. That is why this statement is also designated as “component percentage” or 100 per cent statement.

Preparation of the common size statement involves two steps.

- i) State the total of the statement as 100 per cent
- ii) Compute the ratio of each item to the total in the statement

Common-size statement can be used both for vertical and horizontal analysis. Comparison of the company's position with the related industry as a whole is possible with the help of vertical analysis.

a) Common size income statement:

The Common size income statement is designed to exhibit what proportion of the net sales has been absorbed by the various costs and expenses incurred by the enterprise, and the proportion that remains as net income. For preparing common size income statement all items in the income statement are expressed in percentage form in terms of total sales.

b) Common size Balance Sheet:

Common size balance sheet is prepared by stating the total assets as 100 and reducing individual assets into percentages of the total. Likewise, individual liability items are expressed as percentages of the total liabilities. Thus, the common size balance sheet percentage shows the relation of each asset item to total assets and of each liability percentage shows the relation of each asset item to total assets and each liability and owner's equity item to total liabilities and owner's equity. A closer scrutiny of the common size balance sheet discloses that this statement focuses on two important aspects.

1. Distribution pattern of liabilities as between current liabilities, long term liabilities and equity capital. – it reveals the debt equity position of the company too large a percentage of liabilities and a relatively low margin of safety for creditors.
2. Distribution pattern of assets as between current assets, fixed assets and others – it reveals what proportion of total assets occupied by inventories and what proportion of current assets to represent by this assets.

9.6.3 Trend analysis

Trend analysis depicts behavior of the ratios over a period of time and the trends in the operation of the enterprise. The trend figures are index figures giving a bird's eye view of the comparative data by presenting it over a period of time. This is horizontal analysis of financial statement, often called as Pyramid Method of ratio analysis. The working of trend analysis involves the following three steps.

1. Selection of a base year
2. Assignment of an index number of 100 to each item of the base year
3. Calculation of percentage relationship that each item bears to the same item in the base year.

This tool has its own limitations. It is necessary that the base year must be a normal year. Further, it places all items at par in the base year with the result that a variation in the least significant item may receive an emphasis out of all proportion to its importance.

9.6.4 Cost–Volume-Profit analysis

Cost-volume-profit (CVP) analysis is a method of cost accounting that looks at the impact that varying levels of costs and volume have on operating profit. The cost-volume-profit analysis, also commonly known as break-even analysis, looks to determine the break-even point for different sales volumes and cost structures, which can be useful for managers making short-term economic decisions.

Cost-volume-profit (CVP) analysis is used to determine how changes in costs and volume affect a company's operating income and net income. In performing this analysis, there are several assumptions made, including: Sales price per unit is constant. Variable costs per unit are constant. Total fixed costs are constant.

9.6.5 Ratio Analysis

Ratio analysis is a technique of analysis and interpretation of financial statements. It is the process of establishing and interpreting various ratios for helping in making certain decisions. It is not an end in itself and is only a means of better understanding of financial strengths and weakness of a firm.

It is with the help of ratios that the financial statements can be analyzed more clearly and decisions made from such analysis.

9.6.6 Funds flow Analysis

Fund flow analysis is the analysis of flow of fund from current asset to fixed asset or current asset to long term liabilities or vice-versa. Fund refers to working capital. Funds flow statement is an assertion of sources and uses of funds. It describes changes in net working capital between two balance sheet dates.

9.6.7 Cash flow Analysis

Cash Flow Analysis is the evaluation of a company's cash inflows and outflows from operations, financing activities, and investing activities. In other words, this is an examination of how the company is generating its money, where it is coming from, and what it means about the value of the overall company.

9.7 Key Words

Solvency: Solvency is the ability of a company to meet its long-term debts and financial obligations.

Insolvency: Insolvency is the state of being unable to pay the money owed, by a person or company, on time; those in a state of insolvency are said to be insolvent. There are two forms: cash-flow insolvency and balance-sheet insolvency.

Working capital management: Working capital management is a business strategy designed to ensure that a company operates efficiently by monitoring and using its current assets and liabilities to the best effect.

Bankruptcy: Bankruptcy is a legal process through which people or other entities who cannot repay debts to creditors may seek relief from some or all of their debts. In most jurisdictions, bankruptcy is imposed by a court order, often initiated by the debtor.

Treasury Bills: Treasury Bills are short term (up to one year) borrowing instruments of the Government of India which enable investors to park their short term surplus funds while reducing their market risk. They are auctioned by Reserve Bank of India at regular intervals and issued at a discount to face value.

9.8 Self-Assessment Questions

1. What are financial statements and explain its types?
2. Discuss various tools of financial statement analysis? Explain?
3. What is trend analysis?
4. What are the objectives of financial analysis?
5. What is financial statement analysis? State how it is useful to various parties?

9.9 Further readings

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Lesson 10: Ratio Analysis

Objectives

After studying this lesson, we should be able to know:

- **the meaning and nature of ratio analysis**
- **Significance and limitations of ratio analysis**
- **How to use ratios in financial statement analysis**

Structure

10.1 Introduction

10.2 Usage and Significance of Ratio analysis

10.3 Limitations of Ratio Analysis

10.4 Classification of Ratios

10.5 Key words

10.6 Self-Assessment Questions

10.7 Further readings

10.1 Introduction

The ratio analysis is one of the powerful tools of financial analysis. It is the process of establishing and interpreting various ratios. It is with the help of ratios that the financial statements can be analyzed more clearly and decisions made from such analysis.

Meaning of Ratio

A ratio is a simple arithmetical expression of the relationship of one number to another. It may be defined as the indicated quotient of two mathematical expressions. According to Accountant's Handbook by Wixon, Kell and Bedford, a ratio is an expression of the quantitative relationship between two numbers. In simple language ratio is one number expressed in terms of another and can be worked out by dividing one number into the other. A ratio can be expressed in the form of a fraction, number of times, percentage or in proportion.

Nature of Ratio analysis

Ratio analysis is a technique of analysis and interpretation of financial statements. It is the process of establishing and interpreting various ratios for helping in making certain decisions. It is not an end in itself and is only a means of better understanding of financial strengths and weakness of a firm. A ratio will be meaningful only when it is analysed and interpreted. The following are the four steps involved in ratio analysis.

1. Selection of relevant data from the financial statements depending upon the objective of the analysis.
2. Solution of appropriate ratios from the above data
3. Comparison of the calculated ratios with the ratios of the same firm in the past, or the ratios developed from projected financial statements or the ratios of some other firms or the comparison with ratios of the industry to which the firm belongs.
4. Interpretation of the ratios:

Ratio analysis will be meaningful only when the analyst will consider the following factors while interpreting ratios:

1. Accuracy of financial statements
2. Clear about the objective or Purpose of analysis
3. Selection of appropriate ratios that suits the need of the analyst
4. Use of appropriate standards while analyzing ratios
5. Caliber of the analyst
6. Analyst should understand that the ratios provide only a base

10.2 Use and Significance of Ratio analysis

Mainly the persons interested in the analysis of the financial statements can be grouped under three heads (i) Owners or investors, (ii) Creditors and (iii) Financial executives. The importance of analysis varies materially with the purpose for which it is calculated. The primary information which seeks to be obtained from these statements differs considerable reflecting the purpose that the statement is to serve.

The significance of these ratios varies for these three groups as their purpose differs widely. These investors are mainly concerned with the earning capacity of the company whereas the creditors including bankers and financial institutions are interesting in knowing the ability of enterprise to meet its financial obligations timely.

The financial executives are concerned with evolving analytical tools that will measure and compare costs, efficiency, liquidity and profitability with a view to making intelligent decisions.

(a) Managerial uses of Ratio analysis

1. Helps in decision making
2. Helps in financial forecasting and planning
3. Helps in communicating
4. Helps in co-ordination
5. Helps in control

(b) Utility to Shareholders/ Investors

An investor is particularly interested to know about the Long term financial position and profitability position. Ratio analysis will be useful to the investor in making up his mind whether present financial position of the concern warrants further investment or not.

(c) Utility to Creditors

The creditors or suppliers extend short term credit to the concern. They are interested to know whether financial position of the concern warrants their payments at a specified time or not.

(d) Utility to the Employees

The employees are also interested in the financial position of the concern especially profitability because their wage increases and amount of fringe benefits are related to the volume of profits earned by the concern.

(e) Utility to government

Government is interested to know the overall strength of the industry. Various financial statements published by industrial units are used to calculate ratios for determining short term, long term and overall financial position of the concerns. Ratio analysis also serves this purpose.

(f) Tax audit requirements

Clause 32 of the Income tax Act requires that the business should calculate Gross Profit/turnover, Net Profit/turnover, stock in trade/ turnover and Material consumed/finished goods produced ratios.

10.3 Limitations of Ratio Analysis

The ratio analysis is one of the most powerful tools of financial management. Though ratios are simple to calculate and easy to understand, they suffer from some serious limitations.

- 1. Limited use of a single ratio:** A single ratio usually does not convey much of a sense. To make a better interpretation a number of ratios have to be calculated which is likely to confuse the analyst than help him in making any meaningful conclusion.
- 2. Lack of adequate standards:** There are no well accepted standards or rules of thumb for all ratios which can be accepted as norms. It renders interpretation of the ratios difficult.
- 3. Inherent limitations of accounting:** Like financial statements, ratios also suffer from the inherent weakness of accounting records such as their historical nature. Ratios of the past are not necessarily true indicators of the future.
- 4. Change of accounting procedure:** Change in accounting procedure by a firm often makes ratio analysis misleading. E.g., a change in the valuation methods of inventories, from FIFO to LIFO increases the cost of sales and reduces considerably the value of closing stocks which makes stock turnover ratio to be lucrative and an unfavorable gross profit ratio.
- 5. Window dressing:** Financial statements can easily be window dressed to present a better picture of its financial and profitability position to outsiders. Hence, one has to be very careful in making a decision from ratios calculated from such financial statements. But it may be very difficult for an outsider to know about the window dressing made by the firm.
- 6. Personal bias Ratio** are only means of financial analysis and not an end in itself. Ratios have to be interpreted and different people may interpret the same ratio in different ways.

7. Incomparable: Not only industries differ in their nature but also the firms of the similar business widely differ in their size and accounting procedures etc. It makes comparison of ratios difficult and misleading. Moreover, comparisons are made difficult due to differences in definitions of various financial terms used in ratio analysis.

8. Absolute Figures Distortive: Ratios devoid of absolute figures may prove distortive as ratio analysis is primarily a quantitative analysis and not a qualitative analysis

9. Price level changes: While making ratio analysis, no consideration is made to the changes in price levels and this makes the interpretation of ratios invalid.

10. Ratios no substitutes: Ratio analysis is merely a tool of financial statements. Hence, ratios become useless if separated from the statements from which they are computed.

10.4 Classification of Ratios

The use of ratio analysis is not confined to financial manager only. There are different parties interested in the ratio analysis for knowing the financial position of the firm for different purposes. In view of various users of ratios, there are many types of ratios which be calculated from the information given in the financial statements. The particular purpose of the use determines the particular ratios that might be used for financial analyses.

Ratios can be classified on the basis of function, significant and statement of ratios or traditional classification of ratios.

On the basis of the functions performed ratios can be classified in to the following types:-

10.4.1 Liquidity Ratios:

1. Current Ratio
2. Liquid (acid test) Ratio or Quick Ratio
3. Absolute Liquid Ratio / Cash Ratio

10.4.2 Long Term Solvency and Leverage Ratios

1. Debt-Equity Ratio

2. Capital Gearing Ratio
3. Proprietary/Equity Ratio
4. Solvency Ratio
5. Ratio of fixed assets to Networth
6. Funded debt to capitalization Ratio

10.4.3 Activity Ratios

1. Inventory turnover ratio
2. Debtors turnover ratio
3. Creditors turnover ratio
4. Fixed assets turnover ratio
5. Total assets turnover ratio
6. Working capital turnover ratio

10.4.4 Profitability Ratios

1. Operating Profitability Ratios
 - i. Gross Profit Ratio
 - ii. Net Profit Ratio
 - iii. Operating Ratio
 - iv. Operating Profit Ratio
2. Overall Profitability Ratios
 - i. Return on total assets
 - ii. Return on capital employed
 - iii. Return on share holder's equity
 - iv. Return on equity capital

10.4.5 Market Test Ratios

1. Dividend Yield Ratio
2. Dividend Payout Ratio
3. Earnings Per Share (EPS) Ratio
4. Price Earnings Ratio (PE Ratio)

5. Coverage Ratios

10.4.1 Liquidity Ratios

Liquidity refers to the ability of a concern to meet its current obligations as and when these become due. The short term obligations are met by realizing amounts from current, floating or circulating assets. The current assets should either be liquid or near liquidity. These should be convertible into cash for paying obligations of short term nature. The sufficiency or insufficiency of current assets should be assessed by comparing them with short term (current) Liabilities. If current assets can pay off the current liabilities, then liquidity position will be satisfactory. The important liquidity ratios include

1. Current ratio

Current ratio may be defined as the relationship between current assets and current liabilities. This ratio, also known as working capital ratio, is a measure of general liquidity and is most widely used to make the analysis of a short term financial position or liquidity of the firm. It is calculated by dividing the total of current assets by total of the current liabilities.

$$\text{Current ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

Standard Current Ratio of a firm is 2:1

Current assets include cash and those assets which can be converted into cash within a short period of time, generally, one year, such as marketable securities, bills receivables, sundry debtors, inventories, work-in-progress etc. Prepaid expenses should also be included in current assets because they represent payments made in advance which will not have to be paid in near future. Current liabilities are those obligations which are payable within a short period of generally one year and include outstanding expenses, bills payable, sundry creditors, accrued expenses, short term advances, income tax payable, dividend payable, etc. Bank overdraft should also generally be included in current liabilities because it represents short term arrangement with the bank and is payable within a short period. But where bank overdraft is a permanent or long term arrangement with the bank, it should be excluded.

A relatively high current ratio is an indication that the firm is liquid and has the ability to pay its current obligations in time as and when they become due. An increase in current ratio represents the improvement in the liquidity position of the firm while a decrease in the current ratio indicates that there has been deterioration in the liquidity position of the firm.

As a convention a minimum of 2: 1 is considered as the standard current ratio of a firm. This rule of thumb has, however, succumbed to the rule of reason. An excess of current assets over current liabilities does not necessarily mean that debts can be paid promptly. If current assets contain a high proportion of uncollectible accounts receivable or unsalable inventories, there will be a slowdown in the inflows of cash. Therefore, it would be pertinent to take note of, while computing the current ratio, the nature and proportion of various types of current assets, the nature of current liabilities, the nature of cash flows and the future expectations.

2. Liquid (acid test) Ratio or Quick Ratio

Quick ratio, also known as Acid Test Ratio or Liquid Ratio, is a more rigorous test of liquidity than the current ratio. The term liquidity refers to the ability of a firm to pay its short term obligations as and when they become due. Quick ratio may be defined as the relationship between quick/liquid assets and current or liquid liabilities. An asset is said to be liquid if it can be converted into cash within a short period without loss of value. In that sense cash in hand and cash at bank are the most liquid assets. The other liquid assets include bills receivable, sundry debtors, marketable securities and short term or temporary investments. Prepaid expenses and Inventories cannot be termed as liquid asset because they cannot be converted into cash without loss of value. A ratio of 1:1 is considered as satisfactory quick ratio.

$$\text{Quick ratio} = \frac{\text{Quick or liquid Assets}}{\text{Current Liabilities}}$$

Or

$$\frac{\text{Current Assets} - (\text{stock} + \text{Prepaid Expenses})}{\text{Current Liabilities}}$$

3. Absolute Liquid Ratio or Cash Ratio

It is still more stringent test of liquidity. It may not be possible to realize amounts from all the debtors and hence the amount of debtors also is treated non-liquid assets. It is calculated by dividing Absolute Liquid assets by current Liabilities. Absolute Liquid Assets include cash in hand and at bank and marketable securities or temporary investments. The acceptable norm for this ratio is 50% or 0.5:1 or 1:2.

$$\text{Absolute liquid ratio} = \frac{\text{Cash} + \text{Bank} + \text{Marketable Securities}}{\text{Current Liabilities}}$$

Illustration 1: Comment on the liquidity of the following companies.

	Company A Rs.	Company B Rs.
Cash	180	140
Debtors	1,420	3,200
Stock	1,800	5,400
Bills payable	270	1,000
Creditors	500	4,000
Accrued expenses	150	125
Tax payable	750	1,000

Solution:

$$\begin{aligned} \text{a) Current Ratio} &= \frac{\text{Current Assets}}{\text{Current Liabilities}} \\ &= \frac{180+1,420+1,800}{270+500+150+750} = 3,400/1,670=2.04:1 \\ \text{Company A} &= \frac{140+3,200+5,400}{1,000+4,000+125+1,000} = 8,740/6,125= 1.43:1 \\ \text{Company B} &= \end{aligned}$$

$$\begin{aligned} \text{b) Liquid Ratio} &= \frac{\text{Liquid Assets}}{\text{Current Liabilities}} \end{aligned}$$

$$\text{Company A} = \frac{180+1,420}{270+500+150+750} = 1,600/1,670 = 0.96:1$$

$$\text{Company B} = \frac{140+3,200}{1,000+4,000+125+1,000} = 3,340/6,125 = 0.55:1$$

$$\text{c) Absolute Liquid Ratio} = \frac{\text{Absolute Liquid Assets}}{\text{Current Liabilities}}$$

$$\text{Company A} = 180/1,670 = 0.11:1$$

$$\text{Company B} = 140/6,125 = 0.02:1$$

Comments:

1. The standard current ratio is 2:1. 'A' company's current ratio is almost equal to the standard ratio. But 'B' company's current ratio is lower than the standard norm. (2:1)
2. Generally, the standard liquid ratio 1:1. In this case also company A's position is satisfactory. But company 'B' is unable to maintain the liquidity position and the position of this company is half of the ratio of the standard norm.
3. While coming the absolute liquid ratio (standard being 0.5:1), both the companies are below this ratio. More particularly company B's financial condition in terms of this ratio is very unsatisfactory.

10.4.2 Solvency Ratios

The term solvency refers to the ability of a firm to meet all liabilities in full in the event of liquidation. It is the long-term liquidity of the firm. The Balance sheet discloses the long term financial position in the form of sources and applications of long term funds in the business. The important measures of solvency and analysis of capital structure are

1. Debt-Equity Ratio

A firm uses both equity and debt for financing its assets. The ratio of these two sources of funds is turned as Debt Equity Ratio.

$$\text{Debt Equity Ratio} = \frac{\text{Total borrowed funds}}{\text{Owned funds}}$$

- **Total Borrowed funds** include both long term and short term borrowings or current liabilities. It is the aggregate of bonds, debentures, bank loans and all the current liabilities.
- **Owned funds** include equity capital, preference capital and all items of reserve and surplus.

The standard norm of Debt-Equity ratio is 2:1. It indicates that total borrowed fund can be two times of equity or owned funds. The intention is to maximize the return of equity shareholders by taking, advantage of cheap borrowed funds.

2. Capital Gearing Ratio

This ratio indicates the relationship between fixed interest bearing securities and equity shareholders funds.

Capital Gearing Ratio = $\frac{\text{Fixed Income bearing securities}}{\text{Equity Shareholders funds}}$

Equity Shareholders funds

- Fixed income bearing securities are Debentures, Bonds and Preference shares.
- Equity shareholders funds include Equity share capital and Reserves and Surpluses.

A firm is said to be highly geared when it uses more of fixed income bearing securities like bonds, debentures and preference share capital.. It indicates the risk perception of investors is high. If the ratio is less than one, the firm is said to be low geared. The position of creditors is more safe when the firm is low geared.

3. Proprietary ratio/ Equity Ratio

It is the ratio of shareholders funds to Total Assets of the firm. It indicates the relative contribution of owners or shareholders in financing total assets. This ratio is also called net worth to Total Assets Ratio. This ratio establishes the relationship between shareholder's funds to total assets of the firm.

Proprietary ratio/ Equity Ratio = $\frac{\text{Shareholders funds}}{\text{Total Assets}}$

Total Assets

Where shareholders funds = Equity share capital+ preference share capital+ undistributed profits+ reserves and surpluses

Total assets = Total resources of the concern

4. Solvency Ratio

It is the ratio of total borrowed funds to total assets (also equal to total liabilities). It indicates the relative contribution of outsiders in financing the assets of the firm.

It is calculated as:-

$$\text{Solvency ratio} = \frac{\text{Total Borrowed funds}}{\text{Total Assets}}$$

Or

$$\text{Solvency Ratio} = 100 - \text{Equity Ratio}$$

A high ratio indicates that the firm is depending more on outsiders' funds in financing assets. The position of creditors is not safe in the event of winding up.

5. Fixed assets to Net worth Ratio

The ratio shows the relationship between net fixed assets and Net worth i.e.,

$$\text{Ratio of Fixed assets to Net worth} = \frac{\text{Net Fixed Assets}}{\text{Net Worth}}$$

6. Funded Debt to capitalization

This ratio indicates the contribution of owners in financing fixed assets. If the ratio is less than one, it is considered as ideal. It means that the whole of fixed assets and a part of working capital are financed from shareholders funds. If the ratio is more than one, it means that a part of the fixed assets is financed using borrowed funds.

$$\text{Funded Debt to capitalization} = \frac{\text{Long term debt}}{\text{Total Assets or Total Liabilities}}$$

10.4.3 Activity Ratios

Activity ratios, sometimes referred to as operating ratios or management ratios, measure the efficiency with which a business uses its assets, such as inventories, accounts receivable, and fixed (or capital) assets. The more commonly used operating ratios are the average collection period, the inventory turnover, the fixed assets turnover, and the total assets turnover.

These ratios indicate the efficiency of management in the use of resources, both short term and long term. The overall performance of a company is evaluated on the basis of its ability to make sales using minimum resources. Turnover ratios reflect the speed at which assets are utilized in effecting sales. A higher turnover ratio means efficient use of funds by management in generating more sales. The important turnover ratios are:

1. Inventory turnover ratio
2. Debtors turnover ratio
3. Creditors turnover ratio
4. Fixed assets turnover ratio
5. Total assets turnover ratio
6. Working capital turnover ratio

1. Inventory turnover ratio:

This ratio measures the number of times a company's investment in inventory is turned over during a given year. The higher the turnover ratio, the better, since a company with a high turnover requires a smaller investment in inventory than one producing the same level of sales with a low turnover rate. Company management has to be sure, however, to keep inventory at a level that is just right in order not to miss sales.

This ratio indicates the efficiency in turning over inventory and can be compared with the experience of other companies in the same industry. It also provides some indication as to the adequacy of a company's inventory for the volume of business being handled. If a company has an inventory turnover rate that is above the industry average, it means that a better balance is being maintained between inventory and cost of goods sold. As a result, there will be less risk for the business of being caught with top-heavy inventory in the event of a decline in the price of raw materials or finished products.

Cost of goods sold

Inventory

Some companies calculate the inventory turnover by using sales instead of cost of goods sold as the numerator. This may be less appropriate because sales include a profit markup which is absent from inventory.

Inventory includes all types of stocks like raw materials, work in progress, finished goods, consumable stores, spares etc. Inventory turnover ratio is the relationship of cost of goods sold to average inventory. It is computed as:

$$\text{Inventory turnover ratio} = \frac{\text{cost of goods sold}}{\text{average inventory}}$$

$$\text{Cost of goods sold} = \text{net sales} - \text{gross profit}$$

$$\text{Cost of goods sold} = \text{opening stock} + \text{net purchases} + \text{direct expenses} - \text{closing stock}$$

$$\text{Average inventory} = \frac{\text{opening inventory} + \text{closing inventory}}{2}$$

2. Debtors turnover Ratio

It is also known as receivable turnover ratio. It establishes relationship between credit sales and average debtors. This ratio is calculated on the basis of the following formula:

$$\text{Debtors Turnover Ratio} = \frac{\text{Net Credit Sales}}{\text{Average Trade Debtors}}$$

Credit sales is separately given or it may be the difference between total sales and cash sales.

$$\text{Average Debtors} = \frac{\text{Opening debtors} + \text{Closing debtors}}{2}$$

In case of receivable turnover ratio debtors and bills receivables are added together to determine the receivables. In case of newly started business debtors in the beginning will not be available, so debtors at the end will be supposed to be average debtors.

Average collection period or collection period:

The ratio indicates the days within which debtors are collected or sales remain uncollected. Prompt debt collection is always in the interest of the business, because cash will be readily available. It can be calculated on the basis of the following formula:

$$\text{Average collection period} = \frac{\text{Receivables}}{\text{Daily credit sales}} \quad \text{or} \quad \frac{\text{Receivables}}{\text{Monthly credit sales}}$$

$$\text{Receivables} = \text{Debtors} + \text{Bills receivables}$$

$$\text{Daily credit sales} = \frac{\text{Total credit sales}}{365 \text{ days}} \text{ or } \text{Monthly credit sales} = \frac{\text{Total credit sales}}{365 \text{ days}}$$

3. Creditors Turnover Ratio or Accounts payable turnover ratio:

This ratio is similar to the debtor's turnover ratio. It compares creditors with the total credit purchases. It signifies the credit period enjoyed by the firm in paying creditors. Accounts payable include both sundry creditors and bills payable. Same as debtor's turnover ratio, creditor's turnover ratio can be calculated in two forms, creditors turnover ratio and average payment period.

Formula:

$$\text{Creditors Turnover Ratio} = \text{Credit Purchase} / \text{Average Trade Creditors}$$

Average payment period ratio gives the average credit period enjoyed from the creditors. It can be calculated using the following formula:

$$\text{Average Payment Period} = \frac{(\text{Trade Creditors} \times \text{No. of Working Days in an Year})}{\text{Net Credit Purchase}}$$

(In case information about credit purchase is not available total purchases may be assumed to be credit purchase.)

The average payment period ratio represents the number of days by the firm to pay its creditors. A high creditor's turnover ratio or a lower credit period ratio signifies that the creditors are being paid promptly. This situation enhances the credit worthiness of the company. However a very favorable ratio to this effect also shows that the business is not taking the full advantage of credit facilities allowed by the creditors.

4. Fixed Assets Turnover Ratio

The fixed (or capital) assets turnover ratio measures how intensively a firm's fixed assets such as land, buildings, and equipment are used to generate sales. A low fixed assets turnover implies that a firm has too much investment in fixed assets relative to sales; it is basically a measure of productivity.

Fixed assets turnover ratio is also known as sales to fixed assets ratio. This ratio measures the efficiency and profit earning capacity of the concern.

“Higher the ratio, greater is the intensive utilization of fixed assets. Lower ratio means under-utilization of fixed assets.”

Formula:

$$\text{Fixed Assets Turnover Ratio} = \frac{\text{Cost of Sales}}{\text{Net Fixed Asset}}$$

If a business shows a weakness in this ratio, its plant may be operating below capacity and the manager should be looking at the possibility of selling the less productive assets.

5. Total Assets Turnover Ratio

This ratio takes into account both net fixed asset; and current assets. It also gives an indication of the efficiency with which assets are used; a low ratio means that excessive assets are employed to generate sales and/or that some assets (fixed or current assets) should be liquidated or reduced.

Formula:
$$\text{Total Assets Turnover Ratio} = \frac{\text{Sales}}{\text{Total Assets}}$$

6. Working Capital Turnover Ratio

Working capital turnover ratio indicates the velocity of the utilization of net working capital. This ratio represents the number of times the working capital is turned over in the course of year and is calculated as follows:

Formula:
$$\text{Working Capital Turnover Ratio} = \frac{\text{Cost of Sales}}{\text{Net Working Capital}}$$

The two components of the ratio are cost of sales and the net working capital. If the information about cost of sales is not available the figure of sales may be taken as the numerator. Net working capital is found by deduction from the total of the current assets the total of the current liabilities.

10.4.4 Profitability Ratios

Profitability ratios may be classified in to two types which are

- a) Operating profitability ratios
- b) Overall profitability ratios

a) Operating profitability ratios: In this type of analysis profit is related to the volume of operation or sales.

1. Gross Profit Ratio
2. Net Profit Ratio
3. Operating Ratio
4. Operating Profit Ratio

1. Gross Profit Ratio

Gross profit ratio (GP ratio) is the ratio of gross profit to net sales expressed as a percentage. It expresses the relationship between gross profit and sales.

The basic components for the solution of gross profit ratio are gross profit and net sales. Net sales mean those sales minus sales returns. Gross profit would be the difference between net sales and cost of goods sold. Cost of goods sold in the case of a trading concern would be equal to opening stock plus purchases, minus closing stock plus all direct expenses relating to purchases. In the case of manufacturing concern, it would be equal to the sum of the cost of raw materials, wages, direct expenses and all manufacturing expenses. In other words, generally the expenses charged to profit and loss account or operating expenses are excluded from the solution of cost of goods sold.

Formula: **Gross Profit Ratio = (Gross profit / Net sales) × 100**

Gross profit ratio may be indicated to what extent the selling prices of goods per unit may be reduced without incurring losses on operations. It reflects efficiency with which a firm produces its products. As the gross profit is found by deducting cost of goods sold from net sales, higher the gross profit better it is. There is no standard GP ratio for evaluation. It may vary from business to business. However, the gross profit earned should be sufficient to recover all operating expenses and to build up reserves after paying all fixed interest charges and dividends.

Hence, an analysis of gross profit margin should be carried out in the light of the information relating to purchasing, mark-ups and markdowns, credit and collections as well as merchandising policies.

2. Net Profit Ratio

Net profit ratio is the ratio of net profit (after taxes) to net sales. It is expressed as percentage.

The two basic components of the net profit ratio are the net profit and sales. The net profits are obtained after deducting income-tax and, generally, non-operating expenses and incomes are excluded from the net profits for calculating this ratio. Thus, incomes such as interest on investments outside the business, profit on sales of fixed assets and losses on sales of fixed assets, etc are excluded.

Formula: **Net Profit Ratio = (Net profit / Net sales) × 100**

NP ratio is used to measure the overall profitability and hence it is very useful to proprietors. The ratio is very useful as if the net profit is not sufficient, the firm shall not be able to achieve a satisfactory return on its investment.

This ratio also indicates the firm's capacity to face adverse economic conditions such as price competition, low demand, etc. Obviously, higher the ratio the better is the profitability. But while interpreting the ratio it should be kept in mind that the performance of profits also be seen in relation to investments or capital of the firm and not only in relation to sales.

3. Operating Ratio

- Operating ratio is the ratio of cost of goods sold plus operating expenses to net sales. It is generally expressed in percentage.
- Operating ratio measures the cost of operations per Rs. of sales. This is closely related to the ratio of operating profit to net sales.

The two basic components for the solution of operating ratio are operating cost (cost of goods sold plus operating expenses) and net sales. Operating expenses normally include (a) administrative and office expenses and (b) selling and distribution expenses. Financial charges such as interest, provision for taxation etc. are generally excluded from operating expenses.

Formula: **Operating Ratio = Cost of goods sold + Operating expenses / Net sales × 100**

Operating ratio shows the operational efficiency of the business. Lower operating ratio shows higher operating profit and vice versa. An operating ratio ranging between 75% and 80% is generally considered as standard for manufacturing concerns. This ratio is considered to be a yardstick of operating efficiency but it should be used cautiously because it may be affected by a number of uncontrollable

factors beyond the control of the firm. Moreover, in some firms, non-operating expenses form a substantial part of the total expenses and in such cases operating ratio may give misleading results.

4. Operating profit Ratio or Operating Margin Ratio

The operating profit of a business is the profit after meeting all operating expenses incurred in the regular course of operations. It is a measure of operating efficiency of a business. The ratio is calculated by dividing operating profit or earnings before interest and taxes [EBIT] by Net Sales.

Formula:
$$\text{Operating profit Ratio} = \frac{\text{Operating profit or EBIT}}{\text{Net Sales}} \times 100$$

5. Expense Ratio

Expense ratios indicate the relationship of various expenses to net sales. The operating ratio reveals the average total variations in expenses. But some of the expenses may be increasing while some may be falling. Hence, expense ratios are calculated by dividing each item of expenses or group of expense with the net sales to analyze the cause of variation of the operating ratio.

The ratio can be calculated for individual items of expense or a group of items of a particular type of expense like cost of sales ratio, administrative expense ratio, selling expense ratio, materials consumed ratio, etc. The lower the operating ratio, the larger is the profitability and higher the operating ratio, lower is the profitability.

While interpreting expense ratio, it must be remembered that for a fixed expense like rent, the ratio will fall if the sales increase and for a variable expense, the ratio in proportion to sales shall remain nearly the same.

Formula: **Particular Expense = (Particular expense / Net sales) × 100**

b) Overall Profitability Ratios

It is the analysis of profitability in relation to the volume of capital employed or investment in the business. Management and shareholders are interested in ascertaining the return on capital employed, return on shareholders' funds etc. the important tests applied to measure overall profitability are:

1. Return on shareholder's equity

2. Return on equity capital (ROEC)

3. Return on capital employed

4. Return on total assets

1. Return on Shareholders' Investment or Net worth Ratio:

It is the ratio of net profit to shareholder's investment. It is the relationship between net profit (after interest and tax) and shareholder's/proprietor's fund. This ratio establishes the profitability from the share holders' point of view. The ratio is generally calculated in percentage. The two basic components of this ratio are net profits and shareholder's funds. **Shareholder's funds include equity share capital, (preference share capital) and all reserves and surplus belonging to shareholders.** Net profit means net income after payment of interest and income tax because those will be the only profits available for shareholders.

$$\text{Return on shareholder's investment} = \frac{\text{Net profit (after interest and tax)}}{\text{Shareholder's fund}} \times 100$$

This ratio is one of the most important ratios used for measuring the overall efficiency of a firm. As the primary objective of business is to maximize its earnings, this ratio indicates the extent to which this primary objective of businesses being achieved. This ratio is of great importance to the present and prospective shareholders as well as the management of the company. As the ratio reveals how well the resources of the firm are being used, higher the ratio, better are the results. The inter-firm comparison of this ratio determines whether the investments in the firm are attractive or not as the investors would like to invest only where the return is higher.

2. Return on Equity Capital (ROEC) Ratio

In real sense, ordinary shareholders are the real owners of the company. They assume the highest risk in the company. (Preference shareholders have a preference over ordinary shareholders in the payment of dividend as well as capital.

Preference shareholders get a fixed rate of dividend irrespective of the quantum of profits of the company). The rate of dividends varies with the availability of profits in case of ordinary shares only. Thus ordinary shareholders are more interested in the profitability of a company and the performance of a company should be judged on the basis of return on equity capital of the company. Return on equity

capital which is the relationship between profits of a company and its equity can be calculated as follows:

Formula

$$\text{Return on Equity Capital} = \frac{(\text{Net profit after tax} - \text{Preference dividend}) \times 100}{\text{Equity share capital}}$$

Equity share capital should be the total called-up value of equity shares. As the profit used for the solutions are the final profits available to equity shareholders as dividend, therefore the preference dividend and taxes are deducted in order to arrive at such profits.

This ratio is more meaningful to the equity shareholders who are interested to know profits earned by the company and those profits which can be made available to pay dividends to them. Interpretation of the ratio is similar to the interpretation of return on shareholder's investments and higher the ratio better is.

3. Return on Capital Employed Ratio (ROCE Ratio)

The prime objective of making investments in any business is to obtain satisfactory return on capital invested. Hence, the return on capital employed is used as a measure of success of a business in realizing this objective.

Return on capital employed establishes the relationship between the profit and the capital employed. It indicates the percentage of return on capital employed in the business and it can be used to show the overall profitability and efficiency of the business.

Capital employed and operating profits are the main items. Capital employed may be defined in a number of ways. However, two widely accepted definitions are "**gross capital employed**" and "**net capital employed**". Gross capital employed usually means the total assets, fixed as well as current, used in business, while net capital employed refers to total assets minus liabilities. On the other hand, it refers to total of capital, capital reserves, revenue reserves (including profit and loss account balance), debentures and long term loans.

Solution of Capital Employed:

Method-1 If it is calculated from the assets side, it can be worked out by adding the following:

1. The fixed assets should be included at their net values, either at original cost or at replacement cost after deducting depreciation. In days of inflation, it is better to include fixed assets at replacement cost which is the current market value of the assets.
2. Investments inside the business
3. All current assets such as cash in hand, cash at bank, sundry debtors, bills receivable, stock, etc.
4. To find out net capital employed, current liabilities are deducted from the total of the assets as calculated above.

Gross capital employed = Fixed assets + Investments + Current assets

Net capital employed = Fixed assets + Investments + Working capital.

Working capital = current assets – current liabilities.

Method-2 Alternatively, capital employed can be calculated from the liabilities side of a balance sheet. If it is calculated from the liabilities side, it will include the following items:

Share capital:

Issued share capital (Equity + Preference)

Reserves and Surplus:

General reserve

Capital reserve

Profit and Loss account

Debentures

Other long term loans

Some people suggest that average capital employed should be used in order to give effect of the capital investment throughout the year. It is argued that the profit earned remain in the business throughout the year and are distributed by way of dividends only at the end of the year. Average capital may be calculated by dividing

the opening and closing capital employed by two. It can also be worked out by deducting half of the profit from capital employed.

Computation of profit for return on capital employed:

The profits for the purpose of calculating return on capital employed should be computed according to the concept of "capital employed used". The profits taken must be the profits earned on the capital employed in the business. Thus, net profit has to be adjusted for the following:

- Net profit should be taken before the payment of tax or provision for taxation because tax is paid after the profits have been earned and has no relation to the earning capacity of the business.
- If the capital employed is gross capital employed then net profit should be considered before payment of interest on long-term as well as short-term borrowings.
- If the capital employed is used in the sense of net capital employed than only interest on long term borrowings should be added back to the net profits and not interest on short term borrowings as current liabilities are deducted while calculating net capital employed.
- If any asset has been excluded while computing capital employed, any income arising from these assets should also be excluded while calculating net profits. For illustration, interest on investments outside business should be excluded.
- Net profits should be adjusted for any abnormal, non-recurring, non-operating gains or losses such as profits and losses on sales of fixed assets.
- Net profits should be adjusted for depreciation based on replacement cost, if assets have been added at replacement cost.

Return on Capital Employed= $\frac{\text{Adjusted net profits}}{\text{Capital employed}} \times 100$

Capital employed

Adjusted Net profit = Net profit before interest and tax - income from investments.

This ratio is considered to be the best measure of profitability in order to assess the overall performance of the business. It indicates how well the management has used the investment made by owners and creditors into the business. It is commonly used as a basis for various managerial decisions. As the primary objective

of business is to earn profit, higher the return on capital employed, the more efficient the firm is in using its funds. The ratio can be found for a number of years so as to find a trend as to whether the profitability of the company is improving or otherwise.

4. Return on Total Assets

Return on total Assets is also called Return on Investment or ROI. It is calculated by dividing operating profit by total tangible assets.

$$\text{Return on total Assets} = \frac{\text{Operating Profit}}{\text{Total Tangible Assets}} \times 100$$

A high ratio implies better overall performance of the business or efficient use of total assets

10.4.5 Market Test Ratios

Market test ratios are used by shareholders and investors to evaluate the performance of a company in the market place. These ratios include

1. Dividend Yield Ratio
2. Dividend Payout Ratio
3. Earnings Per Share (EPS) Ratio
4. Price Earnings Ratio (PE Ratio)
5. Coverage Ratios

1. Dividend Yield Ratio:

It is the relationship between dividends per share and the market value of the shares.

The Shareholders are real owners of a company and they are interested in real sense in the earnings distributed and paid to them as dividend. Therefore, *dividend yield ratio* is calculated to evaluate the relationship between dividends per share paid and the market value of the shares.

Following formula is used for the solution of dividend yield ratio:

$$\text{Dividend Yield Ratio} = \frac{\text{Dividend per Share} \times 100}{\text{Market Value per Share}}$$

Illustration 2

A company declared dividend at 20% on its shares, each having a paid up value of 8.00 and market value of 25.00.

Calculate dividend yield ratio:

Solution:

$$\text{Dividend per Share} = 8 \times (20 / 100) = 1.60$$

$$\text{Dividend Yield Ratio} = (1.60 / 25) \times 100 = 6.4\%$$

This ratio helps as intending investor knows the effective return that he is going to get on the proposed investment.

2. Dividend Payout Ratio:

It is calculated to find the extent to which earnings per share have been used for paying dividend and to know what portion of earnings has been retained in the business. It is an important ratio because ploughing back of profits enables a company to grow and pay more dividends in future.

Formula

$$\text{Dividend Payout Ratio} = \frac{\text{Dividend per Equity Share}}{\text{Earnings per Share}}$$

A complementary of this ratio is **retained earnings ratio**. Retained earnings ratio is calculated by using the following formula:

$$\text{Retained Earnings Ratio} = \frac{\text{Retained Earning Per Equity Share}}{\text{Earning Per Equity Share}}$$

Illustration 3

Calculate dividend payout ratio and retained earnings from the following data:

Net Profit	10,000	No. of equity shares	3,000
Provision for taxation	5,000	Dividend per equity share	0.40
Preference dividend	2,000		

Solution:

$$\text{Dividend Payout Ratio} = (0.40 / 1) \times 100 = 40\%$$

$$\text{Retained Earnings Ratio} = (0.60 / 1) \times 100 = 60\%$$

The payout ratio and the retained earnings ratio are the indicators of the amount of earnings that have been ploughed back in the business. The lower the payout ratio, the higher will be the amount of earnings ploughed back in the business and vice versa. A lower payout ratio or higher retained earnings ratio means a stronger financial position of the company.

3. Earnings per Share (EPS) Ratio

It is a small variation of return on equity capital ratio and is calculated by dividing the net profit after taxes and preference dividend by the total number of equity shares.

The formula of earnings per share is:

$$\text{Earnings per share (EPS) Ratio} = \frac{\text{Net profit after tax} - \text{Preference dividend}}{\text{No. of equity shares (common shares)}}$$

Illustration 4

Equity share capital (Rs:100 each): 1,000,000; 9% Preference share capital: 500,000;

Taxation rate: 50% of net profit; Net profit before tax: 400,000. Calculate earnings per share ratio.

Solution:

$$\text{Net profit after taxes} = 4,00,000 - 50\% = 2,00,000$$

$$\text{Preference dividend} = 5,00,000 * 9\% = 45,000$$

$$\text{EPS} = 1,55,000 / 10,000 = 15.50 \text{ per share.}$$

The earnings per share is a good measure of profitability and when compared with EPS of similar companies, it gives a view of the comparative earnings or earnings power of the firm. EPS ratio calculated for a number of years indicates whether or not the earning power of the company has increased.

4. Price Earnings Ratio (PE Ratio)

It is the ratio between market price per equity share and earnings per share. This ratio is calculated to make an estimate of appreciation in the value of a share of a company and is widely used by investors to decide whether or not to buy shares in a particular company.

Formula

$$\text{Price Earnings Ratio} = \frac{\text{Market price per equity share}}{\text{Earnings per share}}$$

Illustration 5

The market price of a share is 30 and Earnings per share is 5. Calculate price earnings ratio.

Solution:

$$\text{Price earnings ratio} = 30 / 5 = 6$$

The market value of every one Rs. of earning is six times or 6. The ratio is useful in financial forecasting. It also helps in knowing whether the share of a company are under or overvalued. For illustration, if the earning per share of AB limited is 20, its market price 140 and earnings ratio of similar companies is 8, it means that the market value of a share of AB Limited should be 160 (i.e., 8×20). The share of AB Limited is, therefore, undervalued in the market by 20. In case the price earnings ratio of similar companies is only 6, the value of the share of AB Limited should have been 120 (i.e., 6×20), thus the share is overvalued by 20.

Price earnings ratio helps the investor in deciding whether to buy or not to buy the shares of a particular company at a particular market price.

Generally, higher the price earnings ratio the better it is. If the P/E ratio falls, the management should look into the causes that have resulted into the fall of this ratio.

5. Coverage Ratios

It includes interest coverage ratio, preference share dividend coverage ratio and equity dividend coverage ratio

i) Debt Service Ratio or Interest Coverage Ratio:

Interest coverage ratio is also known as debt service ratio or debt service coverage ratio. This ratio relates the fixed interest charges to the income earned by the business. It indicates whether the business has earned sufficient profits to pay periodically the interest charges. It is calculated by using the following formula.

Interest Coverage Ratio = Net Profit before Interest and Tax / Fixed Interest Charges

Illustration 6

If the net profit (after taxes) of a firm is 75,000 and its fixed interest charges on long-term borrowings are 10,000. The rate of income tax is 50%. Calculate debt service ratio / interest coverage ratio.

Solution:

Interest Coverage Ratio = $(75,000 + 75,000 + 10,000) / 10,000 = 16$ times

Income after interest is 75,000 + income tax 75,000

The *interest coverage ratio* is very important from the lender's point of view. It indicates the number of times interest is covered by the profits available to pay interest charges.

It is an index of the financial strength of an enterprise. A high debt service ratio or interest coverage ratio assures the lenders a regular and periodical interest income. But the weakness of the ratio may create some problems to the financial manager in raising funds from debt sources.

Preference share dividend cover = Profit after tax / Preference share dividend

Equity dividend cover = $\frac{\text{profit after tax} - \text{preference share dividend}}{\text{Equity share dividend}}$

ii) Capital Gearing Ratio

Closely related to solvency ratio is the **capital gearing ratio**. *Capital gearing ratio* is mainly used to analyze the capital structure of a company.

The term capital structure refers to the relationship between the various long-term form of financing such as debentures, preference and equity share capital including reserves and surpluses. Leverage of capital structure ratios are calculated to test the long-term financial position of a firm.

The term "capital gearing" or "leverage" normally refers to the proportion of relationship between equity share capital including reserves and surpluses to preference share capital and other fixed interest bearing funds or loans. In other words it is the proportion between the fixed interest or dividend bearing funds and non-fixed

interest or dividend bearing funds. Equity share capital includes equity share capital and all reserves and surpluses items that belong to shareholders. Fixed interest bearing funds includes debentures, preference share capital and other long-term loans.

[Capital Gearing Ratio = Equity Share Capital / Fixed Interest Bearing Funds]

Capital gearing ratio is important to the company and the prospective investors. It must be carefully planned as it affects the company's capacity to maintain a uniform dividend policy during difficult trading periods. It reveals the suitability of company's capitalization.

Illustration 7: From the following information calculate 1) current ratio, 2) quick ratio, 3) fixed assets ratio, 4) debt-equity ratio and 5) proprietary ratio.

Balance Sheet of Pallavi Limited as on 31st December, 2001

Liabilities	Amount Rs	Assets	Amount Rs
Equity Share capital	1,00,000	Cash in hand	2,000
6% Preference share capital	1,00,000	Cash in Bank	10,000
7% Debentures	40,000	Bills receivable	30,000
8% Govt. Loan	20,000	Investments	20,000
Bank Overdraft	40,000	Debtors	70,000
Creditors	67,000	Stock	40,000
Proposed dividends	10,000	Furniture	30,000
Reserves	1,50,000	Land, Buildings	2,20,000
Provision for tax	20,000	Machinery	1,00,000
Profit & Loss a/c	20,000	Goodwill	35,000
		Preliminary expenses	10,000
	5,67,000		5,67,000

Solution:

1. Current Ratio

$$\text{Current ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

$$\frac{2,000+10,000+30,000+20,000+70,000+40,000}{40,000+67,000+10,000+20,000}$$

$$=1,72,000/1,37,000=1.25 \text{ means } 1.25:1$$

Note: Provision for tax and proposed dividend also current liabilities. The investments are treated as short-term

2. Quick ratio

$$\text{Quick ratio} = \frac{\text{Quick or liquid Assets}}{\text{Current Liabilities}}$$

$$= \frac{2,000+10,000+30,000+20,000+70,000}{40,000+67,000+10,000+20,000}$$

$$=1,32,000/1,37,000 = 0.96 \text{ means } 0.96:1$$

3. Fixed assets ratio = Fixed assets

Capital employed

$$\text{Fixed assets} = \text{Furniture} + \text{Machinery} + \text{Land} + \text{Building} + \text{Goodwill}$$

$$=30,000+1,00,000+2,20,000+35,000=3,85,000$$

$$\text{Capital Employed} = (\text{Equity share capital} + \text{Preference share capital} + \text{Reserves} + \text{P\&L account} + \text{Debentures} + \text{Govt, loan}) - \text{Preliminary expenses}$$

$$=(1,00,000+1,00,000+1,50,000+20,000+40,000+20,000) - 10,000=4,20,000$$

$$\text{Fixed assets ratio} = \frac{3,85,000}{4,20,000} = 0.916 \text{ means } 0.916:1$$

$$4,20,000$$

4. Debt-Equity ratio = Total liabilities

Shareholder's equity

$$\text{Long term Liabilities} = 7\% \text{ Debentures} + 8\% \text{ Govt. loans}$$

$$= 40,000+20,000 = 60,000.$$

$$\text{Short term liabilities} = \text{Bank overdraft} + \text{Creditors} + \text{Provision for tax}$$

$$= 40,000+67,000+20,000=1,27,000$$

$$\text{Total liabilities} = 60,000+1,27,000 = 1,87,000$$

Shareholder's equity = (Equity share capital + Preference share capital + Reserves + P&L account + Proposed dividend) – Preliminary expenses

$$= (1,00,000 + 1,00,000 + 1,50,000 + 20,000 + 10,000) - 10,000 = 3,70,000$$

Debt equity ratio = $1,87,000 / 3,70,000 = 0.50$ means 0.50:1

5. Proprietary ratio = $\frac{\text{Shareholders (equity) funds}}{\text{Total Assets}}$

Shareholder's equity = (Equity share capital + Preference share capital + Reserves + P&L account + Proposed dividend) – Preliminary expenses

$$= (1,00,000 + 1,00,000 + 1,50,000 + 20,000 + 10,000) - 10,000 = 3,70,000$$

Total Assets = All assets except preliminary expenses = 5,57,000

Debt equity ratio = $3,70,000 / 5,57,000 = 0.66$ means 0.66:1

Illustration 8: From the following information calculate 1) current ratio, 2) Liquid ratio, 3) Stock turnover ratio, 4) Debtors turnover ratio and 5) Creditors turnover ratio.

Particulars	Amount Rs	Particulars	Amount Rs
Opening stock	47,000	Debtors	42,000
Closing stock	53,000	Cash	10,000
Sales	2,40,000	Bank	8,000
Provision for doubtful debts	2,000	Bills receivable	15,000
Creditor	32,000	Provision for tax	15,000
Loose tools	4,000	Bills Payable	29,000
Purchases	1,80,000	Marketable securities	8,000

Solution:

1. Current Ratio

Current Assets = Cash + Bank + Marketable Securities + Bills Receivable + Debtors + Closing Stock

$$= 10,000 + 8,000 + 8,000 + 15,000 + 42,000 + 53,000 = 1,36,000$$

Current Liabilities= Creditors + Bills Payable + Provision for tax + Provision for doubtful debts

$$= 32,000 + 29,000 + 15,000 + 2,000 = 78,000$$

$$= 1,36,000 / 78,000 = 1.74 \text{ means } 1.74:1$$

2. Liquid ratio

= Liquid assets

Current Liabilities

Liquid assets = Current assets – Stock = 1,36,000 – 53,000 = 83,000

$$= 83,000 / 78,000 = 1.06 \text{ means } 1.06:1$$

3. Stock turnover ratio = Cost of goods sold

Average stock

Cost of goods sold = (Opening stock + Purchases) – Closing stock

$$= (47,000 + 1,80,000) - 53,000 = 1,74,000$$

Average stock = $\frac{1}{2}$ (Opening stock + Closing stock) = $\frac{1}{2}$ (47,000 + 53,000) = 50,000.

$$\text{Stock turnover ratio} = \frac{1,74,000}{50,000} = 3.48 : 1$$

4. Debtors turnover ratio = Sales

Outstanding debts

Outstanding debts = Bills receivable + Debtors

$$= 15,000 + 42,000 = 57,000$$

$$\text{Debtors turnover ratio} = \frac{2,50,000}{57,000} = 4.39 : 1$$

5. Creditors turnover ratio = Purchases

Debt unpaid

Debt unpaid = Creditors + Bills payable = 32,000 + 29,000 = 61,000

$$\text{Creditors turnover ratio} = \frac{1,80,000}{61,000} = 2.95$$

Note: Total purchases assumed as credit purchases.

Illustration 9: with the help of following ratios regarding Sarath & co. draw the Balance Sheet of the company for the year 2019

Current ratio	2.5
Liquidity ratio	1.5
Net working capital	Rs.3,00,000
Stock turnover ratio	6 times
Gross Profit ratio	20%
Fixed assets turnover ratio	2 times
Debt collection period	2 months
Fixed assets to shareholders net worth	0.80
Reserves and surplus to capital	0.50

Solution:

a) Current ratio = 2.5

$$2.5 = \frac{\text{Current assets}}{\text{Current liabilities}}$$

$$\text{Current assets} = 2.5 \text{ Current liabilities}$$

b) Working capital = Current assets – Current liabilities

$$3,00,000 = 2.5 \text{ current liabilities} - \text{current liabilities}$$

$$3,00,000 = 1.5 \text{ current liabilities}$$

$$\text{Current liabilities} = \frac{3,00,000}{1.5} = 2,00,000$$

$$\text{Current assets} = 2.5 \times 2,00,000 = 5,00,000.$$

c) Liquid ratio = $\frac{\text{Liquid assets}}{\text{Current liabilities}}$

$$1.5 = \frac{\text{Liquid assets}}{2,00,000}$$

$$\text{Liquid assets} = 2,00,000 \times 1.5 = 3,00,000 \quad \therefore \text{Liquid assets} = \text{Current assets} - \text{Closing stock}$$

$$\text{Closing stock} = \text{Current assets} - \text{Liquid assets} = 5,00,000 - 3,00,000 = 2,00,000.$$

Closing stock=2,00,000.

$$\text{d) Stock turnover ratio} = \frac{\text{Cost of goods sold}}{\text{closing stock}}$$

$$6 = \frac{\text{Cost of goods sold}}{2,00,000}$$

$$\text{Cost of goods sold} = 6 \times 2,00,000 = 12,00,000.$$

$$\text{e) Gross profit ratio} = \frac{\text{Gross profit} \times 100}{\text{Net sales}}$$

Gross profit on sales 20%

Sales Rs.100; Gross Profit Rs.20; Cost of goods sold Rs.80. When cost of goods sold is Rs.12,00,000 then sales

$$\text{Sales} = \frac{12,00,000 \times 100}{80} = 15,00,000.$$

$$\text{f) Fixed assets turnover ratio} = \frac{\text{Cost of goods sold}}{\text{Fixed assets}} = 2 \text{ times}$$

$$2 = \frac{12,00,000}{\text{Fixed assets}}$$

Fixed assets

$$\text{Fixed assets} = \frac{12,00,000}{2} = 6,00,000$$

$$\text{g) Debt collection period} = \frac{\text{Debtors} \times 12 \text{ months}}{15,00,000}$$

$$\text{Debtors} = \frac{2 \times 15,00,000}{12} = 2,50,000$$

$$\text{h) Fixed assets to shareholders net worth ratio} = \frac{\text{Fixed assets}}{\text{Shareholders network}}$$

$$0.8 = \frac{6,00,000}{\text{Shareholders network}}$$

Shareholders network

$$\text{Shareholders network} = \frac{6,00,000}{0.8} = 7,50,000$$

$$\text{i) Reserves and surplus to capital ratio} = \frac{\text{Reserves and surplus}}{\text{Capital}} = 0.5$$

$$\text{Reserves and surplus} = 0.5 \text{ Capital}$$

$$\text{Shareholders networkth} = \text{Capital} + \text{Reserves and surplus}$$

$$7,50,000 = \text{Capital} + 0.5 \text{ Capital}$$

$$7,50,000 = 1.5 \text{ Capital}$$

$$\text{Capital} = \frac{7,50,000}{1.5} = 5,00,000.$$

$$\text{j) Liquid assets} = \text{Debtors} + \text{Cash in hand}$$

$$3,00,000 = 2,50,000 + \text{Cash in hand}$$

$$\text{Cash in hand} = 3,00,000 - 2,50,000 = 50,000.$$

Balance sheet as on 31st December 2019

Liabilities	Amount Rs	Assets	Amount Rs
Capital	5,00,000	Cash in hand	50,000
Reserves and surplus	2,50,000	Debtors	2,50,000
Current liabilities	2,00,000	Closing stock	2,00,000
Long term liabilities (balancing figure)	1,50,000	Fixed assets	6,00,000
	11,00,000		11,00,000

10.5 Key Words

Financial Statement - a record containing the balance sheet and the income statement

Retained Earnings – the amount of net profit retained and not paid out to shareholders over the life of the business

Dividends – amounts paid to shareholders out of current or retained earnings

Productivity - The ratio of output (goods and services) produced per unit of input (productive resources) over some period of time.

Acid test ratio: Stringent test of liquidity; also called quick ratio. The ratio is found by dividing the most liquid current assets (cash, marketable securities, and accounts receivable) by current liabilities.

Capital adequacy ratio (CAR): The Basel Capital Accord provides a definition of capital, which is the numerator in the capital adequacy ratio and divides a bank's assets into four risk categories, each of which is assigned a risk weight (i.e. risk weighted capital assets). The risk assets are then added to form the denominator of the ratio (off-balance-sheet items are also included). The Accord calls for a minimum capital adequacy ratio of 8%.

10.6 Self-assessment Questions

1. What is ratio? How are ratios expressed?
2. What is ratio and explain the significance and advantages of ratio analysis?
3. What are the objectives and limitations of ratio analysis?
4. What are the various turnover ratios? Explain?
5. Explain classification of ratios?

10.7 Further readings

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Lesson 11: Cash Flow Analysis**Objectives**

After studying this lesson, we should be able to:

- Understand uses of cash flow statement
- Understand classification of cash flows
- Know the steps in preparation of cash flow statement analysis

Structure**11.1 Introduction****11.2 Difference between cash flow statement and funds flow statement****11.3 Uses of cash flow statement****11.4 Limitations of cash flow statement****11.5 Classification of Cash flows****11.6 Presentation of cash flow statement****11.7 Key words****11.8 Self-Assessment Questions****11.9 Further readings****11.1 Introduction**

Cash plays an important role in the entire economic life of a business. A firm needs cash to make payments to suppliers, to incur day-to-day expenses and to pay salaries; wages, interest and dividend etc. Management of liquidity or cash flow is an important aspect for the successful functioning of every business. Cash is the most liquid form of current asset and maintenance of sufficient cash is a pre requisite for the smooth functioning of the business. Therefore, it is necessary to make a cash flow analysis by preparing a Cash flow statement.

Meaning of the term 'cash'

The term 'cash' includes cash and cash equivalents. These include cash in hand, cash at bank and short term investments or marketable securities. Short term investments are highly liquid and can be converted into cash on demand or on short

notice. These are not held for a real return but to meet the liquidity requirements of the business.

Meaning of cash flow statement

Cash flow statement is a statement which describes the inflows and outflows of cash and cash equivalents in an enterprise during a specified period of time. It explains the reasons for changes in a firm's cash position during an accounting year.

The Institute of Cost and Works Accountant of India defines cash flow statement as “a statement setting out the flow of cash under distinct heads of sources of funds and their utilization to determine the requirements of cash during the given period and to prepare for its adequate provision.”

The term cash, cash equivalents and cash flow are explained as follows:-

1. Cash comprises of cash in hand and demand deposits with banks
2. Cash equivalents are short term, highly liquid investments that are readily convertible into known amounts of cash and which are subject to an insignificant risk of changes in value. Cash equivalents are held for the purpose of meeting cash commitments rather than for investment or other purposes. For an investment to qualify as cash equivalent, it must be readily convertible into known amount of cash subject to an insignificant risk of changes in value. Therefore , an investment normally qualifies as a cash equivalent only when it has a short maturity, i.e,three months or less from the date of acquisition.

Cash flows are inflows and outflows of cash and cash equivalents. Flow of cash is said to have taken place when any transaction makes changes in the amount of cash and cash equivalents available before happening of the transaction. If the effect of the transaction results in increase of cash and its equivalents, it is called an inflow of cash and if it results in decrease of cash, it is known as outflow of cash.

11.2 Difference between cash flow statement and funds flow statement

CASH FLOW STATEMENT	FUNDS FLOW STATEMENT
1. Cash flow statement is a statement which discloses the inflows and outflows of cash during a period	1. fund flow statement is a statement which discloses the sources and uses of funds or working capital during a period
2. It is prepared on cash basis, that is, actual cash inflows and outflows are shown	2. It is prepared on working capital basis and follows accrual concept of accounting.
3. It is mainly used for cash planning and managing liquidity	3. It is mainly used for long term financial planning
4. It explains reasons for shortage or surplus of liquid cash at the end of an accounting year	4. It explains reasons for a net increase or decrease in working capital at the end of an accounting year
5. It is presented in prescribed format as per AS-3	5. It is not presented in prescribed format.
6. A schedule of changes in working capital is not required.	6. A schedule of changes in working capital is prepared to ascertain the net increase or decrease in working capital

11.3 Uses of Cash Flow Statement

1. A Cash flow statement discloses changes in financial position on cash basis. It facilitates management of cash flows of a business.
2. It facilitates management in the evaluation of cash position and appropriate measures may be taken to arrange loans or make investments of surplus cash
3. It helps management in formulating financial policies such as dividend policy, credit policy etc.
4. A projected cash flow statement can guide the management regarding the need for arranging cash on long term basis by issuing shares, raising loans etc.
5. A cash flow statement can explain how much cash is generated within the business from operations for meeting various demands for cash such as payment of dividend, , financing expansion and investment son new projects etc.

6. It also explains reasons for paying very low dividend in spite of earning sufficient net profit by the business.

11.4 Limitations of cash flow statement

1. A cash flow statement discloses changes in financial position on cash basis only. Therefore, **11**non-cash transactions affecting changes in financial position are ignored
2. It is not a substitute to financial statements like Profit and Loss Account and Balance sheet. It can only substantiate these statements.
3. It is easy to manipulate cash position by delaying payment or quick collection of cash by management decisions. Therefore, the real cash position may not be disclosed.
4. The real liquidity position can be evaluated only by analyzing other current assets also. But in cash flow analysis only cash is evaluated.

11.5 Classification of Cash Flows

The revised Accounting Standard [AS-3] has made the following classification in respect of cash flows.

1. Cash flows from operating activities
2. Cash flows from investing activities
3. Cash flows from financing activities

1. Cash flow from operating activities

These are cash flows from regular course of operations. The operations of a firm include manufacturing, trading, rendering of services etc. Examples of cash flows from operating activities are

- a. Cash sales
- b. Cash received from debtors on account of credit sales
- c. Cash purchase of goods
- d. Cash paid to suppliers on account of credit purchases
- e. Wages paid to employees and staff
- f. Cash operating expenses
- g. Income from investing activities

2. Cash from investing activities

The investing activities of a business include purchase and sale of fixed assets like land buildings, equipments, machinery etc. Acquisition or disposal of companies also comes under investing activities. These are separately discloses in cash flow statement

Eg.a. Cash payments to acquire fixed assets

- b. Cash receipts from disposal of fixed assets
- c. Cash payments to acquire shares, debt instruments or warrants
- d. Cash receipts from disposal of shares
- e. Cash advances and loans made to third parties

3. Cash flows from financing activities

The financing activities of a firm include issuing or redemption of share capital, issue and redemption of debentures , raising and repayment of long term loans etc. these are items changing the owners equity and debt capital during an accounting year. Dividends paid to shareholders also come under financing activities

Eg.a. Cash proceeds from issuing shares or other similar instruments

- b. Cash proceeds from issuing debentures, loans, notes , bonds and other short or long term borrowings and
- c. Cash repayments of amounts borrowed such as redemption of debentures, bonds, preference shares.

11.6 Presentation of cash flow statement

The cash flow statement is to be presented as per the AS-3 of the Institute of Chartered Accountants of India (ICAI).

All the listed companies/entities whose financial year ends on March, 1996 and thereafter will be required to give Cash Flow Statement along with Balance Sheet and Profit and Loss Account. The above amendment comes into effect immediately i.e, w.e.f. 15-02-1996.

Accounting Standard-3

DIRECT METHOD: Proforma of Cash Flow Statement as per AS-3

Cash flow Statement of _____

for the period ended _____

Particulars	Amount	Amount
A. CASH FLOWS FROM OPERATING ACTIVITIES:	Xxxx (xxx)	
Cash receipts from Customers	XXX	
Less: Cash paid to suppliers and employees	(xxx)	
:: Cash Generated from Operation	XXX	
Less: Income Tax Paid	(xxx)	
:: Cash Flows from Operation before Extraordinary Items		XXX
Add: Proceeds from any Disaster Settlement	xxx	
:: Net cash flow from operating activities	(xxx)	
B. CASH FLOWS FROM INVESTING ACTIVITIES:	XXX	
Proceeds from Sale of Fixed assets including Investments	xxx	
Less: Purchase of Fixed assets including Investments	xxx	
		XXX
Add: Interest Received	xxx	
Dividends Received	xxx	
:: Net cash flow from Investing activities	xxx	
C. CASH FLOWS FROM FINANCING ACTIVITIES:	XXX	
Proceeds from issuance of share capital	(xxx)	
Proceeds from Long-term Borrowings	(xxx)	
Less: Repayment of Long-term Borrowings including Redemption of Preference Shares		XXX
		XXX
Less: Interest Paid		(xxx)
Dividend Paid		
:: Net cash flow from financing activity		Xxx
::Net Increase in cash and cash equivalents		
1: Cash and Cash equivalents at the beginning of the period		
::Cash and Cash equivalents at the end of the period		

Notes:

- (1) Figures of cash sales may be directly available from cash book. Then Cash collection can be derived taking Credit sales + Opening balance of debtors - closing balance of debtors.
- (2) Similarly figures of cash purchases can also be obtained from cash books.
- (3) Interest and dividend are investment cash inflow and, therefore, to be excluded.
- (4) Interest expense is financing cash outflow.
- (5) Tax provision is not cash expense, advance tax paid should be treated as tax cash outflow.

Treatment of some Select Items

(a) Foreign Currency Cash Flows: Cash flows arising from transaction in a foreign currency should be recorded in an enterprise's reporting currency and by applying to the foreign currency amount, the exchange rate between the reporting currency and foreign currency at the date of cash flow.

Unrealized gains or losses arising from changes in foreign exchange rates are not Cash flows.

(b) Extraordinary items – classified disclosure: Cash flows associated with extraordinary items should be classified as arising from operating, investing, or financing activities as appropriate and separately disclosed.

(c) Taxes on Income – Classified disclosure: Cash flows arising from taxes on income should be classified as cash flows from operating activities unless they can be specifically identified with financing and investing activities.

(d) Investment in subsidiaries, Associates and Joint Venture: When accounting for an investment in an associate or a subsidiary or a joint venture, an investor entity restricts in its cash flow reporting, transactions that lead to cash flows between itself and the investee / joint venture.

(e) Hedging and Derivatives Contracts: Cash flows arising from transactions which are in the nature of derivative or hedging contracts for an identifiable position, will have to be classified on the basis of the segment of activity to which the underlying contracts belong. Stated differently, when a contract is accounted for as hedge of an identifiable position, the cash flows of the contract are classified in the same manner as the cash flows of the position being hedged.

INDIRECT METHOD:

In this method except 'cash from operating activities' remaining things are same as in above cash flow statement.

Particulars	Amount	Amount
A. Cash Flows from Operating Activities:		
Net Profit for the Period before Taxation & Extraordinary Items		XXX
Add: Adjustment for Non-current and Non-operating Items debited to Profit & Loss A/c:		
Depreciation		
Interest Paid	XX	
Foreign Exchange Loss	XX	
Loss on Sale of Fixed Assets & Investments	XX	
Less: Adjustment for Non-current and Non-operating Items credited to Profit & Loss A/c:	<u>XX</u>	
Interest Earned		<u>XX</u>
Dividend Earned		
Profit on Sale of Fixed Assets & Investments	XX	
:: Operating Profit before Working Capital Changes	XX	
Add: Increase in Operating Current Liabilities	<u>XX</u>	<u>XX</u>
Decrease in Operating Current Assets	<u>XX</u>	<u>XXX</u>
Less: Increase in Operating Current Assets	<u>XX</u>	<u>XX</u>
Decrease in Operating Current Liabilities	<u>XX</u>	<u>XX</u>
:: Cash Generated from Operation	<u>XX</u>	<u>XXX</u>
Less: Income Tax Paid		XX
Add: Proceeds from any Disaster Settlement		<u>XX</u>
:: Net Cash Flow from Operating Activities		<u>XXX</u>

Illustration 1

The following summary cash account has been extracted from the company's accounting records:

Summary Cash Account

		(` '000)
Balance at 1.3.20X1		35
Receipts from customers		2,783
Issue of shares		300
Sale of fixed assets		<u>128</u>
		3,246
Payments to suppliers	2,047	
Payments for fixed assets	230	
Payments for overheads	115	
Wages and salaries	69	
Taxation	243	
Dividends	80	
Repayments of bank loan	250	(3,034)
Balance at 31.3.20X2		212

The company does not have any cash equivalents .Prepare Cash Flow Statement of this company Hills Ltd. for the year ended 31st March, 20X2 in accordance with AS-3 (Revised).

Solution

Hills Ltd. Cash Flow Statement for the year ended 31st March, 20X2 (direct method)

Particulars		(`'000)
Cash flows from operating activities		
Cash receipts from customers	2,783	
Cash payments to suppliers	(2,047)	
Cash paid to employees	(69)	
Other cash payments (for overheads)	(115)	
Cash generated from operations	552	
Income taxes paid	(243)	
Net cash from operating activities		309
Cash flows from investing activities		
Payments for purchase of fixed assets	(230)	
Proceeds from sale of fixed assets	128	
Net cash used in investing activities		(102)
Cash flows from financing activities		
Proceeds from issuance of share capital	300	
Bank loan repaid	(250)	
Dividend paid	(80)	
Net cash used in financing activities		(30)
Net increase in cash and cash equivalents		177
Cash and cash equivalents at beginning of period		35
Cash and cash equivalents at end of period		212

Illustration 2

The following data were provided by the accounting records of Ryan Ltd. at year-end, March 31,20X1:

Income Statement

Particulars	Amount Rs	Amount Rs`
Sales		6,98,000
Cost of Goods Sold		<u>(5,20,000)</u>
Gross Margin		1,78,000
Operating Expenses		
(including Depreciation Expense of ` 37,000)		<u>(1,47,000)</u>
		31,000
Other Income / (Expenses)		
Interest Expense paid	(23,000)	
Interest Income received	6,000	
Gain on Sale of Investments	12,000	
Loss on Sale of Plant	<u>(3,000)</u>	
		<u>(8,000)</u>
		23,000
Income tax		<u>(7,000)</u>
		<u>16,000</u>

Comparative Balance Sheets

	31 st March 20X1	31 st March 20X0
Assets		
Plant Assets	7,15,000	5,05,000
Less: Accumulated Depreciation	<u>(1,03,000)</u>	<u>(68,000)</u>
	6,12,000	4,37,000
Investments (Long term)	1,15,000	1,27,000
Current Assets:		
Inventory	1,44,000	1,10,000
Accounts receivable	47,000	55,000
Cash	46,000	15,000
Prepaid expenses	<u>1,000</u>	<u>5,000</u>
	<u>9,65,000</u>	<u>7,49,000</u>
Liabilities		
Share Capital	4,65,000	3,15,000
Reserves and surplus	1,40,000	1,32,000
Bonds	2,95,000	2,45,000
Current liabilities :		
Accounts payable	50,000	43,000
Accrued liabilities	12,000	9,000
Income taxes payable	3,000	5,000
	<u>9,65,000</u>	<u>7,49,000</u>

Analysis of selected accounts and transactions during 20X0-X1

1. Purchased investments for ₹78,000.
2. Sold investments for ₹1,02,000. These investments cost ₹90,000.
3. Purchased plant assets for ₹1,20,000.
4. Sold plant assets that cost ₹10,000 with accumulated depreciation of ₹2,000 for ₹5,000.
5. Issued ₹1,00,000 of bonds at face value in an exchange for plant assets on 31st March, 20X1.
6. Repaid ₹50,000 of bonds at face value at maturity.
7. Issued 15,000 shares of ₹10 each.
8. Paid cash dividends ₹8,000.

Prepare Cash Flow Statement as per AS-3 (Revised), using indirect method.

Solution

Ryan Ltd. Cash Flow Statement for the year ending 31st March, 20X1

Particulars	Amount Rs`	Amount Rs`
Cash flows from operating activities		
Net profit before taxation	23,000	
Adjustments for:		
Depreciation	37,000	
Gain on sale of investments	(12,000)	
Loss on sale of plant assets	3,000	
Interest expense	23,000	
Interest income	(6,000)	
Operating profit before working capital changes	68,000	
Decrease in accounts receivable	8,000	
Increase in inventory	(34,000)	
Decrease in prepaid expenses	4,000	
Increase in accounts payable	7,000	
Increase in accrued liabilities	3,000	
Cash generated from operations	<u>56,000</u>	
Income taxes paid		

Net cash generated from operating activities		
Cash flows from investing activities	<u>(9,000)</u>	
Purchase of plant		
Sale of plant		
Purchase of investments	(1,20,000)	
Sale of investments	5,000	
Interest received	(78,000)	
Net cash used in investing activities	1,02,000	47,000
Cash flows from financing activities	<u>6,000</u>	
Proceeds from issuance of share capital		(85,000)
Repayment of bonds		
Interest paid	1,50,000	
Dividends paid	(50,000)	
Net cash from financing activities	(23,000)	
Net increase in cash and cash equivalents	<u>(8,000)</u>	
Cash and cash equivalents at the beginning of the period		69,000
Cash and cash equivalents at the end of the period		31,000
		15,000
		46,000

* Working Note:	Amount Rs
Income taxes paid:	
Income tax expense for the year	7,000
Add: Income tax liability at the beginning of the year	<u>5,000</u>
	12,000
Less: Income tax liability at the end of the year	<u>(3,000)</u>
	<u>9,000</u>

Illustration 3

The balance sheets of Sun Ltd. for the years ended 31st March 20X1 and 20X0 were summarized:

Particulars	20X1 Amount Rs	20X0 Amount Rs
Equity Share Capital	60,000	50,000
Reserves:		
Profit and Loss Account	5,000	4,000
Current Liabilities:		
Trade payables	4,000	2,500
Taxation	1,500	1,000

dividends payable	2,000	1,000
	72,500	58,500
Fixed Assets (at w.d.v.)		
Premises	10,000	10,000
Fixtures	17,000	11,000
Vehicles	12,500	8,000
Short-term investments	2,000	1,000
Current Assets		
Inventory	17,000	14,000
Trade receivables	8,000	6,000
Bank and Cash	6,000	8,500
	72,500	58,500

The profit and loss account for the year ended 31st March, 20X1 disclosed

Profit before tax	4,500
Taxation	<u>(1,500)</u>
Profit after tax	3,000
Declared dividends	<u>(2,000)</u>
Retained profit	<u>1,000</u>

Further information is available

Particulars	20X1 Amount Rs	20X0 Amount Rs
Depreciation for year	1,000	2,500
Disposals:		
Proceeds on disposal	—	1,700
Written down value	—	(1,000)
Profit on disposal		700

Prepare a Cash Flow Statement for the year ended 31st March, 20X1.

Solution

Sun Ltd. Cash Flow Statement for the year ended 31st March, 20X1

Particulars	20X1 Amount Rs	20X0 Amount Rs
Cash flows from operating activities		
Net Profit before taxation	4,500	
Adjustments for:		
Depreciation	3,500	
Profit on sale of vehicles (1,700 – 1,000)	<u>(700)</u>	
Operating profit before working capital changes	7,300	
Increase in Trade receivables	(2,000)	
Increase in inventories	(3,000)	
Increase in Trade payables	<u>1,500</u>	
Cash generated from operations	3,800	
Income taxes paid (W.N.1)	<u>(1,000)</u>	
Net cash generated from operating activities		2,800
Cash flows from investing activities		
Sale of vehicles	1,700	
Purchase of vehicles (W.N.3)	(8,000)	
Purchase of fixtures (W.N.3)	(7,000)	
Net cash used in investing activities		(13,300)
Cash flows from financing activities		
Issue of shares for cash	10,000	
Dividends paid (W.N.2)	(1,000)	
Net cash from financing activities		9,000
Net decrease in cash and cash equivalents		(1,500)
Cash and cash equivalents at beginning of period (See Note 1)		9,500
Cash and cash equivalents at end of period (See Note 1)		8,000
Note to the Cash Flow Statement		
Cash and Cash Equivalents	31.3.20X1	31.3.20X0
Bank and Cash	6,000	8,500
Short-term investments	2,000	1,000
Cash and cash equivalents	8,000	9,500

Working Notes :

	Particulars	Amount Rs	Amount Rs`
1.	Income taxes paid		
	Income tax expense for the year		1,500
	Add: Income tax liability at the beginning of the year		<u>1,000</u>
			2,500
	Less: Income tax liability at the end of the year		<u>(1,500)</u>
			<u>1,000</u>
2.	Dividend paid		

	Declared dividend for the year		2,000
	Add: Amount payable at the beginning of the year		<u>1,000</u>
			3,000
	Less: Amount payable at the end of the year		<u>(2,000)</u>
			<u>1,000</u>
3.	Fixed assets acquisitions	Fixtures	Vehicles
	W.D.V. at 31.3.20X1 Add back: Depreciation for the year Disposals	17,000	12,500
		1,000	2,500
	Less: W.D.V. at 31.12.20X0		1,000
	Acquisitions during 20X0-20X1	18,000	16,000
		(11,000)	(8,000)
		7,000	8,000

11.7 Key words

Cash: Cash include Cash in hand and Demand deposits with banks

Cash equivalents: Cash equivalents are short term, highly liquid investments that are readily convertible into known amounts of cash and which are subject to an insignificant risk of changes in value.

Operating activities: Operating activities are principal revenue generating activities.

Investing Activities: Investing Activities are relates to acquisition and disposal of long-term assets and other investments.

Financing Activities: Financing Activities are includes the ones which result in changes in the size and composition of the owner's capital (including preference share capital) and borrowings of the enterprise.

11.8 Self-assessment

1. What is the significance of cash flow statement? Explain in brief.
2. Explain the difference between direct and indirect methods of reporting cash flows from operating activities with reference to Accounting Standard 3, (AS 3) revised.

11.9 Further readings

1. G.Prasad, V.ChandrasekharaRao, Accounting for Managers, Jai Bharat Publishers, Guntur, Andhra Pradesh, 2006.
2. Asish K. Bhattacharyya, Financial Accounting, Prentice Hall of India, New Delhi, 2005.

3. Tulsian, P.c., Accountancy Tata McGraw-Hill Publishing Company Limited, New Delhi
4. Pillai, R.S.N., Bhagavathi, Uma, S., Fundamentals of Advanced Accounting (Vol.I) S.Chand& Company Ltd., New Delhi, 2006.
5. Module 2, ICAI, 2020.

Lesson Writer

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Lesson 12: Funds Flow analysis

Objectives

After studying this lesson, you should be able to know:

- **the basics of funds flow analysis**
- **the significance of funds flow statement**
- **preparation of funds flow statement**

Structure

12.1 Introduction

12.2 Objectives / Importance of Funds flow statement

12.3 Components of flow of Funds

12.4 Preparation of Funds flow statement

12.5 Treatment of Adjustments

12.6 Key words

12.7 Self-Assessment Questions

12.8 Further readings

12.1 Introduction

Funds flow analysis is designed to highlight changes in financial condition of a business concern between two points of time which generally conform to beginning and ending financial statement dates.

Although financial statements supply useful information to the management and describe the nature of changes in ownership as a result of the period's productive and commercial activities, these statements fail to mirror the funds changes that have taken place over a given time span. They do not spell out the movement of funds. It is more important to describe the sources from which additional funds were derived and the uses to which these funds were put, because the ultimate success of a business enterprise depends on where got and where gone situations. The funds flow statement is, therefore, prepared to uncover the information which the financial statements fail to describe clearly.

The following are the definitions of Funds Flow Statement.

R.N.Anthony: "The Funds Flow Statement describes the sources from which additional funds were derived and the uses to which these funds were put."

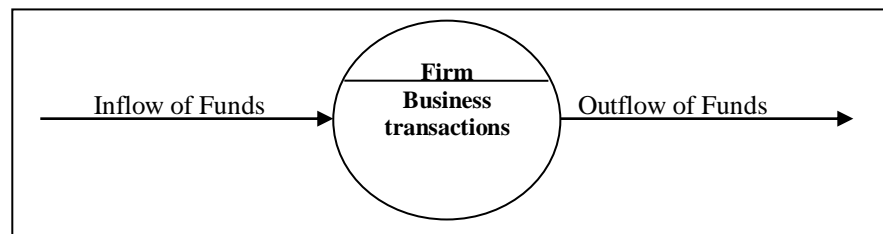
R.A.Foulk: “A Statement of Sources and Applications of Funds is a technical device designed to analyse the changes in the financial condition of a business between two dates.”

Bierman: “It is a Statement which highlights the underlying financial movements and explains the changes of working capital from one point of time to another.”

In a narrow sense the term ‘**fund**’ means cash only. In a broad sense the term ‘**fund**’ means working capital. Working capital indicates the difference between current assets and current liabilities. The term working capital may be:

- a) Gross Working Capital – it represents total of all Current Assets.
- b) Net Working Capital – it refers to excess of Current Assets over Current Liabilities.

The term ‘**flow**’ means change and therefore the term ‘flow of funds’ means ‘*change of funds*’ or ‘*change in working capital*’ in the normal course of business transactions.



12.2 Objectives / Importance of Funds Flow Statement

- 1. Analysis of Financial Position:** Funds flow statement analyses how the funds were obtained and used in the past.
- 2. Evaluation of Firm's Financing:** It reveals how the firm financed its developments projects in the past i.e., from internal sources or from external sources.
- 3. An Instrument for Allocation of Resources:** The amount of funds to be available for projects shall be estimated by the financial manager with the help of funds flow statement. Based on the funds availability they can take decision to financing.

4. **Future Guide:** An analysis of funds flow statements of several years reveals certain valuable information for the financial manager for planning the future financial requirements of the firm.
5. **Control Device:** The statement compared with the budgeted figures will show to what extent, the funds were utilized according to plan on this basis; the financial manager can take remedial steps if there is any deviation.

12.3 Components of flow of Funds

➤ In order to analyze the sources and application of funds, it is essential to know the meaning and components of flow of funds given below :

- (1) Current Assets
- (2) Non-Current Assets (Fixed or Permanent Assets)
- (3) Current Liabilities
- (4) Non-Current Liabilities (Capital & Long-Term Liabilities)
- (5) Provision for Tax
- (6) Proposed Dividend

(1) Current Assets: The term "Current Assets" refer to the assets of a business of a transitory nature which are intended for resale or conversion into different form during the course of business operations. For example, raw materials are purchased and the amount unused at the end of the trading period forms part of the current as stock on hand. Materials in process at the end of the trading period and the labour incurred in processing them also form part of current assets.

(2) Non-Current Assets (Permanent Assets): Non-Current Assets also refer to as Permanent Assets or Fixed Assets. This class of asset includes those of tangible and intangible nature having a specific value and which are not consumed during the course of business and trade but provide the means for producing saleable goods or providing services. Land and Building, Plant and Machinery, Goodwill and Patents etc. are the few examples of Non-Current ~assets.

(3) Current Liabilities: The term Current Liabilities refer to amount owing by the business which are currently due for payment. They consist of amount owing to creditors, bank loans due for repayment, proposed dividend and proposed tax for payment and expenses accrued due.

(4) Non-Current Liabilities: The term Non-Current Liabilities refer to Capital and Long-Term Debts. It is also called as Permanent Liabilities. Any amount owing by the business which are payable over a longer period time, i.e., after a year are referred as Non-Current Liabilities. Debenture, long-term loans and loans on mortgage etc., are the few examples of non-current liabilities.

(5) Provision for Taxation: Provision for taxation may be treated as a current liability or an appropriation of profit. When it is made during the year it is not used for adjusting the net profit, it is advisable to treat the same as current liability. Any amount of tax paid during the year is to be treated as application of funds or non-current liability. Because it is used for adjusting the net profit made during the year.

(6) Proposed Dividend: Like provision for taxation, it is also treated as a current liability and noncurrent liability, when dividend may be considered as being declared. And thus, it will not be used for adjusting the net profit made during the year. If it is treated as an appropriation, i.e., an non-current liability when the dividend paid during the year.

(7) Provisions Against Current Assets and Current Liabilities: Provision for bad and doubtful debts, provision for loss on inventories, provision for discount on creditors and provision made against investment etc. are made during the year, they may be treated separately as current assets or current liabilities or reduce the same from the respective gross value of the assets or liabilities.

The list of Current Accounts and Non-Current Accounts are given below:

Current Accounts

Current Liabilities	Current Assets
(1) Bills Payable	(1)Cash in Hand
(2) Sundry Creditors	(2)Cash at Bank
(3) Outstanding Expenses	(3)Bills Receivable
(4) Dividends Payable	(4)Sundry Debtors
(5) Bank Overdraft	(5)Short-Term Investments
(6) Short-Term Loans	(6)Marketable Securities
(7) Provisions against Current	(7)Stock of Raw Materials, Work-

Assets (8) Provision for Taxation (9) Proposed Dividend (May be Current or Non-Current Liabilities)	in-Progress & Finished Goods (8)Prepaid Expenses (9)Accrued Incomes
--	---

Non-Current Accounts

Non-Current or Permanent Liabilities	Non-Current or Permanent Assets
(1) Equity Share Capital (2) Preference Share Capital (3) Debentures (4) Long-Term Loans (5) Share Premium (6) Share forfeited (7) Profit and Loss Account (8) Capital Reserve (9) Capital Redemption Reserve	(1) Good will (2) Land (3) Building (4) Plant and Machinery (5) Furniture and Fittings (6) Trade Marks (7) Patent Right~ (8) Long-Term Investments (9) Discount on Issue of Shares and Debentures (10) Preliminary Expenses (11) Other Deferred Expenses

12.4 Preparation of Funds Flow Stateents

Funds flow analysis involves the following important three statements such as:

- A. Funds from Operations
- B. Statement of Changes in Working Capital
- C. Funds flow Statement.

12.4.1 Funds from Operations

The main source of fund for an enterprise is the funds from operation. A fund from operation means the actual amount of profit is generated by the business operations such as purchase and sales.

Statement of Funds from Operations

Particulars	Amount (Rs.)	Amount (Rs.)
Net profit or Retained earnings (Closing balance of P/L A/c as given in the balance sheet)		XXXX
Add: Non-fund & non-operating items which have been debited to P&L A/c:		
1. Depreciation on fixed assets	XXXX	
2. Goodwill written off	XXXX	
3. Patents	XXXX	
4. Trademarks	XXXX	
5. Discount on issue of shares	XXXX	
6. Preliminary expenses written off	XXXX	
7. Transfer to reserves	XXXX	
8. Loss on sales of fixed assets	XXXX	XXXX
9. Proposed dividend		XXXX
Less: Non-fund or Non-operating items which have been credited to P&L A/c:		
1. Profit on sale of fixed assets	XXXX	
2. Profit on revaluation of asset	XXXX	
3. Profit on redemption of shares & debentures.	XXXX	
4. Rent received	XXXX	
5. Dividend received	XXXX	
6. Refund of income tax	XXXX	
7. Net profit or retained earnings (Opening balance of P/L A/c)	XXXX	
Funds from operations		XXXXX
Note: If the P/L a/c shows a <i>net loss</i> , the above procedure will be reversed.		

Alternative Specimen Format: The following is the specimen of adjusted profit and loss account to calculate fund from operations:

Particulars	Amount Rs.	Particulars	Amount Rs.
To Depreciation on Fixed ASSETS	XXXX	By Opening Balance of P &L Alc	XXXX
To Loss on Sale of Fixed Assets	XXXX	By Profit on Sale of Fixed Assets	XXXX
To Loss on Sale Investments	XXXX	By Excess provision written back	XXXX
To Goodwill written off	XXXX	By Dividend received on investment	XXXX
To Discount on shares written off	XXXX	By Revaluation of fixed assets	XXXX
To Transfer to reserve	XXXX	By Fund From Operations (Balancing Figure)	XXXX
To Preliminary expenses written off	XXXX		
To Provision for Tax	XXXX		
To Proposed Dividend	XXXX		
To Closing Balance of P&L Alc			

12.4.2 Statement of Changes in Working Capital

This statement is prepared from current assets and current liabilities in order to calculate the increase or decrease in working capital. This statement prepare with the help of current assets and current liabilities of two periods.

Rules of Preparing Statement of Changes in Working Capital:

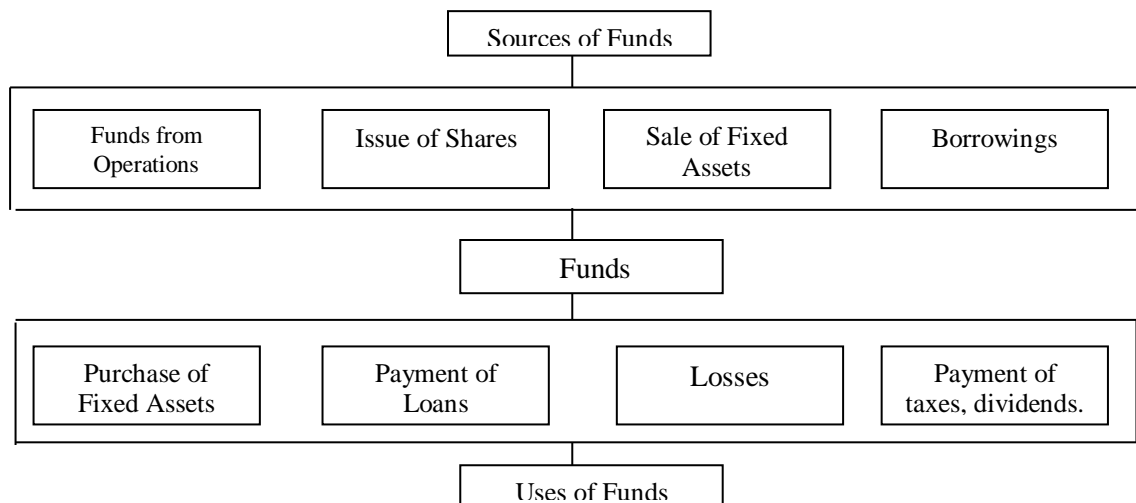
Items	Effect on Working Capital
1. Increase in current assets	Increase (+)
2. Decrease in current assets	Decrease (-)
3. Increase in current liabilities	Decrease (-)
4. Decrease in current liabilities	Increase (+)

Proforma of Statement of Changes in Working Capital

Particulars	End of the year		Working capital changes	
	Previous Year (Rs.)	Current Year (Rs.)	Increase (Rs.)	Decrease (Rs.)
<u>Current Assets:</u>				
Cash in hand	-----	-----		
Cash in bank	-----	-----		
Bills receivables	-----	-----		
Sundry debtors	-----	-----		
Stock	-----	-----		
Prepaid expenses	-----	-----		
Total Current Assets (A)	XXXX	XXXX		
<u>Current Liabilities:</u>				
Bills payable	-----	-----		
Sundry creditors	-----	-----		
Outstanding expenses	-----	-----		
Bank Over Draft	-----	-----		
Short-term loans	-----	-----		
Dividends payable	-----	-----		
Total Current Liabilities (B)	XXXX	XXXX		
Net working capital (A-B)	-----	-----		
Net increase/decrease in working capital	XXXX	XXXX	XXXX	XXXX

12.4.3 Funds Flow Statement

Funds flow statement is a statement which represents various sources from which funds are obtained and used to which during a particular period. The different sources and applications of funds are:



Proforma of Funds Flow Statement: Generally, this statement is prepared in two formats. They are:

- i) Report form
- ii) Account form

Report Form of Funds-Flow Statement

Particulars	Amount (Rs.)
<u>Sources of Funds:</u>	
Funds from operations	xxxx
Issue of share capital	xxxx
Issue of debentures	xxxx
Long-term loans	xxxx
Sale of fixed assets	xxxx
Non-trading receipts i.e., dividends or donations	xxxx
Decrease in working capital (as per schedule)	xxxx
Total sources	xxxx
<u>Applications of Funds:</u>	
Trading Losses (If any)	
Redemption of preference share capital/ debentures	xxxx
Repayment of long-term debts	xxxx
Purchase of any fixed asset	xxxx
Non-trading payments	xxxx
Increase in working capital (as per schedule)	xxxx
Total	xxxxxx
Applications	

Account Form of Funds-Flow Statement

Sources	Amount (Rs.)	Application	Amount (Rs.)
Funds from operations	xxxx	Trading Losses (If any)	xxxx
Issue of share capital	xxxx	Redemption of preference	
Issue of debentures	xxxx	share capital/ debentures	xxxx
Long-term loans	xxxx	Repayment of long-term	xxxx
Sale of fixed assets	xxxx	debts	xxxx
Non-trading receipts i.e.,		Purchase of any fixed asset	xxxx
dividends or donations	xxxx	NoNon-trading payments	xxxx
Decrease in working capital	xxxx	Increase in working capital	
(as per schedule)	xxxx	(as per schedule)	xxxxxx

Illustration 1:

The following are the summaries of the balance sheets of the Bharat Vijay Ltd. as on 31-12-02 and 31-12-03.

Liabilities	2002 Rs.	2003 Rs.	Assets	2002 Rs.	2003 Rs.
Share capital	3,00,000	4,00,000	Buildings	1,20,000	2,50,000
Debentures	2,00,000	2,50,000	Machinery Stock	3,00,000	2,60,000
Profit & Loss	40,000	60,000	Debtors	90,000	80,000
A/c Creditors	70,000	80,000	Prepaid expenses	1,40,000	2,40,000
Bank overdraft	25,000	25,000		15,000	25,000
Provision for	30,000	40,000			
Taxation	6,65,000	8,55,000		6,65,000	8,55,000

From following information, prepare a statement of sources and application of funds for the year 2003.

1. The net profit for the year was Rs. 40,000 after charging depreciation.
2. During the year depreciation charged was Rs. 30,000 on building and Rs. 40,000 on machinery.
3. The company purchased during the year buildings worth Rs. 1, 60,000.
4. Dividend paid during the year amounted to Rs. 20,000.

Solution**Statement of changes in Working Capital**

Particulars	2002	2003	Increase in W.C.	Decrease in W.C
Current Assets				
Stock	90,000	80,000	-	10,000
Debtors	1,40,000	2,40,000	1,00,000	-
Prepaid Expenses.	15,000	25,000	10,000	-
Total (A)	2,45,000	3,45,000		
Current Liabilities				
Creditors	70,000	80,000		10,000
B.O.D.	25,000	25,000	-	-

Provision for Taxation	30,000	40,000	-	10,000
Total (B)	1,25,000	1,45,000		
Working Capital (A-B)	1,20,000	2,00,000		
Increase in Working Capital				80,000
			1,10,000	1,10,000

Ledger Accounts:

Dr Building account		Cr	
Particular	Amount	Particular	Amount
Opening Bal	1,20,000	By Depreciation	30,000
To bank A/C- Purchase	1,60,000	By closing balance	2,50,000
	2,80,000		2,80,000

Dr Machinery account		Cr	
Particular	Amount	Particular	Amount
To opening balance	3,00,000	By Depreciation	40,000
		By closing bal.	2,60,000
	3,00,000		3,00,000

Dr Adjusted Profit and loss account		Cr	
Particular	Amount	Particular	Amount
To Depreciation on Building	30,000	By Opening balance	40,000
To Depreciation on Machinery	40,000		
To Dividend Paid	20,000		
To closing balance	60,000	By Adjusted Profit	1,10,000
	1,50,000		1,50,000

Fund Flow Statement

Sources of Funds	Amount	Application of Funds	Amount
Equity share capital	1,00,000	Purchase building	1,60,000
Debenture	50,000	Dividend Paid	20,000

Profit	1,10,000	Increase in working capital	80,000
	2,60,000		2,60,000

Illustration 2

The comparative balance sheet of Iceland's Ltd. as at 31st December, 2007 and 2008 are as under:

Liabilities	2007 Rs.	2008 Rs.	Assets	2007 Rs.	2008 Rs.
Share capital	10,00,000	15,00,000	Building at	7,50,000	11,50,000
Share premium	-	50,000	cost	8,75,000	11,25,000
P & LA/c	2,00,000	4,25,000	Machinery		
5% debentures	5,00,000	3,80,000	(Less		
Creditors	3,00,000	5,20,000	depreciation)	1,00,000	1,00,000
Prov. for	1,00,000	25,000	Investments	2,25,000	2,45,000
Taxation	50,000	50,000	Stock	75,000	90,000
Proposed dividend			debtors	1,25,000	2,40,000
			Bank balance		
	21,50,000	29,50,000		21,50,000	29,50,000

The additional information is as under:

1. During the year 2008 the company sold machinery costing Rs. 75,000 for Rs. 25,000. The accumulated depreciation on the said machinery was Rs. 40,000.
2. Depreciation written off during the year 2008 was Rs. 90,000.
3. Taxation paid during the year amounted to Rs. 90,000.

From the above information prepare a statement of Sources and Application of Funds for the year 2008.

Solution:

Statement of changes in Working Capital

Particulars	2007	2008	Increase in W.C.	Decrease in W.C
Current Assets				
Stock	2,25,000	2,45,000	20,000	
Debtors	75,000	90,000	15,000	-
Bank balance	1,25,000	2,40,000	1,15,000	-
Total (A)	4,25,000	5,75,000		
Current Liabilities				
Creditors	3,00,000	5,20,000	-	2,20,000
Total (B)	3,00,000	5,20,000		
Working Capital (A-B)	1,25,000	55,000		
Decrease in Working Capital			70,000	-
			2,20,000	2,20,000

Dr**Building account****Cr**

Particular	Amount	Particular	Amount
To Opening Balance	7,50,000		
To Purchase building	4,00,000	By Closing balance	11,50,000
	11,50,000		11,50,000

Dr**Machinery account****Cr**

Particular	Amount	Particular	Amount
To opening balance	8,75,000	By Depreciation (40,000+50,000)	90,000
To Purchase machinery	3,75,000	By Bank- sale	25,000
		By Profit & Loss	10,000
		By Closing bal.	11,25,000
	12,50,000		12,50,000

Dr		Provision for Tax		Cr	
Particular	Amount	Particular	Amount		
To Tax paid	90,000	By opening balance	1,00,000		
To balance c/f	25,000	By profit & loss	15,000		
	1,15,000		1,15,000		

Dr		Adjusted Profit and loss account		Cr	
Particular	Amount	Particular	Amount		
To proposed dividend	50,000	By opening bal.	2,00,000		
To depreciation	90,000				
To loss on sale of machinery	10,000				
To provision for taxation	15,000				
To closing bal.	4,25,000	By Adjusted Profit	3,90,000		
	5,90,000		5,90,000		

Fund Flow Statement

Sources of Funds	Amount	Application of Funds	Amount
Share capital	5,00,000	Debenture	1,20,000
Share Premium	50,000	Purchase of Machinery	3,75,000
Decrease in working capital	70,000	Purchase of building	4,00,000
Sale of Machinery	25,000	Payment dividend	50,000
Adjusted Profit	3,90,000	Payment of taxation	90,000
	10,35,000		10,35,000

Illustration 3

You have been given the following financial statements of Adarsh Eng. Co. Ltd. as at 31st December, 2002 and 2003.

Liabilities	2003 Rs.	2002 Rs.	Assets	2003 Rs.	2002 Rs.
Sundry creditors	2,98,000	2,51,450	Cash at bank	45,000	1,30,000
Prov. for taxation	1,72,000	65,000	Sundry debtors	1,40,000	90,700
Bank loan (secured)	-	87,000	Stock	1,96,000	1,42,500
Res. and surplus	3,12,000	1,48,000	Fixed assets(less depreciation)	6,00,000	3,60,000
Share capital (Rs. 100 shares)	2,30,000	1,97,000	Investments	10,000	1,250
	10,12,000	7,48,450	Pre-paid expenses	21,000	14,000
				10,12,000	7,48,450

The following further information is available from the records:

(a) The position in respect of Reserves and Surplus is as under:

Balance on 1 st January, 2003	1, 48,000
Net Profit for the year	<u>1, 98,500</u>
	3, 46,500
Less: dividend	<u>34,500</u>
	3,12,000

(b) On 31-12-03 the accumulated depreciation on fixed assets was Rs. 1,80,000 and on 31-12-02 Rs. 1,60,000. Machinery costing Rs. 20,000 which was half depreciated was discarded and written off in 2002; Depreciation for the year 2003 amounted to Rs. 30,000.

(c) Investment costing Rs. 5,000 were sold during the year 2003 for Rs. 4,800 and government securities of the face value Rs. 4,000 were purchased during the year for Rs. 3,750.

You are required to prepare (1) Statement of sources and application of funds and (2) Statement showing detail the item-wise increase or decrease in net working capital.

Solution:

Statement of changes in Working Capital

Particulars	2002	2003	Increase in W.C.	Decrease in W.C
Current Assets				
Cash at Bank	1,30,000	45,000	-	85,000
Debtors	90,700	1,40,000	49,300	-
Stock	1,42,500	1,96,000	53500	-
Prepaid Expenses.	14,000	21,000	7000	
Total (A)	3,77,200	4,02,000		
Current Liabilities				
Provision for Taxation	65,000	1,72,000		1,07,000
Sundry Creditors	2,51,450	2,98,000		46550
Total (B)	3,16,450	4,70,000		
Working Capital (A-B)	60,750	(-68,000)		
Decrease in Working Capital			1,28,750	-
			2,38,550	2,38,550

Ledger Accounts:**Dr****Fixed Asset account****Cr**

Particular	Amount	Particular	Amount
To opening bal.(with dep.)	3,60,000	By Acc. depreciation	10,000
To Depreciation A/C	1,60,000	By Adj. P & L (loss)	10,000
To bank - purchase	2,80,000	By Acc. depreciation	1,80,000
		By Bal C/F(with dep.)	6,00,000
	8,00,000		8,00,000

Dr**Accumulated Depreciation account****Cr**

Particular	Amount	Particular	Amount
To Fixed Assets A/c	10,000	By Balance B/d	1,60,000
To Balance C/d	1,80,000	By Adj. P & L A/c.	30,000
	1,90,000		1,90,000

Dr	Investment account	Cr
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Particular	Amount	Particular	Amount
To opening balance	11,250	By bank (sold)	4800
To bank (purchase)	3750	By Adjusted Profit & Loss A/C	200
		By Balance C/d	10,000
	15,000		15,000

Dr	Adjusted Profit and loss account	Cr
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Particular	Amount	Particular	Amount
To loss on fixed assets	10,000	By opening bal.	1,48,000
To Depreciation	30,000		
To loss on investment	200		
To dividend paid	34,500	By adjusted Profit	2,38,700
To bal c/f	3,12,000		
	3,86,700		3,86,700

Funds Flow Statement

Sources of Funds	Amount	Application of Funds	Amount
Issue of shares	33,000	Repayment of loan to bank	87,000
Sale of investment	4800	Dividend paid	34500
Decrease in working capital	1,28,750	Investment purchased	3750
Adjusted Profit	2,38,700	Purchase of fixed assets	2,80,000
	4,05,250		4,05,250

12.5 Treatment of adjustments

Illustration 4

The balance sheet of Mira Ltd. is as under

Liabilities	2006 Rs.	2005 Rs.	Assets	2006 Rs.	2005 Rs.
Share capital:	15,00,000	12,00,000	Building Stock	4,80,000	3,45,000
Eq. shares each of Rs. 10	-	8,00,000	Land Plant	2,34,000	2,44,000
10% pref. shares of Rs.10 each Rs. 8 called up	-	30,000	Debtors	2,00,000	4,00,000
Share premium	50,000	-	Cash balance	17,00,000	15,00,000
Capital reserve	7,00,000	-	Prepaid expenses	8,46,000	10,56,000
Capital Red. Fund	4,00,000	9,00,000	Bills receivable	2,00,000	1,55,000
General reserve	5,00,000	4,00,000	Mis. expenses	30,000	25,000
P & L A/c	1,00,000	80,000		60,000	35,000
Provident fund	1,50,000	2,00,000		2,50,000	2,40,000
Creditors	6,00,000	3,90,000			
Bills payable					
	40,00,000	40,00,000		40,00,000	40,00,000

Additional information:

1. During the year 2006 the company decided to value stock at cost where as previously the Practice was to value stock at cost less 10%. The stock on 31-12-06 was correctly valued.
2. During the year, the company has redeemed Red. Pref. Shares at 5% premium after complying necessary requirements of the Act. For this purpose the company transferred Rs. 7,00,000 to capital redemption fund from general reserve and necessary new equity shares were issued.
3. The company declared a dividend at 25% to equity share holders.
4. Rs. 1,50,000 were provided for depreciation on plant. During the year one plant, whose book value was Rs. 50,000 was sold at a loss of Rs. 10,000.
5. A piece of land has been sold out and profit was transferred to capital reserve.

From the above information prepare:

- (A) A statement of sources and applications of funds.
- (B) A statement of changes in working capital.

Solution:**Statement of changes in Working Capital**

Particulars	2002	2003	Increase in W.C.	Decrease in W.C
Current Assets				
Debtors	10,56,000	8,46,000	-	2,10,000
Cash balance	1,55,000	2,00,000	5000	-
Bills receivable	35,000	60000	25,000	-
Pre-Paid Exp.	25,000	30,000	5000	
Stock (2,44,000 + 10%)	2,71,111	2,34,000		37,111
Total (A)	15,42,111	13,70,000		
Current Liabilities				
Bills Payable	3,90,000	6,00,000		2,10,000
Provident fund	80,000	1,00,000		20,000
Sundry creditors	2,00,000	1,50,000	50,000	-
Total (B)	6,70,000	8,50,000		
Working Capital (A-B)	8,72,111	5,20,000		
Decrease in Working Capital			3,52,111	-
			4,87,111	4,87,111

Ledger Accounts:

Dr		Cr	
Land Account			
Particular	Amount	Particular	Amount
To Opening balance	4,00,000	By Bank (sold)	2,50,000
To Capital reverse A/C	50,000	By Closing bal.	2,00,000
	4,50,000		4,50,000

Dr		Cr	
Building Account			
Particular	Amount	Particular	Amount
To Opening balance	3,45,000		
To Purchase	1,35,000	By Closing bal.	4,80,000
	4,80,000		4,80,000

Dr		General Reserve account		Cr	
Particular	Amount	Particular	Amount		
To Cap. Red. Reserve A/C	7,00,000	By Opening bal.	9,00,000		
To Closing bal.	4,00,000	By Adj. P & L A/c. (prov)	2,00,000		
	11,00,000		11,00,000		

Dr		Plant account		Cr	
Particular	Amount	Particular	Amount		
To Opening bal.	15,00,000	By Bank(sales)	40,000		
To Purchase	4,00,000	By Adj. P & L A/c. - loss	10,000		
		By Depreciation	1,50,000		
		By closing bal.	17,00,000		
	19,00,000		19,00,000		

Working Note:**1) Preference shares Redeemed**

Paid up capital-Rs. 8,00,000

Unpaid capital - Rs. 2,00,000

Before redemption preference share should be fully paid up

- After this it will redeem with 5% premium (1,00,000*5%) 50,000
- Share premium Rs.30,000 was given in balance sheet first take it & remaining amount Rs.20,000 will provide from profit & loss A/C.

2) Dividend to Shareholders

- Before dividend paid to shareholders first paid to preference shareholders.
- Preference dividend: 2005 Rs.8,00,000 capital @10% = Rs.80,000 paid in 2006.
- Equity share dividend:-Rs.12,00,000 @ 25%= Rs.3,00,000 proposed in 2005 & paid in 2006.

Dr	Adjusted Profit and loss account	Cr
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Particular	Amount	Particular	Amount
To Depreciation	1,50,000	By Opening bal.	4,00,000
To Loss on sale of plant	10,000	By Stock (difference amtin opening stock)	27,111
To Preference dividend	80,000		
To Red. Preference Premium	20,000	By Adjusted Profit	8,32,889
To Provision for general reserve	2,00,000		
To Balance c/f.	5,00,000		
	12,60,000		12,60,000

Funds Flow Statement

Sources of Funds	Amount	Application of Funds	Amount
Equity shares	3,00,000	Purchase of Building	1,35,000
Preference shares	2,00,000	Equity share dividend	3,00,000
Plant sale	40,000	Preference dividend	80,000
Land sale	2,50,000	Paid to preference share cap.	10,50,000
Decrease in working capital	3,52,111	Purchase of Plant	4,00,000
Adjusted Profit	8,32,889	Mis. Exp. Paid	10,000
	19,75,000		19,75,000

12.6 Key Words

Fund: Fund means cash only. In a broad sense the term ‘fund’ means working capital. Working capital indicates the difference between current assets and current liabilities

Proposed dividend: Proposed dividend is the dividend declared or proposed to be distributed among the shareholders of the company during a financial year which will be paid in the next financial year.

Interim dividend: An interim dividend is a dividend payment made before a company's annual general meeting and the release of final financial statements.

Provision for taxation: Provision for taxation is the provision made out of current profits to meet the tax obligation. There is a time gap between the provision made and payment of the actual tax liability. So it serves as a source of short-term finance during the intermediate period.

12.7 Self-assessment Questions

1. What is funds flow analysis?
2. Write about the importance of Funds flow statement
3. Discuss the components of funds flow statement
4. How do you treat 'provision for taxation' and 'proposed dividend' in funds flow statement?

12.8 Further readings

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Lesson Writer

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Lesson 13**AN INTRODUCTION TO FINANCIAL MANAGEMENT****Objectives:**

After studying this lesson, you should be able to know:

- the scope and functions of financial management
- the objectives of the business firm
- the major decisions of the finance function and
- the structure and organization of finance department

Structure:**13.1 Introduction****13.2 Scope of the Financial Management****13.3 Objectives of Financial Management****13.4 Finance Functions****13.5 Sources of Finance****13.6 Summary****13.7 Keyword****13.8 Self – Assessment Questions****13.9 Further Readings****13.1 INTRODUCTION**

Finance is called “The science of money”. It studies the principles and the methods of obtaining control of money from those who have saved it, and of administering it by those into whose control it passes. Finance is a branch of economics till 1890. Economics is defined as study of the efficient use of scarce resources. The decisions made by business firm in production, marketing, finance and personnel matters form the subject matters of economics. Finance is the process of conversion of accumulated funds to productive use. It is so intermingled with other economic forces that there is difficulty in appreciating the role of it plays.

Howard and Uptron in his book introduction to Business Finance defined, “as that administrative area or set of administrative function in an organization which relate with the arrangement of cash and credit so that the organization may have the means to carry out its objectives as satisfactorily as possible”.

In simple terms finance is defined as the activity concerned with the planning, raising, controlling and administering of the funds used in the business. Thus, finance is the activity concerned with the raising and administering of funds used in business.

Financial Management:

Meaning : Financial Management is managerial activity which is concerned with the planning and controlling of the firm’s financial resources.

Definitions: Howard and Uptron define Financial Management “as an application of general managerial principles to the area of financial decision-making”. Weston and Brigham define Financial Management “as an area of financial decision making, harmonizing individual motives and enterprise goal”.

13.2 SCOPE OF FINANCIAL MANAGEMENT

Financial Management today covers the entire gamut of activities and functions given below. The head of finance is considered to be importantly of the CEO in most organizations and performs a strategic role. His responsibilities include:

- (i) Estimating the total requirements of funds for a given period;
- (ii) Raising funds through various sources, both national and international, keeping in mind the cost effectiveness;
- (iii) Investing the funds in both long term as well as short term capital needs;
- (iv) Funding day-to-day working capital requirements of business;
- (v) Collecting on time from debtors and paying to creditors on time;
- (vi) Managing funds and treasury operations;
- (vii) Ensuring a satisfactory return to all the stake holders;
- (viii) Paying interest on borrowings;
- (ix) Repaying lenders on due dates;
- (x) Maximizing the wealth of the shareholders over the long term;
- (xi) Interfacing with the capital markets;
- (xii) Awareness to all the latest developments in the financial markets;

- (xiii) Increasing the firm's competitive financial strength in the market &
- (xiv) Adhering to the requirements of corporate governance.

A priori definitions of the scope of Financial Management fall into three groups. One view is that finance is concerned with cash. At the other extreme is the relatively narrow definition that Financial Management is concerned with raising and administering funds for an enterprise. The third approach is that it is an integral part of overall management rather than a staff specially concerned with fund raising operations. In this connection, Ezra Solomon says that in this broader view, the central issue of financial policy is the wise use of funds. One apparently straight forward approach is to define the scope of Financial Management as something which embraces those areas in which the finance officer or treasurer operates. The trouble with this empirical definition is that the responsibilities carried out by company treasurers vary quite widely from one organization to another. Financial Management plays two basic roles:

- To participate in the process of putting funds to work within the business and to control their productivity; and
- To identify the need for funds and select sources from which they may be obtained.

Relationship of finance with other business functions Business function means functional activities that an enterprise undertakes in achieving its desired objectives. These functions may be classified on the basis of its operational activities.

13.3 OBJECTIVES

Objective of Financial Management

Financial Management as the name suggests is management of finance. It deals with planning and mobilization of funds required by the firm. There is only one thing which matters for everyone right from the owners to the promoters and that is money. Managing of finance is nothing but managing of money.

Every activity of an organization is reflected in its financial statements. Financial Management deals with activities which have financial implications. The very objective of Financial Management is to maximize the wealth of the shareholders

by maximizing the value of the firm. This prime objective of Financial Management is reflected in the EPS (Earning per Share) and the market price of its shares.

The earlier objective of profit maximization is now replaced by wealth maximization. Since profit maximization is a limited one it cannot be the sole objective of a firm. The term profit is a vague phenomenon and if given undue importance problems may arise whereas wealth maximization on the other hand overcomes the drawbacks of profit maximization. Thus the objective of Financial Management is to trade-off between risk and return. The objective of Financial Management is to make efficient use of economic resources mainly capital.

The functions of Financial Management involves acquiring funds for meeting short term and long term requirements of the firm, deployment of funds, control over the use of funds and to trade-off between risk and return.

Profit Maximization versus Wealth Maximization

Financial Management is basically concerned with procurement and use of funds. In the light of these, the main objectives of Financial Management are: -

1. Profit Maximization.

2. Wealth Maximization

1. Profit maximization:

Profit Maximization is the main objective of business because:

- (i) Profit acts as a measure of efficiency and
- (ii) It serves as a protection against risk.

Agreements in favour of Profit Maximization:

- (i) When profit earning is the main aim of business the ultimate objective should be profit maximization.
- (ii) Future is uncertain. A firm should earn more and more profit to meet the future contingencies.
- (iii) The main source of finance for growth of a business is profit. Hence, profit maximization is required.
- (iv) Profit maximization is justified on the grounds of rationality as profits act as a measure of efficiency and economic prosperity.

Arguments against Profit Maximization:

- (i) It leads to exploitation of workers and consumers.
- (ii) It ignores the risk factors associated with profit.
- (iii) Profit in itself is a vague concept and means differently to different people.
- (iv) It is narrow concept at the cost of social and moral obligations.

Thus, profit maximization as an objective of Financial Management has been considered inadequate.

2. Wealth Maximization:

Wealth Maximization is considered as the appropriate objective of an enterprise. When the firms maximize the stock holder's wealth, the individual stockholder can use this wealth to maximize his individual utility. Wealth Maximization is the single substitute for a stock holder's utility. A Stock holder's wealth is shown by: $\text{Stock holder's wealth} = \text{No. of shares owned} \times \text{Current stock price per share}$ Higher the stock price per share, the greater will be the stock holder's wealth.

Arguments in favour of Wealth Maximization:

- (i) Due to wealth maximization, the short term money lenders get their payments in time.
- (ii) The long time lenders too get a fixed rate of interest on their investments.
- (iii) The employees share in the wealth gets increased.
- (iv) The various resources are put to economical and efficient use.

Argument against Wealth Maximization:

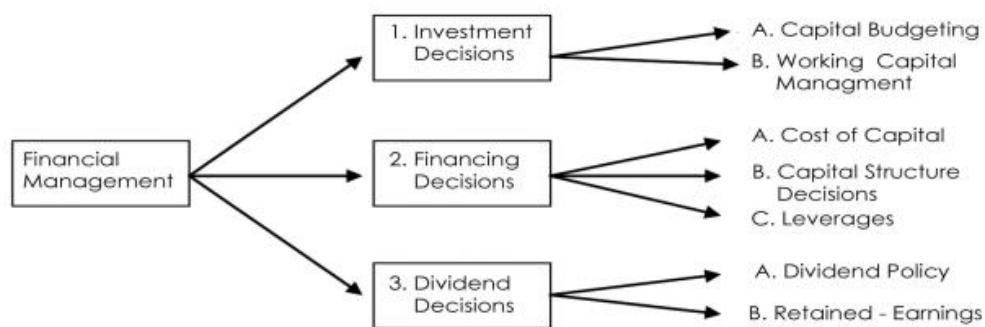
- (i) It is socially undesirable.
- (ii) It is not a descriptive idea.
- (iii) Only stock holders wealth maximization does not lead to firm's wealth maximization.
- (iv) The objective of wealth maximization is endangered when ownership and management are separated.

In spite of the arguments against wealth maximization, it is the most appropriate objective of a firm.

13.4 Major Decisions of Financial Management

The modern approach to the Financial Management is concerned with the solution of major problems like investment financing and dividend decisions of the financial operations of a business enterprise. Thus, the functions of Financial Management can be broadly classified into three major decisions, namely:

- a) Investment decisions.
- b) Financing decisions.
- c) Dividend decisions.



The functions of Financial Management are briefly discussed as under:

1. Investment Decision:

The investment decision is concerned with the selection of assets in which funds will be invested by a firm. The asset of a business firm includes long term assets (fixed assets) and short term assets (current assets). Long term assets will yield a return over a period of time in future whereas short term assets are those assets which are easily convertible into cash within an accounting period i.e. a year. The long term investment decision is known as Capital Budgeting whereas the short term investment decision is identified as Working Capital Management. Capital Budgeting may be defined as long – term planning for making and financing proposed capital outlay. In other words Capital Budgeting means the long-range planning of allocation of funds among the various investment proposals. Another important element of Capital Budgeting decision is the analysis of risk and uncertainty. Since, the return on the investment proposals can be derived for a longer time in future, the Capital Budgeting decision should be evaluated in relation to the risk associated with it. On the other hand, the Finance Manager is also responsible for the efficient management

of current assets i.e. Working Capital Management. Working Capital constitutes an integral part of Financial Management. The Finance Manager has to determine the degree of liquidity that a firm should possess. There is a conflict between profitability and liquidity of a firm. Working Capital Management refers to a Trade – off between Liquidity (Risk) and Profitability. Insufficiency of funds in current assets results in – adequate liquidity and possessing of excessive funds in current assets reduces profits. Hence, the Finance Manager must achieve a proper trade – off between liquidity and profitability. In order to achieve this objective, the Finance Manager must equip himself with sound techniques of managing the current assets like cash, receivables and inventories etc.

2. Financing Decision:

The second important decision is financing decision. The financing decision is concerned with capital – mix, (Financing – mix) or Capital Structure of a firm. The term Capital Structure refers to the proportion of debentures capital (debt) and equity share capital. Financing decision of a firm relates to the financing – mix. This must be decided taking into account the cost of capital, risk and return to the shareholders. Employment of debt capital implies a higher return to the share holders and also the financial risk. There is a conflict between return and risk in the financing decisions of a firm. So, the Finance Manager has to bring a trade – off between risk and return by maintaining a proper balance between debt capital and equity share capital. On the other hand, it is also the responsibility of the Finance Manager to determine an appropriate Capital Structure.

3.Dividend Decision:

The third major decision is the Dividend Policy Decision. Dividend policy decisions are concerned with the distribution of profits of a firm to the shareholders. How much of the profits should be paid as dividend, i.e. dividend pay-out ratio. The decision will depend upon the preferences of the shareholder, investment opportunities available within the firm and the opportunities for future expansion of the firm. The dividend payout ratio is to be determined in the light of the objectives of maximizing the market value of the share. The dividend decisions must be analysed in relation to the financing decisions of the firm to determine the portion of retained earnings as a means of direct financing for the future expansions of the firm. The

above figure explains the bird's eye – view of Financial Management, particularly the functions of Financial Management. The three decision areas are inter related. So, the Finance Manager has to achieve an optimum combination of these functions so as to maximize wealth of shareholders and the market value of the firm. Since financing decisions of a firm are affecting other functional areas of management, it is the responsibility of the Finance Manager to see that the financial decisions must be geared to other functional areas of management like marketing, production, personnel, accounts and research and development etc.

FUNCTIONS OF FINANCIAL MANAGEMENT

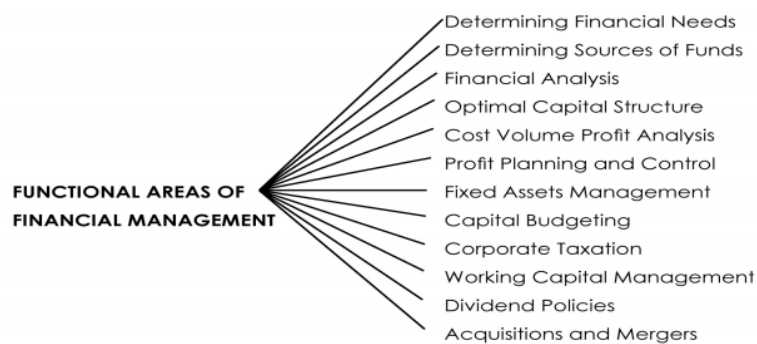


Fig: Functional areas of Financial Management

Determining Financial Needs

One of the most important functions of the Finance Manager is to ensure availability of adequate financing. Financial needs have to be assessed for different purposes. Money may be required for initial promotional expenses, fixed capital and working capital needs. Promotional expenditure includes expenditure incurred in the process of company formation. Fixed assets needs depend upon the nature of the business enterprise – whether it is a manufacturing, non-manufacturing or merchandising enterprise. Current asset needs depend upon the size of the working capital required by an enterprise.

Determining Sources of Funds:

The Finance Manager has to choose sources of funds. He may issue different types of securities and debentures. He may borrow from a number of financial institutions and the public. When a firm is new and small and little known in financial circles, the Finance Manager faces a great challenge in raising funds. Even when he

has a choice in selecting sources of funds, that choice should be exercised with great care and caution.

Financial Analysis:

The Finance Manager has to interpret different statements. He has to use a large number of ratios to analyze the financial status and activities of his firm. He is required to measure its liquidity, determine its profitability, and assets overall performance in financial terms. The Finance Manager should be crystal clear in his mind about the purposes for which liquidity, profitability and performance are to be measured.

Optimal Capital Structure:

The Finance Manager has to establish an optimum capital structure and ensure the maximum rate of return on investment. The ratio between equity and other liabilities carrying fixed charges has to be defined. In the process, he has to consider the operating and financial leverages of his firm. The operating leverage exists because of operating expenses, while financial leverage exists because of the amount of debt involved in a firm's capital structure.

Cost-Volume-Profit Analysis

The Finance Manager has to ensure that the income of the firm should cover its variable costs. Moreover, a firm will have to generate an adequate income to cover its fixed costs as well. The Finance Manager has to find out the break-even-point-that is, the point at which total costs are matched by total sales or total revenue. He has to try to shift the activity of the firm as far as possible from the break-even point to ensure company's survival against seasonal fluctuations.

Profit Planning and Control

Profit planning ensures attainment of stability and growth. Profit planning and control is a dual function which enables management to determine costs it has incurred, and revenues it has earned, during a particular period, and provides shareholders and potential investors with information about the earning strength of the corporation. Profit planning and control are important be, in actual practice, they are directly related to taxation. Profit planning and control are an inescapable responsibility of the management.

Fixed Assets Management

Fixed assets are financed by long term funds. Finance Manager has to ensure that these assets should yield the reasonable returns proportionate to the investment. Moreover, in view of the fact that fixed assets are maintained over a long period of time, the assets exposed to changes in their value, and these changes may adversely affect the position of a firm.

Capital Budgeting

Capital Budgeting forecasts returns on proposed long-term investments and compares profitability of different investments and their Cost of Capital. It results in capital expenditure investment. The various proposal assets ranked on the basis of such criteria as urgency, liquidity, profitability and risk sensitivity. The financial analyst should be thoroughly familiar with such financial techniques as pay back, internal rate of return, discounted cash flow and net present value among others because risk increases when investment is stretched over a long period of time. The financial analyst should be able to blend risk with returns so as to get current evaluation of potential investments.

Corporate Taxation

Corporate Taxation is an important function of the Financial Management, for the former has a serious impact on the financial planning of a firm. Since the corporation is a separate legal entity, it is subject to an income-tax structure which is distinct from that which is applied to personal income.

Working Capital Management

Working Capital is the excess of current assets over current liabilities. This is an important area in the Financial Management because it is compared to the nervous system of the human body. Current Assets consist of cash, inventory, and receivables. Current Liabilities consist of payables and bank overdraft. A prudent Finance Manager has to formulate a policy in such a way that there is a balance between profitability and liquidity.

Dividend Policies

A firm may try to improve its internal financing so that it may avail itself of benefits of future expansion. However, the interests of a firm and its stockholders are

complementary, for the Financial Management is interested in maximizing the value of the firm, and the real interest of stockholders always lies in the maximization of this value of the firm; and this is the ultimate goal of Financial Management. The dividend policy of a firm depends on a number of financial considerations, the most critical among them being profitability. Thus, there are different dividend policy patterns which a firm may choose to adopt, depending upon their suitability for the firm and its stockholders.

Acquisitions and Mergers

Firms may expand externally through co-operative arrangements, by acquiring other concerns or by entering into Mergers. Acquisitions consist of either the purchase or lease of a smaller firm by a bigger organization. Mergers may be accomplished with a minimum cash outlay, though these involve major problems of valuation and control. The process of valuing a firm and its securities is difficult, complex and prone to errors. The Finance Manager should, therefore, go through a valuation process very carefully. The most difficult interest to value in a corporation is that of the equity stockholder because he is the residual owner.

13.5 SOURCES OF FINANCE

Business firms need finance mainly for two purposes-

- (a) To fund the long term decisions.
- (b) To meet the Working Capital requirements.

The long term decisions of a firm involve setting up of the firm, expansion, diversification, modernisation and other similar capital expenditure decisions. All these involve huge investment, the benefits of which will be usually seen only in the long term. In addition to this, they are also irreversible in nature. Working Capital is required to support the smooth functioning of the normal business operations of a company.

Finance needs of a Business

- (i) Long term financial needs – Required for a period exceeding 5-10 years. All fixed investments in plant, machinery, land, buildings are considered as long term financial needs.
- (ii) Medium term financial needs – Required for a period between 1 to 5 years. Identification of medium term financial needs is arbitrary. Sometimes, long

term requirements for which long term funds cannot be arranged immediately may be financed from medium-term sources, thus generating medium-term financial needs.

- (iii) Short term financial needs – It is related to investment in current assets such as stock, debtors, cash etc. Investment in these assets is called Working Capital. The requirement of Working Capital depends upon a number of factors and may differ from industry to industry. They are usually required for a period upto one year.

Financial Sources of a Business can be classified as follows:

- (i) Long term sources e.g. shares, debentures, long term loan, etc.
- (ii) Medium term sources, e.g. debentures, public deposits, bank loan/overdraft.
- (iii) Short term sources e.g., trade credit, advance from commercial banks, advances from customers etc.

1. Equity Share Capital

Equity Share Capital is a basic source of finance for any firm. It represents the ownership interest in the company. The characteristics of equity Share Capital are a direct consequence of its position in the company's control, income and assets. Equity Share Capital does not have any maturity and there is no compulsion to pay dividend. The Equity Share Capital provides funds, more or less, on a permanent basis. It also works as a base for creating the debt and loan capacity of the firm.

The advantages and limitations of Equity Share Capital may be summarized as follows: Advantages of Equity Share Financing:

- (i) It is a permanent source of funds.
- (ii) The new Equity Share Capital increases the corporate flexibility for the point of view of capital structure planning.
- (iii) Equity Share Capital does not involve any mandatory payments to shareholders.
- (iv) It may be possible to make further issue of share capital by using a right offering. In general, selling right shares involves no change in the relationship between ownership and control.

Limitations of Equity Share Financing:

- (i) Cost of capital is the highest of all sources.
- (ii) Equity Share Capital has a burden of Corporate Dividend Tax on the company.

- (iii) New issue of Equity Capital may reduce the (EPS) Earning Per Share of the company.

2. Preference Share Capital

The Preference Share Capital is also owner's capital but has a maturity period. In India, the preference shares must be redeemed within a maximum period of 20 years from the date of issue. The rate of dividend payable on preference shares is also fixed. As against the equity share capital, the preference shares have two references:

- (i) Preference with respect to payment of dividend, and
- (ii) Preference with reference to repayment of capital in case of liquidation of company.

However, the Preference Share Capital represents an ownership interest and not a liability of the company. The preference shareholders have the right to receive dividends in priority over the equity shareholders. Indeed, it is this preference which distinguishes preference shares from equity shares. A dividend need not necessarily be paid on either type of shares. However, if the directors want to pay equity dividend, then the full dividend due on the preference shares must be paid first. Failure to meet commitment of preference dividend is not a ground for liquidation.

The advantages and disadvantages of the Preference Share Capital are as follows: Advantages of Preference Share Financing:

- (i) The preference shares carry limited voting right though they are a part of the capital.
- (ii) The cost of capital of preference shares is less than that of equity shares.
- (iii) The preference share financing may also provide a hedge against inflation.
- (iv) A company does not face liquidation or other legal proceedings if it fails to pay the preference dividends.

Limitations of Preference Share Financing:

- (i) The cost of capital of preference shares is higher than cost of debt.
- (ii) Non-payment of dividend may adversely affect the value of the firm.
- (iii) The compulsory redemption of preference shares after 20 years will entail a substantial cash outflow from the company.

3. Debentures

A bond or a debenture is the basic debt instrument which may be issued by a borrowing company for a price which may be less than, equal to or more than the face value. A debenture also carries a promise by the company to make interest payments to the debenture-holders of specified amount, at specified time and also to repay the principal amount at the end of a specified period. Since the debt instruments are issued keeping in view the need and cash flow profile of the company as well as the investor, there have been a variety of debt instruments being issued by companies in practice. In all these instruments, the basic feature of being in the nature of a loan is not dispensed with and, therefore, these instruments have some or the other common features as follows:

- (i) Credit Instrument. A debenture-holder is a creditor of the company and is entitled to receive payments of interest and the principal and enjoys some other rights.
- (ii) Interest Rate. In most of the cases, the debt securities promise a rate of interest payable periodically to the debt holders. The rate of interest is also denoted as coupon rate.
- (iii) Collateral. Debt issue may or may not be secured and, therefore, debentures or other such securities may be called secured debentures or unsecured debentures.
- (iv) Maturity Date. All debt instruments have a fixed maturity date, when these will be repaid or redeemed in the manner specified.
- (v) Voting Rights. As the debt holders are creditors of the company, they do not have any voting right in normal situations.
- (vi) Face Value. Every debt instrument has a face value as well as a maturity value.
- (vii) Priority in Liquidation. In case of liquidation of the company, the claim of the debt holders is settled in priority over all shareholders and, generally, other unsecured creditors also.

In practice, different types of debentures have been issued. These are:

- (a) On the basis of redemption:
 - (i) Redeemable debentures
 - (ii) Irredeemable debentures
- (b) On the basis of security

- (i) Secured debenture
- (ii) Un-secured debentures
- (c) On the basis of conversion
 - (i) Convertible debentures
 - (ii) Non-convertible debentures
- (d) On the basis of registration
 - (i) Registered debentures
 - (ii) Bearer debentures

4. Lease Financing

Leasing is an arrangement that provides a firm with the use and control over assets without buying and owning the same. It is a form of renting assets. Lease is a contract between the owner of asset (lessor) and the user of the asset called the lessee, where by the lessor gives the right to use the asset to the lease over an agreed period of time for a consideration called the lease rental. The contract is regulated by the terms and conditions of the agreement. The lessee pays the lease rent periodically to the lessor as regular fixed payments over a period of time.

Types of Leasing There are two basic kinds of leases:

- (i) Operating or Service Lease
- (ii) Financial Lease.

Operating or Service Lease

An Operating Lease is usually characterized by the following features:

- (i) It is a short term lease. The lease period in such a contract is less than the useful life of asset.
- (ii) The lease is usually cancellable at short- notice by the lessee.
- (iii) As the period of an operating lease less than the useful life of the asset, it does not necessarily amortize the original cost of the asset. The lessor has to make further leases or sell the asset to recover his cost of investment and expected rate of return.

- (iv) The lessee usually has the option of renewing the lease after the expiry of lease period.
- (v) The lessor is generally responsible for maintenance, insurance and taxes of the asset.
- (vi) As it is a short term cancellable lease, it implies higher risk to the lessor but higher lease rentals to the lessee.

Operating or service leasing is common to the equipments which require expert technical staff for maintenance and are exposed to technological developments, e.g.; computers, vehicles, data processing equipments, communications systems, etc. Operating lessors usually limit their activities to field and engage themselves in the purchase of large number of similar types of machines or equipment. They are able to offer attractive terms to their customers because savings in maintenance costs.

Financial Lease

A lease is classified as Financial Lease if it ensures the lessor for amortization of the entire cost of investment plus the expected return on capital outlay during the terms of the lease. Such a lease is usually for a longer period and non-cancellable. Financial Leases are commonly used for leasing land, building, machinery and fixed equipments, etc. A Financial Lease is usually characterized by the following features:

- (i) The present value of the total lease rentals payable during the period of the lease exceeds or is equal substantially the whole of the fair value of the leased asset. It implies that within the lease period, the lessor recovers his investment in the asset along with an acceptable rate of return.
- (ii) As compared to Operating Lease, a Financial Lease is for a longer period of time.
- (iii) It is usually non-cancellable by the lessee prior to its expiration date.
- (iv) The lessee is generally responsible for the maintenance, insurance and services of the asset. However, the terms of lease agreement, in some cases may require the lesser to maintain and service the asset. Such an arrangement is called “maintenance or gross lease”. But usually in an Operating Lease, it is lessee who has to pay for maintenance and service costs and such a lease is known as “net lease”.

- (v) A Financial Lease usually provides the lessee an option of renewing the lease for further period at a normal rent.

5.Term Loans

This is also an important source of long-term financing. There are different financial institutions (National level as well as State level) which provide financial assistance for taking up projects. Term loan, as a source of long-term finance, is discussed in detail, at a later stage in this chapter. Sometimes, the funds are required in foreign currency to make payment for acquisition and import of plants and equipments. In 1992, the Government of India permitted Indian Companies with good track record of 3 years or more to raise funds by issue of equity/debt capital in international market. There are different means of arranging long-term finance in foreign currency.

13.6 SUMMARY:

In this unit we have tried to introduce you to an overview of financial management emphasizing its importance in a firm .We also discussed how the traditional concept of “corporation finance” which considers only the provision of funds required by the business firm was replaced by the modern concept which treats finance as an integral part of the overall management rather than mere raising of funds to efficient and effective use of funds. The objectives of profit maximizing, wealth maximization and their importance have been discussed. Finally, It is covered about the organization of finance function and related issues of finance.

13.7 KEY WORDS:

Financial Management: It is an activity concerned with planning and controlling of the firm’s financial resources to generate returns on its invested funds to achieve the objectives of the firm.

Profit Maximization: It is one of the objectives of the firm to earn higher returns on its resources which means higher dividends to the investors.It is nothing but a criterion for economic efficiency as profits provide a yardstick by which economic performances can be judged under condition of perfect competition.

Wealth Maximization: It is the most widely accepted objective of the firm for its owners which states that the management should seek to maximize the present value of the expected returns of the firm.

13.8 SELF-ASSESSMENT QUESTIONS:

1. Write in brief about Financial management and discuss the scope and functions of Financial Management.
2. Distinguish between profit maximization and Wealth maximization objectives of the firm?
3. In what ways is the role of a finance manager different from that of an accountant?
13. What are the important decisions of finance functions? Explain their importance and relevance in financial management.
5. Discuss the problems of a finance manager in the management of finance functions in the Indian context.

13.9 FURTHER READINGS:

- Pandey, I.M. 2002. Financial Management (8th ed), Vikas Publishing House: New Delhi
- Brigham, F. Eugene and Houston, F. Joel, 1999, Fundamentals of Management, (2nd ed.) Harcourt Brace College Publishers: Florida (chapter-1)
- Soloman, Ezra and Pringle John, 1993. An Introduction to Financial Management, Prentice Hall of India Private Ltd, New Delhi.

Lesson Writer

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Lesson 14

Investment Decision

Objectives:

After studying this lesson, you should be able to know:

- . an appreciation for the proper investment decision
- . various methods of appraising capital projects
- . other aspects of investment decision

Structure:

14.1 Introduction

14.2 Need of the Investment Decision

14.3 Types of Investment Decision

14.4 Methods of Investment Decision

14.5 Summary

14.6 Keywords

14.7 Self – Assessment Questions

14.8 Further Readings

14.1 Introduction:

One of the aspects of financial management is proper decision-making in respect of investment of funds. Successful operation of any business depends upon the investment of resources in such a way as to bring in benefits or best possible returns from any investment. An investment can be simply defined as expenditure in cash or cash equivalent during one or more time periods in anticipation of enjoying a net inflow of cash or its equivalent in some future time period or periods.

Investment decision is necessary to ensure that the investment of resources will bring in desired benefits in future. If the financial resources were in abundance, it would be possible to acceptability. Since resources are limited, a choice has to be made among various investment proposals by evaluating their comparative merit. This would facilitate the identification of relatively superior proposals keeping in

mind the limited available resources. It is apparent that some techniques should be followed for making appraisal of investment proposals.

Definition:

Charles T. Horngreen has defined Capital Budgeting as “a long term planning for making and financing proposed capital out lays”.

According to Lynch, “Capital budgeting consists in planning development of available capital for the purpose of maximizing the long term profitability of the concern”.

From the above definition it is clear that the capital budgeting decisions are different from ordinary business decisions.

14.2 Need of the capital budgeting:

Capital budgeting decisions are among the most crucial and critical business decisions. Special case should be taken in making these decisions on account of the following reasons.

- a) Heavy Investment: All capital expenditure projects involve heavy investment of fund. These funds are raised by the firm various external and internal resources. Hence, it is important for a firm to plan its capital expenditure.
- b) Permanent commitment of funds: The funds involved in capital expenditure are not only large but also more less permanently blocked. Therefore, these are long term investment decisions. The longer the time, the greater the risk involved. Hence, careful planning is essential.
- c) Long term effect on profitability: capital budgeting decisions have a long term and significant effect on the profitability of the concern. If properly planned, then can increase the size, scale and volume of sales as well as the growth potential of the concern.
- d) Irreversible in nature: In most cases, capital budgeting decisions are irreversible. Once, the decision for acquiring a permanent asset is taken, it is very difficult to reverse that decision. This is because it is difficult to dispose of these assets without incurring heavy losses.

Capital Budgeting Process:

Capital budgeting is a complex process as it involves decisions relating to the investment of current funds for the benefits to be achieved in future and future is always uncertain. The capital budgeting process involves a number of steps depending upon size of the concern, nature of projects, their numbers, complexities and diversities etc.

The following are the important steps involved in the process of the capital budgeting.

- 1) Identification of investment proposal: the capital budget process begins with the identification of investment proposals. The idea relating to potential investment opportunities may originate either from top management or may come from the rank and file worker of any department of the organization. The department head will analyses the proposal in the light of the corporate strategies and submits the suitable proposals to the capital expenditure planning committee.
- 2) Screening of the proposals: The expenditure planning committee screens the various proposals received from various departments. The committee views these proposals from various angles to ensure that there are in accordance with corporate strategies or not.
- 3) Evaluation of various proposals: The third step in the capital budgeting process is evaluating the profitability of various proposals. There are number of methods which are used for this propose such as payback period method, rate of return method and not present value method. The various proposals to be evaluated ,may be classified as:
 - a) Independent proposal
 - b) Dependent proposals
 - c) Mutually exclusive proposals
- 4) Fixing Priorities: After evaluating various proposals, the uneconomic and unprofitable may be rejected. Due to financial limitation it is not possible to any from to implement all the accepted proposals. So, priority should be given to the proposal keeping in view the urgency, risk and profitability.
- 5) Preparation capital expenditure budget: Proposals meeting the evaluation and other criteria are finally approved to be included in the capital expenditure budget. Proposals with low investment may be decided in the lower level of execution.

- 6) **Implementing Proposals:** After preparation and incorporation of capital expenditure in the budget, a request is to be made to the higher authorities to spend the amount keeping in view the changed circumstances. Similarly, responsibilities must be assigned to complete the project within the time limit so as to avoid unnecessary delay and cost over sums.
- 7) **Follow-up:** Finally, a system of following up should be established. Such follow-up comparison of actual performance with budgeted data will ensure better forecasting and will also help in sharpening the technique of forecasting.

14.3 Types of Capital Budgeting Decision:

There are many ways to classify the capital budgeting decision. Generally capital investment decisions are classified in two ways. One way is to classify them on the basis of firm's existence. Another way is to classify them on the basis of decision situation.

On the basis of firm's existence

The capital budgeting decisions are taken by both newly incorporated firms as well as by existing firms. The new firms may require taking decision in respect of selection of a plant to be installed. The existing firm may require taking decisions to meet the requirement of new environment or to face the challenges of competition. These decisions may be classified as follows:

- (i) **Replacement and Modernisation decisions:** The replacement and modernisation decisions aim at to improve operating efficiency and to reduce cost. Generally, all types of plant and machinery require replacement either because of the economic life of the plant or machinery is over or because it has become technologically outdated. The former decision is known as replacement decisions and latter is known as modernization decisions. Both replacement and modernisation decisions are called cost reduction decisions.
- (ii) **Expansion decisions:** Existing successful firms may experience growth in demand of their product line. If such firms experience shortage or delay in the delivery of their products due to inadequate production facilities, they may consider proposal to add capacity to existing product line.
- (iii) **Diversification decisions:** These decisions require evaluation of proposals to

diversify into new product lines, new markets etc. for reducing the risk of failure by dealing in different products or by operating in several markets.

Both expansion and diversification decisions are called revenue expansion decisions.

On the basis of decision situation

The capital budgeting decisions on the basis of decision situation are classified as follows:

(i) **Mutually exclusive decisions:** The decisions are said to be mutually exclusive if two or more alternative proposals are such that the **acceptance of one proposal** will exclude the acceptance of the other alternative proposals. For instance, a firm may be considering proposal to install semi-automatic or highly automatic machine. If the firm installs semi-automatic machine it excludes the acceptance of proposal to install highly automatic machine.

(ii) **Accept-reject decisions:** The accept-reject decisions occur when proposals are **independent** and do not compete with each other. The firm may accept or reject a proposal on the basis of a minimum return on the required investment. All those proposals which give a higher return than certain desired rate of return are accepted and the rest are rejected.

(iii) **Contingent decisions:** The contingent decisions are **dependable** proposals. The investment in one proposal requires investment in one or more other proposals. For example, if a company accepts a proposal to set up a factory in remote area it may have to invest in infrastructure also e.g. building of roads, houses for employees etc.

ESTIMATION OF PROJECT CASH FLOWS

Capital Budgeting analysis considers only **incremental cash flows** from an investment likely to result due to acceptance of any project. Therefore, one of the most important tasks in capital budgeting is estimating future cash flows for a project. Though one of the techniques Accounting Rate of Return (ARR) evaluates profitability of a project on the basis of accounting profit but accounting profit has its limitations. Timing of cash flow may not match with the period of profit. Further, non-cash item like depreciation has no immediate cash outflow.

The cash flows are estimated on the basis of input provided by various departments.

The project cash flow stream consists of cash outflows and cash inflows. The costs are denoted as cash outflows whereas the benefits are denoted as cash inflows.

An investment decision implies the choice of an objective, an appraisal technique and the project's life. The objective and technique must be related to definite period of time. The life of the project may be determined by taking into consideration the following factors:

- (i) Technological obsolescence;
- (ii) Physical deterioration; and
- (iii) A decline in demand for the output of the project.

No matter how good a company's maintenance policy, its technological or demand forecasting abilities are, uncertainty always be there.

Calculating Cash Flows: Before, we analyze how cash flow is computed in capital budgeting decision; following items are needed for the consideration:

- (a) Depreciation**
- (b) Sunk Cost**
- (c) Working Capital**
- (d) Allocated Overheads**
- (e) Additional Capital Investment.**

It is helpful to place project cash flows into three categories:-

- (a) Initial Cash Outflow**
- (b) Interim Cash Flows**
- (c) Terminal-Year Incremental Net Cash Flow**

14.4 Method of Investment Decision

TRADITIONAL OR NON-DISCOUNTING TECHNIQUES

These techniques of capital Budgeting does not discount the future cash flows. There are two such techniques namely Payback Period and Accounting Rate of Return

Payback Period

Time required to **recover the initial cash-outflow** is called pay-back period. The payback period of an investment is the length of time required for the cumulative total net cash flows from the investment to equal the total initial cash outlays. At that point in time, the investor has recovered the money invested in the project.

Steps in Payback period technique: -

- (a) The first steps in calculating the payback period is determining the total initial capital investment (cash outflow) and
 - (b) The second step is calculating/estimating the annual expected after-tax cash flows over the useful life of the investment.
1. When the cash inflows are uniform over the useful life of the project, the

$$\text{Payback period} = \frac{\text{Total initial capital investment}}{\text{Annual expected after-tax net cash flow}}$$

number of years in the payback period can be calculated using the following equation:

Example: Suppose a project costs ₹20,00,000 and yields annually a profit of 3,00,000 after depreciation @ 12½% (straight line method) but before tax 50%. The first step would be to calculate the cash inflow from this project. The cash inflow is ₹4,00,000 calculated as follows:

Particulars	(₹)
Profit before tax	3,00,000
Less: Tax @ 50%	(1,50,000)
Profit after tax	1,50,000
Add: Depreciation written off	2,50,000
Total cash inflow	4,00,000

While calculating cash inflow, depreciation is added back to profit after tax since it does not result in cash outflow. The cash generated from a project therefore is equal to profit after tax plus depreciation. The payback period of the project shall be:

$$\text{Payback period} = 20,00,000 / 4,00,000 = 5 \text{ Years}$$

2. When the annual cash inflows are not uniform, the cumulative cash inflow from operations must be calculated for each year. The payback period shall be corresponding period when total of cumulative cash inflows is equal to the initial capital investment. However, if exact sum does not match then the period in which it lies should be identified. After that we need to compute the fraction of the year. This method can be understood with the help of an example

Example

Suppose XYZ Ltd. is analyzing a project requiring an initial cash outlay of Rs. 2,00,000 and expected to generate cash inflows as follows:

Year	Annual Cash Inflows
1	80,000
2	60,000
3	60,000
4	20,000

It's payback period shall be computed by using cumulative cash flows as follows:

Year	Annual Cash Inflows	Cumulative Cash Inflows
1	80,000	80,000
2	60,000	1,40,000
3	60,000	2,00,000
4	20,000	2,20,000

In 3 years total cash inflows equal to initial cash outlay. Hence, payback period is 3 years.

Year	Annual Cash Inflows	Cumulative Cash Inflows
1	80,000	80,000
2	60,000	1,40,000
3	60,000	2,00,000
4	20,000	2,20,000

Suppose if in above example the initial outlay is 2,05,000 then payback period shall be computed as follows:

Payback period shall lie between 3 to 4 years. Since up to 3 years a sum of ₹2,00,000 shall be recovered balance of ₹5,000 shall be recovered in the part (fraction) of 4th year, computation is as follows:

$$\frac{5,000}{20,000} = \frac{1}{4} \text{ year}$$

Thus, total cash outlay of ₹ 205,000 shall be recovered in 3¼ years' time.

Advantages of Payback period

- It is easy to **compute**.
- It is easy to understand as it provides a **quick estimate** of the time needed for the organization to recoup the cash invested.
- The length of the payback period can also serve as an **estimate of a project's risk**; the longer the payback period, the riskier the project as long-term predictions are less reliable. In some industries with high obsolescence risk like software industry or in situations where an organization is short on cash, short payback periods often become the determining factor for investments.

Limitations of Payback period

- It **ignores the time value of money**. As long as the payback periods for two projects are the same, the payback period technique considers them equal as investments, even if one project generates most of its net cash inflows in the early years of the project while the other project generates most of its net cash inflows in the latter years of the payback period.
- A second limitation of this technique is its **failure** to consider an investment's total profitability; it only considers cash inflows upto the period in which initial investment is fully recovered and ignores cash flows after the payback period.
- Payback technique places much emphasis on **short payback periods** thereby ignoring long-term projects.

Accounting (Book) Rate of Return (ARR) or Average Rate of Return (ARR)

The accounting rate of return of an investment measures the **average annual net**

$$\text{Accounting rate of return} = \frac{\text{Average annual net income}}{\text{Investment}}$$

income of the project (incremental income) as a percentage of the investment.

The numerator is the average annual net income generated by the project over its useful life. The denominator can be either the initial investment (including installation cost) or the average investment over the useful life of the project. Average investment means the average amount of fund remained blocked during the lifetime of the project under consideration. Further ARR can be calculated in a number of ways as shown in the following example.

Example

Suppose Times Ltd. is going to invest in a project a sum of ` 3,00,000 having a life span of 3 years. Salvage value of machine is `90,000. The profit before depreciation for each year is `1,50,000.

The Profit after Tax and value of Investment in the Beginning and at the End of each year shall be as follows:

Year	Profit Before Depreciation	Depreciation	Profit after Dep.	Value of Investment in	
				Beginning	End
1	1,50,000	70,000	80,000	3,00,000	2,30,000
2	1,50,000	70,000	80,000	2,30,000	1,60,000
3	1,50,000	70,000	80,000	1,60,000	90,000

The ARR can be computed by following methods as follows:

a) Version 1: Annual Basis

Year	
1	$\frac{80,000}{3,00,000} = 26.67\%$
2	$\frac{80,000}{2,30,000} = 34.78\%$
3	$\frac{80,000}{1,60,000} = 50\%$

$$\text{ARR} = \frac{\text{Profit after Depreciation}}{\text{Investment in the beginning of the year}} \times 100$$

$$\text{ARR} = \frac{26.67\% + 34.78\% + 50.00\%}{3} = 37.15\%$$

b) Version 2: Total Investment Basis

$$\text{ARR} = \frac{\text{Average Annual Profit}}{\text{Investment in the beginning}} \times 100$$

$$= \frac{(80,000 + 80,000 + 80,000) / 3}{3,00,000} \times 100 = 26.67\%$$

c) Version 3: Average Investment Basis

$$\text{ARR} = \frac{\text{Average Annual Profit}}{\text{Average Investment}} \times 100$$

Average Investment = $(\text{₹}3,00,000 + \text{₹}90,000) / 2 = \text{₹}1,95,000$ Or, $\frac{1}{2}(\text{Initial Investment} - \text{Salvage Value}) + \text{Salvage Value}$

$$= \frac{1}{2}(\text{₹}3,00,000 - \text{₹}90,000) + \text{₹}90,000 = \text{₹}1,95,000$$

$$= \frac{80,000}{1,95,000} \times 100 = 41.03\%$$

Further, it is important to note that project may also require additional working capital during its life in addition to initial working capital. In such situation formula for the calculation of average investment shall be modified as follows:

$$\frac{1}{2}(\text{Initial Investment} - \text{Salvage Value}) + \text{Salvage Value} + \text{Additional Working Capital}$$

Continuing above example, suppose a sum of ₹45,000 is required as additional working capital during the project life then average investment shall be:

$$= \frac{1}{2}(\text{₹}3,00,000 - \text{₹}90,000) + \text{₹}90,000 + \text{₹}45,000 = \text{₹}2,40,000 \text{ and}$$

$$\text{ARR} = \frac{80,000}{2,40,000} \times 100 = 33.33\%$$

2, 40,000

Some organizations prefer the initial investment because it is objectively determined and is not influenced by either the choice of the depreciation method or the estimation

of the salvage value. Either of these amounts is used in practice but it is important that the same method be used for all investments under consideration.

Advantages of ARR

- This technique uses **readily available data** that is routinely generated for financial reports and does not require any special procedures to generate data.
- This method may also mirror the method used to **evaluate performance** on the operating results of an investment and management performance. Using the same procedure in both decision-making and performance evaluation ensures consistency.
- Calculation of the accounting rate of return method considers all net incomes over the **entire life of the project** and provides a measure of the investment's profitability.

Limitations of ARR

- The accounting rate of return technique, like the payback period technique, **ignores the time value of money** and considers the value of all cash flows to be equal.
- The technique uses accounting numbers that are dependent on the organization's **choice of accounting procedures**, and different accounting procedures, e.g., depreciation methods, can lead to substantially different amounts for an investment's net income and book values.
- The method uses **net income rather than cash flows**; while net income is a useful measure of profitability, the net cash flow is a better measure of an investment's performance.
- Furthermore, inclusion of only the book value of the invested asset **ignores** the fact that a project can require **commitments of working capital** and other outlays that are not included in the book value of the project.

Illustration

A project requiring an investment of `10,00,000 and it yields profit after tax and depreciation which is as follows:

<i>Years</i>	<i>Profit after tax and depreciation (₹)</i>
<i>1</i>	<i>50,000</i>
<i>2</i>	<i>75,000</i>
<i>3</i>	<i>1,25,000</i>
<i>4</i>	<i>1,30,000</i>
<i>5</i>	<i>80,000</i>
<i>Total</i>	<i>4,60,000</i>

Solution:

In this case the rate of return can be calculated as follows:

$$\frac{\text{Total Profit / No. of years}}{\text{Average Investment/ Initial Investment}} \times 100$$

a) If Initial Investment is considered then,

$$\frac{4,60,000 \div 5 \text{ years}}{₹10,00,000} \times 100 = \frac{₹92,000}{₹10,00,000} \times 100 = 9.2\%$$

This rate is compared with the rate expected on other projects, had the same funds been invested alternatively in those projects. Sometimes, the management compares this rate with the minimum rate (called-cut off rate). For example, management may decide that they will not undertake any project which has an average annual yield after tax less than 20%. Any capital expenditure proposal which has an average annual yield of less than 20% will be automatically rejected.

b) If Average investment is considered, then,

$$\frac{92,000}{\text{Average investment}} \times 100 = \frac{92,000}{5,40,000} \times 100 = 17.04\%$$

Where,

$$\begin{aligned} \text{Average Investment} &= \frac{1}{2}(\text{Initial investment} - \text{Salvage value}) + \text{Salvage value} \\ &= \frac{1}{2}(10,00,000 - 80,000) + 80,000 \end{aligned}$$

$$= 4,60,000 + 80,000 = 5,40,000$$

DISCOUNTING TECHNIQUES

Discounting techniques consider time value of money and discount the cash flows to their Present Value. These techniques are also known as Present Value techniques. These are namely Net Present Value (NPV), Internal Rate of Return (IRR) and Profitability Index (PI). First let us discuss about Determination of Discount rate and it will be followed by the three techniques.

Determining Discount Rate

Theoretically, the discount rate or **desired rate of return** on an investment is the rate of return the firm would have earned by investing the same funds in the best available alternative investment that has the same risk. Determining the best alternative opportunity available is difficult in practical terms so rather than using the true opportunity cost, organizations often use an alternative measure for the desired rate of return. An organization may establish a minimum rate of return that all capital projects must meet; this minimum could be based on an industry average or the cost of other investment opportunities. Many organizations choose to use the overall cost of capital or Weighted Average Cost of Capital (WACC) that an organization has incurred in raising funds or expects to incur in raising the funds needed for an investment.

Net Present Value Technique (NPV)

The net present value technique is a discounted cash flow method that considers the time value of money in evaluating capital investments. An investment has cash flows throughout its life, and it is assumed that an amount of cash flow in the early years of an investment is worth more than an amount of cash flow in a later year.

The net present value method uses a specified discount rate to bring all subsequent cash inflows after the initial investment to their present values (the time of the initial investment is year).

The net present value of a project is the amount, in current value of amount, the investment earns after paying cost of capital in each period.

Net present value = Present value of net cash inflow - Total net initial investment

Since it might be possible that some additional investment may also be required

during the life time of the project then appropriate formula shall be:

Net present value = Present value of cash inflows - Present value of cash outflows.

It can be expressed as below:

$$NPV = \left(\frac{C_1}{(1+k)} + \frac{C_2}{(1+k)^2} + \frac{C_3}{(1+k)^3} + \dots + \frac{C_n}{(1+k)^n} \right) - I$$

$$NPV = \sum_{t=1}^n \frac{C_t}{(1+k)^t} - I$$

Where, C=Cash flow of various years, K = discount rate, N=Life of the project,

I = Investment

Steps to calculating Net Present Value (NPV):

The steps to calculating net present value are: -

1. **Determine** the net cash inflow in each year of the investment
2. **Select** the desired rate of return or discounting rate or Weighted Average Cost of Capital.
3. **Find** the discount factor for each year based on the desired rate of return selected.
4. **Determine** the present values of the net cash flows by multiplying the cash flows by respective discount factors of respective period called Present Value (PV) of Cash flows
5. Total the amounts of all **PVs of Cash Flows Decision Rule:**

If $NPV \geq 0$	Accept the Proposal
If $NPV \leq 0$	Reject the Proposal

The NPV method can be used to select between mutually exclusive projects; the one with the higher NPV should be selected

ILLUSTRATION

COMPUTE the net present value for a project with a net investment of `1,00,000 and net cash flows year one is `55,000; for year two is `80,000 and for year three is

15,000. Further, the company's cost of capital is 10%? [PVIF @ 10% for three years are 0.909, 0.826 and 0.751]

SOLUTION

<i>Year</i>	<i>Net Cash Flows</i>	<i>PVIF @ 10%</i>	<i>Discounted Cash Flows</i>
0	(1,00,000)	1.000	(1,00,000)
1	55,000	0.909	49,995
2	80,000	0.826	66,080
3	15,000	0.751	11,265
<i>Net Present Value</i>			27,340

Recommendation: Since the net present value of the project is positive, the company should accept the project.

Advantages of NPV

- NPV method takes into account the **time value of money**.
- The whole stream of **cash flows is considered**.
- Thenetpresentvaluecanbeseenastheadditiontothewealthofshareholders.
- The criterion of NPV is thus in conformity with basic financial objectives.
- The NPV uses the **discounted cash flows** i.e., expresses cash flows in terms of current rupees. The NPVs of different projects therefore can be compared. It implies that each project can be evaluated independent of others on its own merit.

Limitations of NPV

- It involves **difficult calculations**.
- The application of this method necessitates forecasting cash flows and the discount rate. Thus accuracy of NPV depends on accurate estimation of these two factors which may be **quite difficult in practice**.

The decision under NPV method is **based on absolute measure**. It ignores the difference in initial outflows, size of different proposals etc. while evaluating mutually exclusive projects.

Profitability Index /Desirability Factor/Present Value Index Method (PI)

The students may have seen how with the help of discounted cash flow technique, the two alternative proposals for capital expenditure can be compared. In certain cases we have to **compare a number of proposals each involving different amounts of cash inflows.**

One of the methods of comparing such proposals is to work out what is known as the '*Desirability factor*', or '*Profitability index*' or '*Present Value Index Method*'.

Mathematically:

$$\text{Profitability Index (PI)} = \frac{\text{Sum of discounted cash in flows}}{\text{Initial cash outlay or Total discounted cash out flow (as the case may)}}$$

The Profitability Index (PI) is calculated as below:

Decision Rule:

If $PI \geq 1$	Accept the Proposal
If $PI \leq 1$	Reject the Proposal

In case of mutually exclusive projects; project with higher PI should be selected

ILLUSTRATION

Suppose we have three projects involving discounted cash outflow of `5,50,000, `75,000 and `1,00,20,000 respectively. Suppose further that the sum of discounted cash inflows for these projects are `6,50,000, `95,000 and `1,00,30,000 respectively. CALCULATE the desirability factors for the three projects.

SOLUTION

The desirability factors for the three projects would be as follows:

1. $\frac{\text{`6,50,000}}{\text{`5,50,000}} = 1.18$
2. $\frac{\text{`95,000}}{\text{`75,000}} = 1.27$
3. $\frac{\text{`1,00,30,000}}{\text{`1,00,20,000}} = 1.001$

It would be seen that in absolute terms project 3 gives the highest cash inflows yet its desirability factor is low. This is because the outflow is also very high. The

Desirability/ Profitability Index factor helps us in ranking various projects.

Since PI is an extension of NPV it has same advantages and limitation.

Advantages of PI

- The method also uses the **concept of time value of money** and is a better project evaluation technique than NPV.
- In the PI method, since the present value of cash inflows is divided by the present value of cash outflow, it is a **relative measure** of a project's profitability.

Limitations of PI

- Profitability index **fails as a guide** in resolving capital rationing where projects are indivisible.
- Once a single large project with high NPV is selected, possibility of accepting several small projects which together may have higher NPV than the **single project is excluded**.

Also situations may arise where a project with a lower profitability index selected may generate cash flows in such a way that another project can be taken up one or two years later, the total NPV in such case being more than the one with a project with highest Profitability Index.

The Profitability Index approach thus **cannot be used indiscriminately** but all other type of alternatives of projects will have to be worked out.

Internal Rate of Return Method (IRR)

The internal rate of return method considers the time value of money, the initial cash investment, and all cash flows from the investment. But unlike the net present value method, the internal rate of return method does not use the desired rate of return but estimates the discount rate that makes the present value of subsequent cash inflows equal to the initial investment. This discount rate is called IRR.

IRR Definition: Internal rate of return for an investment proposal is the discount rate that equates the present value of the expected cash inflows with the initial cash outflow.

This IRR is then compared to a criterion rate of return that can be the organization's desired rate of return for **evaluating capital investments**.

Calculation of IRR: The procedures for computing the internal rate of return vary with the pattern of net cash flows over the useful life of an investment.

Scenario 1: For an investment with uniform cash flows over its life, the following equation is used:

Step 1: Total initial investment = Annual cash inflow × Annuity discount factor of the discount rate for the number of periods of the investment's useful life

$$A = \frac{\text{Total initial cash disbursements and commitments for the investment}}{\text{Annual (equal) cash inflows from the investment}}$$

If A is the annuity discount factor, then

Step 2: Once A has been calculated, the discount rate is the interest rate that has the same discounting factor as A in the annuity table along the row for the number of periods of the useful life of the investment. If exact value of 'A' could be found in Present Value Annuity Factor (PVAf) table corresponding to the period of the project the respective discounting factor or rate shall be IRR. However, it rarely happens therefore we follow the method discussed below:

Step 1: Compute approximate payback period also called fake payback period.

Step 2: Locate this value in PVAf table corresponding to period of life of the project. The value may be falling between two discount ingrates.

Step 3: Discount cash flows using these two discount ingrates.

$$LR + \frac{NPV_{atLR}}{NPV_{atLR} - NPV_{atHR}} \times (HR - LR)$$

Step 4: Use following Interpolation Formula:

ILLUSTRATION

A Ltd. is evaluating a project involving an outlay of `10,00,000 resulting in an annual cash inflow of ` 2,50,000 for 6 years. Assuming salvage value of the project is zero; DETERMINE the IRR of the project.

SOLUTION

First of all we shall find an approximation of the payback period:

$$10,00,000 / 2,50,000 = 4 \text{ years}$$

Now we shall search this figure in the PVAF table corresponding to 6-year row.

The value 4 lies between values 4.111 and 3.998 correspondingly discounting rates 12% and 13% respectively.

NPV @ 12%

$$\text{NPV}_{12\%} = (10,00,000) + 4.111 \times 2,50,000 = 27,750$$

$$\text{NPV}_{13\%} = (10,00,000) + 3.998 \times 2,50,000 = -500$$

The internal rate of return is, thus, more than 12% but less than 13%. The exact rate can be obtained by interpolation:

$$\begin{aligned} \text{IRR} &= 12\% + \frac{27,750}{27,750 - (-500)} \times (13\% - 12\%) \\ &= 12\% + \frac{27,750}{28,250} \\ &= 12.98\% \end{aligned}$$

14.5 Summary:

Capital budgeting is the process of evaluating and selecting long-term investments that are in line with the goal of investor's wealth maximization.

The capital budgeting decisions are important, crucial and critical business decisions due to substantial expenditure involved; long benefits; irreversibility of decisions and the complexity involved in capital investment decisions.

14.6 KEY WORDS:

1. Payback Period: Time required to **recover the initial cash-outflow** is called pay-back period.

2. Average Rate of Return: The accounting rate of return of an investment measures the **average annual net income** of the project (incremental income) as a percentage of the investment.

3. Net Present Value: Net present value = Present value of cash inflows - Present value of cash outflows.

4. Internal Rate of Return: Estimates the discount rate that makes the present value of subsequent cash inflows equal to the initial investment. This discount rate is called IRR.

5. Sunk Cost: Sunk cost is an outlay of cash that has **already been incurred** and cannot be reversed in present.

14.7 SELF-ASSESSMENT QUESTIONS:

1. What is the capital budgeting? Explain its needs.
2. Explain the different techniques of capital budgeting.
3. Briefly explain the principles of the capital budgeting.
4. A project costs Rs. 2,00,000 and yields an annual cash inflow of Rs. 40,000 for 8 years. Calculate the payback period.
5. An investment proposal would initially, cost Rs. 25,000 and would generate yearend cash inflows of Rs. 9,000, Rs. 8,000, Rs. 7,000, Rs. 6,000, Rs. 5,000 in one through five years. The required rate of return is assumed to be 10%. Calculate the Net Present Value.

14.8 FURTHER READINGS:

Pandey, I.M.2002. Financial Management (8thed), Vikas Publishing House: New Delhi

Brigham, F, Eugene and Houset on F.Joel,1999, Fundamentals of Mgmt, (2nd ed.) Harcourt Brace College Publishers: Florida (chapter-1)

Soloman, Ezra and Pringle John, 1993. An Introduction to Financial Management, Prentice Hall of India Private Ltd, New Delhi.

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Lesson 15**Finance Decision – Capital Structure****Objectives:**

After studying this lesson, you should be able:

- To Acquire an understanding of capital structure
- To Familiarize with various models in capital structure
- To know some other concepts relevant in capital structure

Structure:**15.1 Meaning of Capital Structure****15.2 Capital Structure theories****15.3 Factors determine capital structure****15.4 Optimal capital structure****15.5 Summary****15.6 Keywords****15.7 Self – Assessment Questions****15.8 Further Readings****15.1 MEANING OF CAPITAL STRUCTURE**

Capital structure is the combination of capitals from different sources of finance. The capital of a company consists of equity share holders' fund, preference share capital and long term external debts. The source and quantum of capital is decided keeping in mind following factors:

1.Control: capital structure should be designed in such a manner that existing shareholders continue to hold majority stack.

2.Risk: capital structure should be designed in such a manner that financial risk of the company does not increase beyond tolerable limit.

3.Cost: overall cost of capital remains minimum.

Practically it is difficult to achieve all of the above three goals together hence a finance manager has to make a balance among these three objectives.

However, the objective of a company is to maximise the value of the company and it is prime objective while deciding the optimal capital structure. Capital Structure decision refers to deciding the forms of financing (which sources to be tapped); their actual requirements (amount to be funded) and their relative proportions (mix) in total capitalization.

EBIT

Value of of the firm = -----

Overall cost of capital/Weighted average cost of Capital

$K_o = (\text{Cost of Debt} \times \text{Weight of Debt}) + (\text{Cost of equity} \times \text{Weight of equity})$

$K_o = [\{K_d \times D/(D+S)\} + \{K_e \times S/(D+s)\}]$

Where:

- ◆ K_o is the weighted average cost of capital(WACC)
- ◆ K_d is the cost of debt
- ◆ D is the market value of debt
- ◆ S is the market value of equity
- ◆ K_e is the cost of equity

Capital structure decision will decide weight of debt and equity and ultimately overall cost of capital as well as Value of the firm. So capital structure is relevant in maximizing value of the firm and minimizing overall cost of capital.

Whenever funds are to be raised to finance investments, capital structure decision is involved. A demand for raising funds generates a new capital structure since a decision has to be made as to the quantity and forms of financing. The process of financing or capital structure decision is depicted in the figure below.

15.2. CAPITAL STRUCTURE THEORIES

The following approaches explain the relationship between cost of capital, capital structure and value of the firm:

- (a) Net Income (NI) approach

(b) Traditional approach.

(c) Net Operating Income (NOI) approach

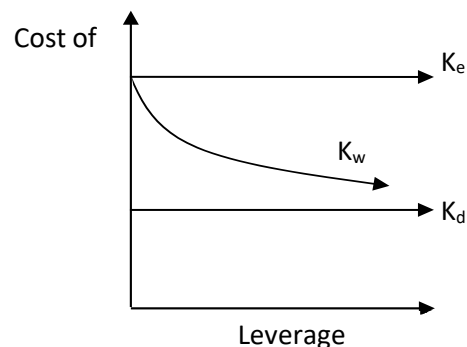
(d) Modigliani-Miller (MM) approach

However, the following assumptions are made to understand this relationship.

- ♦ There are only two kinds of funds used by a firm, i.e. debt and equity.
- ♦ The total assets of the firm are given. The degree of average can be changed by selling debt to purchase shares or selling shares to retire debt.
- ♦ Taxes are not considered.
- ♦ The payout ratio is 100%.
- ♦ The firm's total financing remains constant.
- ♦ Business risk is constant over time.
- ♦ The firm has perpetual life.

Net Income (NI) Approach

According to this approach, capital structure decision is **relevant** to the value of the firm. An increase in financial leverage will lead to decline in the weighted average cost of capital (WACC), while the value of the firm as well as market price of ordinary share will increase. Conversely, a decrease in the leverage will cause an increase in the overall cost of capital and a consequent decline in the value as well as market price of equity shares.



From the above diagram, K_e and K_d are assumed not to change with leverage. As debt

increases, it causes weighted average cost of capital (WACC) to decrease.

The value of the firm on the basis of Net Income Approach can be ascertained as follows:

$$\text{Value of Firm (V)} = S + D$$

Where,

V = Value of the firm

S =market value of equity

D = Market value of debt

$$\text{Market value of equity (S)} = \frac{\text{NI}}{K_e}$$

Where,

NI = Earnings available for equity shareholders

K_e = Equity Capitalisationrate

Under, NI approach, the value of the firm will be maximum at a point where weighted average cost of capital (WACC) is minimum.

$$\text{Overall cost of capital} = \frac{\text{EBIT}}{\text{Value of the firm}}$$

Thus, the theory suggests total or maximum possible debt financing for minimizing the cost of capital. The overall cost of capital under this approach is:

Thus according to this approach, the firm can increase its total value by decreasing its overall cost of capital through increasing the degree of leverage. The significant conclusion of this approach is that it pleads for the firm to employ as much debt as possible to maximise its value.

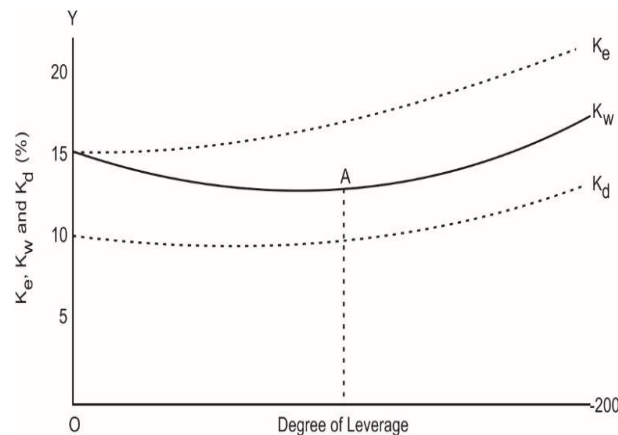
Traditional Approach

This approach favours that as a result of financial leverage up to some point, cost of capital comes down and value of firm increases. However, beyond that point, reverse trends emerge. The principle implication of this approach is that the cost of capital is dependent on the capital structure and there is an optimal capital structure

which minimizes cost of capital.

Under this approach:

1. The rate of interest on debt remains constant for a certain period and thereafter with an increase in leverage, it increases.
2. The expected rate by equity shareholders remains constant or increase gradually. After that, the equity shareholders start perceiving a financial risk and then from the optimal point and the expected rate increases speedily.
3. As a result of the activity of rate of interest and expected rate of return, the WACC first decreases and then increases. The lowest point on the curve is optimal capital structure.



Optimum capital structure occurs at the point where value of the firm is highest and the cost of capital is the lowest.

According to net operating income approach, capital structure decisions are totally irrelevant. Modigliani-Miller supports the net operating income approach but provides behavioral justification. The traditional approach strikes a balance between these extremes.

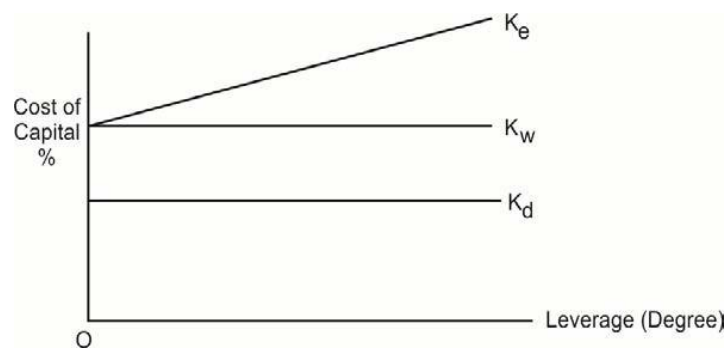
Main Highlight of Traditional Approach

The firm should strive to reach the optimal capital structure and its total valuation through a judicious use of the both debt and equity in capital structure. At the optimal capital structure, the overall cost of capital will be minimum and the value of the firm will be maximum.

Net Operating Income Approach (NOI)

NOI means earnings before interest and tax (EBIT). According to this approach, capital structure decisions of the firm are **irrelevant**.

Any change in the leverage will not lead to any change in the total value of the firm and the market price of shares, as the overall cost of capital is independent of the degree of leverage. As a result, the division between debt and equity is irrelevant.



As per this approach, an increase in the use of debt which is apparently cheaper is offset by an increase in the equity capitalisation rate. This happens because equity investors seek higher compensation as they are opposed to greater risk due to the existence of fixed return securities in the capital structure.

The above diagram shows that K_o (Overall capitalisation rate) and K_d (debt – capitalisation rate) are constant and K_e (Cost of equity) increases with leverage.

Modigliani-Miller Approach (MM)

The NOI approach is definitional or conceptual and lacks behavioral significance. It does not provide operational justification for irrelevance of capital structure. However, Modigliani-Miller approach provides behavioral justification for constant overall cost of capital and therefore, total value of the firm.

Modigliani-Miller (MM) Approach	MM Approach -1958: without tax
	MM Approach- 1963: with tax

MM Approach – 1958: without tax:

This approach describes, in a perfect capital market where there is no transaction cost and no taxes, the value and cost of capital of a company remain unchanged irrespective of change in the capital structure. The approach is based on further additional assumptions like:

- ♦ Capital markets are perfect. All information is freely available and there are no transaction costs.
- ♦ All investors are rational.
- ♦ Firms can be grouped into 'Equivalent risk classes' on the basis of their business risk.
- ♦ Non-existence of corporate taxes.

Based on the above assumptions, Modigliani-Miller derived the following three propositions:

- (i) Total market value of a firm is equal to its expected net operating income divided by the discount rate appropriate to its risk class decided by the market.

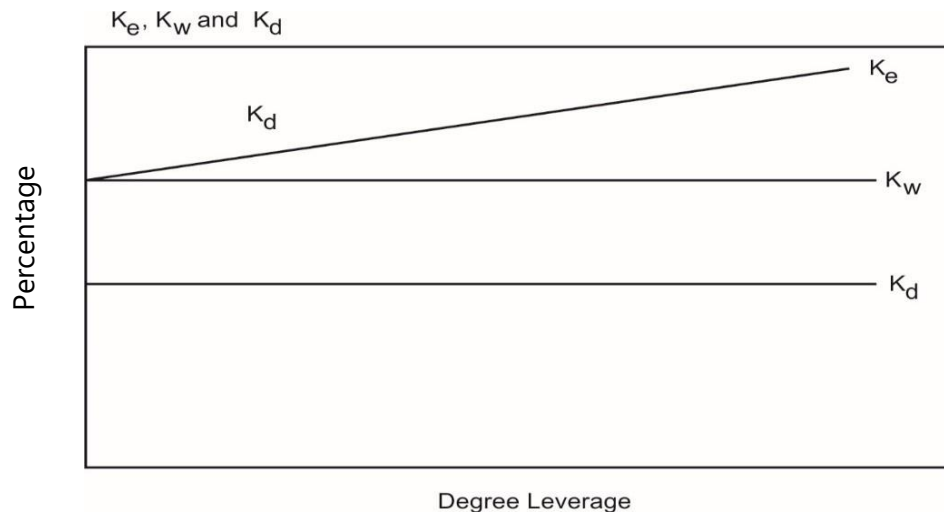
$$\text{Value of a firm} = \frac{\text{Net Operating Income (NOI)}}{K_0}$$

Value of levered firm (V_L) = Value of unlevered firm (V_U)

- (i) A firm having debt in capital structure has higher cost of equity than an unlevered firm. The cost of equity will include risk premium for the financial risk. The cost of equity in levered firm is determined as under:

$$K_e = K_0 + (K_0 - K_d) \frac{\text{Debt}}{\text{Equity}}$$

(ii) The structure of the capital (financial leverage) does not affect the overall cost of capital. The cost of capital is only affected by the business risk.



It is evident from the above diagram that the average cost of the capital (K_o) is a constant and not affected by leverage.

The operational justification of Modigliani-Miller hypothesis is explained through the functioning of the arbitrage process and substitution of corporate leverage by personal leverage. Arbitrage refers to buying asset or security at lower price in one market and selling it at a higher price in another market. As a result, equilibrium is attained in different markets. This is illustrated by taking two identical firms of which one has debt in the capital structure while the other does not. Investors of the firm whose value is higher will sell their shares and instead buy the shares of the firm whose value is lower. They will be able to earn the same return at lower outlay with the same perceived risk or lower risk. They would, therefore, be better off.

The value of the levered firm can neither be greater nor lower than that of an unlevered firm according to this approach. The two must be equal. There is neither advantage nor disadvantage in using debt in the firm's capital structure.

The approach considers capital structure of a firm as a whole pie divided into equity, debt and other securities. No matter how the capital structure of a firm is divided (among debt, equity etc.), there is a conservation of investment value. Since the total investment value of a corporation depends upon its underlying profitability and risk, it is invariant with respect to relative changes in the firm's financial capitalization.

According to MM, since the sum of the parts must equal the whole, therefore, regardless of the financing mix, the total value of the firm stays the same.

The shortcoming of this approach is that the arbitrage process as suggested by Modigliani-Miller will fail to work because of imperfections in capital market, existence of transaction cost and presence of corporate incometaxes.

MM Approach- 1963: with tax

In 1963, MM model was amended by incorporating tax, they recognised that the value of the firm will increase, or cost of capital will decrease where corporate taxes exist. As a result, there will be some difference in the earnings of equity and debt-holders in levered and unlevered firm and value of levered firm will be greater than the value of unlevered firm by an amount equal to amount of debt multiplied by corporate tax rate.

MM has developed the formulae for computation of cost of capital (K_O), cost of

(i) Value of a levered company = Value of an unlevered company + Tax benefit

Or,
$$V_g = V_u + TB$$

(ii) Cost of equity in a levered company (K_{eg}) = $K_{eu} + (K_{eu} - K_d) \frac{\text{Debt}}{\text{Debit} + \text{Equity}}$

equity (K_e) for the levered firm.

Where,

K_{eg} = Cost of equity in a levered company

K_{eu} = Cost of equity in an unlevered company

K_d = Cost of debt

t = Taxrate

(iii) WACC in a levered company (K_{og}) = $K_{eu}(1 - tL)$

Where,

K_{og} = WACC of a levered company

K_{eu} = Cost of equity in an unlevered company

t = Tax rate

$$L = \frac{\text{Debt}}{\text{Debt} + \text{Equity}}$$

15.3 FACTORS DETERMINING CAPITAL STRUCTURE

Choice of source of funds

A firm has the choice to raise funds for financing its investment proposals from different sources in different proportions. It can:

- (a) Exclusively use debt (in case of existing company), or
- (b) Exclusively use equity capital, or
- (c) Exclusively use preference share capital (in case of existing company), or
- (d) Use a combination of debt and equity in different proportions, or
- (e) Use a combination of debt, equity and preference capital in different proportions, or
- (f) Use a combination of debt and preference capital in different proportion (in case of existing company).

The choice of the combination of these sources is called capital structure mix. But the question is which of the pattern should the firm choose?

Factors affecting capital structure

While choosing a suitable financing pattern, certain fundamental principles should be kept in minds, to design capital structure, which is discussed below:

1. Financial leverage of Trading on Equity: The use of long-term fixed interest bearing debt and preference share capital along with equity share capital is called financial leverage or trading on equity. The use of long-term debt increases the earnings per share if the firm yields a return higher than the cost of debt. The earnings per share also increase with the use of preference share capital but due to the fact that interest is allowed to be deducted while computing tax, the leverage impact of debt is much more. However, leverage can operate adversely also if the rate of interest on long-term loan is more than the expected rate of earnings of the firm. Therefore, it needs caution to plan the capital structure of a firm.

2. Growth and stability of sales: The capital structure of a firm is highly influenced

by the growth and stability of its sale. If the sales of a firm are expected to remain fairly stable, it can raise a higher level of debt. Stability of sales ensures that the firm will not face any difficulty in meeting its fixed commitments of interest repayments of debt. Similarly, the rate of the growth in sales also affects the capital structure decision. Usually, greater the rate of growth of sales, greater can be the use of debt in the financing of firm. On the other hand, if the sales of a firm are highly fluctuating or declining, it should not employ, as far as possible, debt financing in its capital structure.

3. Cost Principle: According to this principle, an ideal pattern or capital structure is one that minimizes cost of capital structure and maximizes earnings per share (EPS). For e.g. Debt capital is cheaper than equity capital from the point of its cost and interest being deductible for income tax purpose, whereas no such deduction is allowed for dividends.

4. Risk Principle: According to this principle, reliance is placed more on common equity for financing capital requirements than excessive use of debt. Use of more and more debt means higher commitment in form of interest payout. This would lead to erosion of shareholders' value in unfavorable business situation. With increase in amount of Debt, financial risk increase and vice versa.

5. Control Principle: While designing a capital structure, the finance manager may also keep in mind that existing management control and ownership remains undisturbed. Issue of new equity will dilute existing control pattern and also it involves higher cost. Issue of more debt causes no dilution in control, but causes a higher degree of financial risk.

6. Flexibility Principle: By flexibility it means that the management chooses such a combination of sources of financing which it finds easier to adjust according to changes in need of funds in future too. While debt could be interchanged (If the company is loaded with a debt of 18% and funds are available at 15%, it can return old debt with new debt, at a lesser interest rate), but the same option may not be available in case of equity investment.

7. Other Considerations: Besides above principles, other factors such as nature of industry, timing of issue and competition in the industry should also be considered. Industries facing severe competition also resort to more equity

than debt.

8. Thus, a finance manager in designing a suitable pattern of capital structure must bring about satisfactory compromise between the above principles. The compromise can be reached by assigning weights to these principles in terms of various characteristics of the company.

15.4 OPTIMAL CAPITAL STRUCTURE

Objective of financial management is to maximize wealth. Therefore one should choose a capital structure which maximizes wealth. For this purpose following analysis should be done:

1. EBIT-EPS-MPS Analysis: choose a capital structure which maximizes market price per share. For that start with same EBIT for all capital structures and calculate EPS. Thereafter either multiply EPS by price earning ratio or divide it by cost of equity to arrive at MPS.
2. Indifference Point Analysis: In above analysis we have considered value at given EBIT only. What will happen if EBIT changes? Will it change your decision also? To answer this question you can do indifference point analysis.
3. Financial Break Even point Analysis: With change in capital structure, financial risk also changes. Though this risk has already been considered in PE ratio or in cost of equity in point one above, but one may calculate and consider it separately also by calculating financial BEP.

15.5 Summary:

1. Capital Structure: Capital structure refers to the mix of a firm's capitalization (i.e. mix of long term sources of funds such as debentures, preference share capital, equity share capital and retained earnings for meeting total capital requirement). While choosing a suitable financing pattern, certain factors like cost, risk, control, flexibility and other considerations like nature of industry, competition in the industry etc. should be considered.

2. Capital Structure Theories:- The following approaches explain the relationship between cost of capital, capital structure and value of the firm: Net income approach, Traditional approach, Net operating income approach, Modigliani-Miller approach

15.6 Key Words:

1.Risk: capital structure should be designed in such a manner that financial risk of the company does not increase beyond tolerable limit.

2.Value of Firm (V) = S + D

3.NOI means earnings before interest and tax (EBIT). According to this approach, capital structure decisions of the firm are **irrelevant**.

15.7 SELF-ASSESSMENT QUESTIONS:

1. What is the meaning capital structure?
2. Explain the different approaches of capital structure.
3. Briefly explain the MM approach.
4. Rajeev Co. Ltd., has an annual net operating income of Rs. 7,000. It has Rs. 30,000 of 8% debt. The equity capitalization rate (K_e) of the company is 10%. Find out the value of the firm, according to the NI approach.
5. RK Ltd., has net operating income of Rs. 5,400. Its cost of equity is 14%. It has 8% of debentures of Rs. 15,000. The market value of the firm and overall cost of capital would be as follows: find out the value of the firm under traditional approach.

15.8 FURTHER READINGS:

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Lesson 16

Dividend Decisions

Objectives:

After studying this lesson, you should be able:

- To acquire an understanding of dividend decision
- To familiarize with various models in dividend decision
- To know some other concepts in respect of dividend decision

Structure:

16.1 Introduction

16.2 Factors determining dividend decision

16.3. Practical considerations in dividend policy

16.4 Dividend decision theories

16.5 Summary

16.6 Keywords

16.7 Self – Assessment Questions

16.8 Further Readings

16.1 Introduction:

Dividend decision is one of the most important areas of management decisions. It is easy to understand but difficult to implement. Let's understand this with the help of an example, suppose a company, say X limited, which is continuously paying the dividend at a normal growth rate, earns huge profits this year. Now the management has to decide whether continue to pay dividend at normal rate or to pay at an increasing rate? Why this dilemma?

The reason is that, if the management decides to pay higher dividend, then it might be possible that next year, the company will not achieve such higher growth

rate, resulting the next year's dividend will be low as compared to last year's. However, if the company decides to stay on the normal rate of dividend then surplus amount of retained earnings would remain idle which will result in over capitalization, if no opportunity existing to utilize the funds.

Also there are more factors which will affect the dividend decision (will be discussed later). There are few theories which put light on the complexities involved in dividend decision. These theories will be discussed under two categories,

Irrelevance theory: MM approach and

Relevance theories: Walter model & Gordon Model

Meaning of dividend

Dividend is that part of profit after tax which is **distributed to the shareholders** of the company. In other words, the profit earned by a company after paying taxes can be used for:

- i. Distribution of dividend or
- ii. Can be retained as surplus for future growth

Significance of dividend policy

Dividend policy of a firm is governed by:

1. Long Term Financing Decision:

As we know that one of the financing option is 'Equity'. Equity can be raised externally through issue of equity shares or can be generated internally through retained earnings. But retained earnings are preferable because they do not involve floatation costs.

But whether to retain or distribute the profits forms the basis of this decision. Since payment of cash dividend reduces the amount of funds necessary to finance profitable investment opportunities thereby restricting it to find other avenues of finance.

Under this purview, the decision is based on the following:

1. Whether the organization has opportunities in hand to invest the amount of profits, if retained?
2. Whether the return on such investment(ROI) will be higher than the expectations of shareholders i.e. 'Ke'.

2. Wealth Maximization Decision:

Under this head, we are facing the problem of amount of dividend to be distributed i.e. the Dividend Payout ratio(D/P) in relation to Market price of the shares(MPS).

1. Because of market imperfections and uncertainty, shareholders give higher value to near dividends than future dividends and capital gains. Payment of dividends influences the market price of the share. Higher dividends increase value of shares and low dividends decrease it. A proper balance has to be struck between the two approaches.
2. When the firm increases retained earnings, shareholders' dividends decrease and consequently market price is affected. Use of retained earnings to finance profitable investments increases future earnings per share.

On the other hand, increase in dividends may cause the firm to forego investment opportunities for lack of funds and thereby decrease the future earnings per share.

Thus, management should develop a dividend policy **which divides net earnings into dividends and retained earnings** in an optimum way so as to achieve the objective of wealth maximization for shareholders. Such policy will be influenced by investment opportunities available to the firm and value of dividends as against capital gains to shareholders.

FORMS OF DIVIDEND

Generally, the dividend can take any of the following forms (depending upon some factors will be discussed later):

1. **Cash dividend:** It is the most **common form of dividend**. Cash here means cash, cheque, warrant, demand draft, pay order or directly through Electronic Clearing Service (ECS) but not in kind.
2. **Stock dividend (Bonus Shares):** It is a **distribution of shares in lieu of cash dividend** to existing shareholders. When the company issues further shares to its existing shareholders without consideration it is called bonus shares. Such shares are distributed proportionately thereby retaining proportionate ownership of the company. If a shareholder owns 100 shares at a time, when 10% dividend is

declared he will have 10 additional shares thereby increasing the equity share capital and reducing reserves and surplus (retained earnings). The total net worth is not affected by bonus issue.

Advantages of Stock Dividend

There are many advantages both to the shareholders and to the company. Some of the important ones are listed as under:

1. To Shareholders:

- (a) Tax benefit –At present there is no tax on dividend received from a domestic company.
- (b) Policy of paying fixed dividend per share and its continuation even after declaration of stock dividend will increase total cash dividend of the shareholders in future.

2. To Company:

- (a) Conservation of cash for meeting profitable investment opportunities.
- (b) Cash deficiency and restrictions imposed by lenders to pay cash dividend.

Limitations of Stock Dividend

Limitations of stock dividend to shareholders and to company are as follows:

1.To Shareholders: Stock dividend does not affect the wealth of shareholders and therefore it has no value for them. This is because the declaration of stock dividend is a method of capitalizing the past earnings of the shareholders and is a formal way of recognizing earnings which the shareholders already own. It merely divides the company's ownership into a large number of share certificates. James Porterfield regards stock dividends as a division of corporate pie into a larger number of pieces. Stock dividend does not give any extra or special benefit to the shareholder. His proportionate ownership in the company does not change at all. Stock dividend creates a favourable psychological impact on the shareholders and is greeted by them on the ground that it gives an indication of the company's growth.

2. To Company: Stock dividends are more costly to administer than cash dividend. It is disadvantageous if periodic small stock dividends are declared by the company as earnings. This result in the measured growth in earnings per share being less than the growth based on per share for small issues of stock dividends are not adjusted at all

and only significant stock dividends are adjusted. Also, companies have to pay tax on distribution.

RELATIONSHIP BETWEEN RETAINED EARNINGS AND GROWTH

Suppose, there are two companies, A Ltd & B Ltd, having a capital employed of Rs. 50,00,000 in terms of Equity shares of Rs.100 each are earning @ 20%. Both have same capital structure and same ROI but different dividend policy.

A Ltd. distributes 100% of its earnings whereas B Ltd only 50%.

Now, considering the other things remain same, the position of both the companies during the next year will be:

A Ltd	(Rs.)	B Ltd	(Rs.)
Previous year		Previous year	
Earnings	Rs. 10,00,000	Earnings	Rs. 10,00,000
Dividend	Rs. 10,00,000	Dividend	Rs. 5,00,000
Retained Earnings	Nil	Retained Earnings	Rs. 5,00,000

Current year		Current year	
Existing capital	Rs. 50,00,000	Existing capital	Rs. 50,00,000
Retained Earnings	Nil	Retained Earnings	Rs. 5,00,000
Total capital employed	Rs. 50,00,000	Total capital employed	Rs. 55,00,000
Earnings@ 20%	Rs. 10,00,000	Earnings@ 20%	Rs. 11,00,000

Hence with the help of above example, it is easy to understand that how retained earnings will lead to growth.

16.2. DETERMINANTS OF DIVIDEND DECISIONS

The dividend policy is affected by the following factors:

1.Availability of funds: If the business is in requirement of funds, then retained earnings could be a good source. Since it saves the floatation cost and further the control will not be diluted as in case of further issue of share capital.

2. Cost of capital: If the financing requirements can be financed through debt

(relatively cheaper source of finance), then it should be preferred to distribute more dividend but if the financing is to be done through fresh issue of equity shares, it is better to use retained earnings as much as possible.

3. Capital structure: An optimum Debt equity ratio should also be under consideration for the dividend decision.

4. Stockprice: Stock price here means market price of the shares. Generally, higher dividends increase value of shares and low dividends decrease it.

5. Investment opportunities in hand: The dividend decision is also affected, if there are investment opportunities in hand, the company may prefer to retain more from the earnings.

6. Internal rate of return: If the internal rate of return is more than the cost of retained earnings, it's better to distribute the earnings as much as possible.

7. Trend of industry: Few industries have been seen by investors for regular income, hence in such cases, the firm will have to pay dividend for survival.

8. Expectation of shareholders: The shareholders can be categorised in two categories: (i) those who invests for regular income, & (ii) those who invests for growth. Generally, the investor prefers current dividend over the future growth.

9. Legal constraints: Section 123 of the Companies Act, 2013 came into force from 1st April, 2014 which provides for declaration of dividend. According to this section:

10. Dividend shall be declared or paid by a company for any financial year only:

- (a) out of the profits of the company for that year arrived at after providing for depreciation in accordance with the provisions of section 123(2), or
- (b) out of the profits of the company for any previous financial year or years arrived at after providing for depreciation in accordance with the provisions of that sub-section and remaining undistributed, or
- (c) out of both; or
- (d) out of money provided by the Central Government or a State Government for the payment of dividend by the company in pursuance of a guarantee given by that Government.

11.Taxation: As per Section 115-O of Income Tax Act, 1961, dividend is subject to dividend distribution tax (DDT) in the hands of the company. Under the existing provisions of Section 10(34) of the Act dividend which suffer DDT under section 115-O is exempt in the hands of the shareholder.

Further, any income by way of dividend in excess of Rs. 10 lakhs shall be chargeable to tax in the case of an individual, HUF or a firm who is resident in India, at the rate of ten percent.

16.3. PRACTICAL CONSIDERATIONS IN DIVIDEND POLICY

A discussion on internal financing ultimately turns to practical considerations which determine the dividend policy of a company. The formulation of dividend policy depends upon answers to the questions:

- whether there should be a stable pattern of dividends over the years or
- Whether the company should treat each dividend decision completely independent. The practical considerations in dividend policy of a company are briefly discussed below:

(a) Financial Needs of The Company: Retained earnings can be a source of finance for creating profitable investment opportunities. As we discussed earlier, when internal rate of return of a company is greater than return required by shareholders, it would be advantageous for the shareholders to re-invest their earnings.

Risk and financial obligations increase if a company raises capital through issue of new shares where floatation costs are involved.

Mature Companies	Growth Companies
1. Mature companies having few investment opportunities will show high payout ratios;	1. Growth companies, on the other hand, have low payout ratios. They are in need of funds to finance fast growing fixed assets.

2. Share prices of such companies are sensitive to dividend charges.	2. Distribution of earnings reduces the funds of the company. They retain all the earnings and declare bonus shares to offset the dividend requirements of the shareholders.
3. So a small portion of the earnings are kept to meet emergent and occasional financial needs.	3. These companies increase the amount of dividends gradually as the profitable investment opportunities start falling.

(b) Constraints on Paying Dividends

(i) **Legal:** Under Section 123 of the Companies Act 2013, Dividends shall be declared or paid by a company for any financial year only:

- (a) Out of the profits of the company for that year arrived at after providing for depreciation in accordance with the provisions of section 123(2), or
- (b) Out of the profits of the company for any previous financial year or years arrived at after providing for depreciation in accordance with the provisions of that sub-section and remaining undistributed, or
- (c) Out of both; or
- (d) Out of money provided by the Central Government or a State Government for the payment of dividend by the company in pursuance of a guarantee given by that Government.

(ii) **Liquidity:** Payment of dividends means outflow of cash. Ability to pay dividends depends on cash and liquidity position of the firm. A mature company does not have much investment opportunities, nor are funds tied up in permanent working capital and, therefore has a sound cash position. For a growth oriented company in spite of good profits, it will need funds for expanding activities and permanent working capital and therefore it is not in a position to declare dividends.

(iii) **Access to the Capital Market:** By paying large dividends, cash position is affected. If new shares have to be issued to raise funds for financing investment programmes and if the existing shareholders cannot buy additional shares, control is diluted. Payment of dividends may be withheld and earnings are utilised for financing firm's investment opportunities.

(iv) ***Investment Opportunities:*** If investment opportunities are inadequate, it is better to pay dividends and raise external funds whenever necessary for such opportunities.

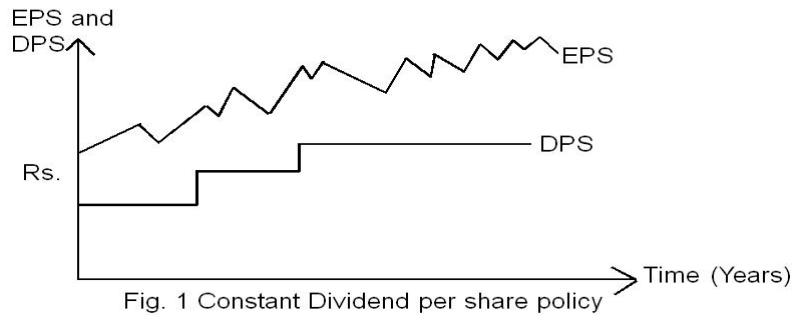
B) Desire of Shareholders: The desire of shareholders (whether they prefer regular income by way of dividend or maximize their wealth by way of gaining on sale of the shares). In this connection it is to be noted that as per the current provisions of the Income Tax Act, 1961, tax on dividend is borne by the companies as dividend distribution tax and shareholders need not pay any tax on income received by way of dividend from domestic companies. The small shareholders are concerned with regular dividend income hence select shares of companies paying regular and liberal dividend.

As compared to those shareholders who prefer regular dividend as source of income, there are shareholders who prefer to gain on sale of shares at times when shares command higher price in the market. However capital gain on sale of shares attracts tax on such gain and rate vary on the basis of holding period.

The dividend policy, thus pursued by the company should strike a balance on the desires of the shareholders. Also the dividend policy once established should be continued as long as possible without interfering with the needs of the company to create clientele effect.

C) Stability of Dividends: Stability in dividend can be maintaining either fixing amount or rate of dividend irrespective of earnings of the company. The stable dividend policies may include:

- (i) ***Constant Dividend per Share:*** Shareholders are given fixed amount of dividend irrespective of actual earnings. The amount of dividend may increase or decrease later on depending upon the financial health of the company but it will be maintained for a considerable period.



To maintain a constant dividend amount, it is necessary to create a reserve like Dividend Equalization Reserve Fund earmarked by marketable securities for accumulation of surplus earnings and to use for paying dividends in bad years. This policy treats common shareholders at par with preference shareholders without giving them any preferred opportunities within the firm. It is preferred by persons and institutions that depend on dividend income to meet living and operating expenses.

- (ii) **Constant Percentage of Net Earnings:** The ratio of dividend to earnings is known as Payout ratio. Some companies follow a policy of constant Payout ratio i.e. paying fixed percentage on net earnings every year. To quote from Page 74 of the annual report 2011 of Infosys Technologies Limited, "The Dividend Policy is to distribute up to 30% of the Consolidated Profit after Tax (PAT) of the Infosys Group as Dividend."

Contrast to this Warren Buffet (amongst the richest persons of the world) says:

"We will either pay large dividends or none at all if we can't obtain more money through re-investment (of those funds). There is no logic to regularly paying out 10% or 20% of earnings as dividends every year."

Such a policy envisages that the amount of dividend fluctuates in direct proportion to earnings. If a company adopts 40% payout ratio, then 40% of every rupee of net earnings will be paid out. If a company earns Rs. 2/- per share, dividend per share will be 80 paise and if it earns Rs. 1.50 per share, dividend per share will be 60 paise.

Such a policy is related to company's ability to pay dividends. For losses incurred, no dividend shall be paid. Internal financing with retained earnings is

automatic. At any given payout ratio, amount of dividends and any additions to retained earnings increase with increased earnings and decrease with decreased earnings. This policy has a conservative approach and provides a guarantee against over/underpayment. Management is not allowed to pay dividend if profits are not earned in current year and at the same time, dividend is not allowed to forego if profits are earned.

- (i) ***Small Constant Dividend per Share plus Extra Dividend:*** The amount of dividend is set at high level and the policy is adopted for companies with stable earnings. For companies with fluctuating earnings, the policy is to pay a minimum dividend per share with a step up feature. The small amount of dividend is fixed to reduce the possibility of missing dividend payment. By paying extra dividend in period of prosperity, it enables the company to pay constant amount of dividend regularly without default and allows flexibility for supplementing shareholders' income when company's earnings are higher than usual, without committing to make larger payments as part of further fixed dividend. This policy allows some shareholders to plan on set amounts of cash and at the same time be pleased when extra dividends are announced.

A firm following policy of stable dividend in Figure 1 will command higher market price for shares than firm which varies dividend with cyclical fluctuation in earnings as in Figure 2.

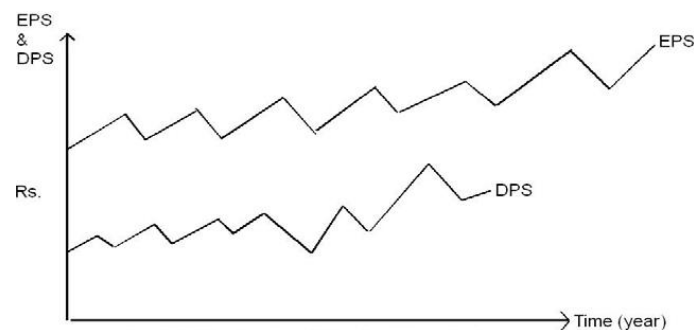


Fig. 2 Dividend policy at Constant Payout ratio

There is, however, a danger of a company with a pattern of stable dividends missing dividend payment in a year as this break will have severe effect on investors than failure to pay dividend by a company with unstable dividend policy. It is prudent for companies to maintain stability of dividends during lean periods. The dividend

rate is to be fixed at a conservative figure so that it can be maintained even in such periods. To give benefit of company's prosperity extra dividend can be declared. When the company fails to pay extra dividend, it does not have a depressing effect on investors.

16.4 Theories of Dividend

1. Dividend's Irrelevance Theory - Modigliani and Miller (M.M) Hypothesis
2. Dividend's relevance Theory – Walter Model and Gordon Model

1. Dividend's Irrelevance Theory

Modigliani and Miller (M.M) Hypothesis:

Modigliani – Miller theory was proposed by Franco Modigliani and Merton Miller in 1961. MM approach is in support of the irrelevance of dividends i.e. firm's dividend policy has no effect on either the price of a firm's stock or its cost of capital

Assumptions of M.M Hypothesis

MM hypothesis is based on the following assumptions:

- **Perfect capital markets:** The firm operates in a market in which all investors are rational and information is freely available to all.
- **No taxes or no tax discrimination** between dividend income and capital appreciation (capital gain): This assumption is necessary for the universal applicability of the theory, since, the tax rates or provisions to tax income may be different in different countries.
- **Fixed investment policy:** It is necessary to assume that all investment should be financed through equity only, since, implication after using debt as a source of finance may be difficult to understand. Further, the impact will be different in different cases.
- **No floatation or transaction cost:** Similarly, these costs may differ country to country or market to market.

- **Risk of uncertainty does not exist.** Investors are able to forecast future prices and dividend with certainty and one discount rate is appropriate for all securities and all time periods.

According to MM hypothesis

- Market value of equity shares of its firm depends solely on its earning power and is not influence by the manner in which its earnings are split between dividends and retained earnings.
- Market value of equity shares is not affected by dividend size.

MM hypothesis is primarily based on the arbitrage argument. Through the arbitrage process, MM hypothesis discusses how the value of the firm remains same whether the firm pays dividend or not. Here

$$P_o = \frac{P_1 + D_1}{1 + K_e}$$

Where,

P_o = Price in the beginning of the period.

P_1 = Price at the end of the period.

D_1 = Dividend at the end of the period.

K_e = Cost of equity/ rate of capitalization/ discount rate.

As per MM hypothesis, the value of firm will remain unchanged due to dividend decision. This can be computed with the help of the following

$$V_f \text{ or } nP_o = \frac{(n + \Delta n)P_1 - I + E}{(1 + K_e)}$$

formula:

Where,

V_f	=	Value of firm in the beginning of the period
n	=	number of shares in the beginning of the period
Δn	=	number of shares issued to raise the funds required
I	=	Amount required for investment
E	=	total earnings during the period

Advantages of MM Hypothesis

Various advantages of MM Hypothesis are as follows

1. This model is **logically consistent**.
2. It provides a **satisfactory framework** on dividend policy with the concept of Arbitrage process.

Limitations of MM Hypothesis

Various Limitations of MM Hypothesis are as follows

1. Validity of various **assumptions is questionable**.
2. This model **may not be valid under uncertainty**.

2. Dividend's Relevance Theory

A) Walter's Model

Walter's approach is based on the following assumptions:

- All investment proposals of the firm are to be financed **through retained earnings** only
- '**r**' rate of return & '**K_e**' cost of **capital are constant**
 - **Perfect capital markets**: The market in which all investors are rational and information is freely available to all.
- **No taxes or no tax discrimination** between dividend income and capital appreciation (capital gain): This assumption is necessary for the universal applicability of the theory, since, the tax rates or provisions to tax income may be different in different countries.
- **No floatation or transaction cost**: Similarly, these costs may differ country to country or market to market.
- The firm has **perpetual life**

The relationship between dividend and share price based on

$$\text{Market Price (P)} = \frac{D + \frac{r}{K_e}(E - D)}{K_e}$$

Walter's formula is shown below:

Where,

P = Market Price of the share.

E = Earnings per share.

D = Dividend per share.

K_e = Cost of equity/ rate of capitalization/ discount rate.

r = Internal rate of return/ return on investment

The above formula is given by Prof. James E. Walter shows how dividend can be used to maximise the wealth of equity holders. He argues that in the long run, share prices reflect only the present value of expected dividends. Retentions influence stock prices only through their effect on further dividends.

A close study of the formula indicates that Professor Walter emphasizes two factors which influence the market price of a share.

1. Dividend per share
2. Relationship between Internal Rate of Return (IRR) and Cost of capital (K_e)/ Market capitalization rate

If the internal return of retained earnings is higher than market capitalization rate, the value of ordinary shares would be high even if dividends are low. However, if the internal return within the business is lower than what the market expects, the value of the share would be low. In such a case, shareholders would prefer higher dividend so that they can utilise the funds so obtained elsewhere in more profitable opportunities.

Walter's Model explains why market prices of shares of growing companies are high even though the dividend paid out is low. It also explains why the market price of shares of certain companies which pay higher dividends and retain very low profits is also high.

As explained above, market price is dependent upon two factors; firstly, the quantum of dividend and secondly, profitable opportunities available to the company in investing the earnings retained. It is obvious that when a company retains a part of its profits, it has to think in terms of the cost of such retention.

Retention of profits depends upon whether it is cheaper and more profitable for shareholders of the company to have corporate earnings retained in the business or get the same in the form of cash dividend. This involves a comparison between the cost of retained earnings and the cost of distributing them. The cost of retained earnings, therefore, involves an opportunity cost, i.e., the benefits which shareholders forego in terms of leaving the funds in the business.

IRR, K_e and optimum payout

As we know Walter approach consider two factors, following is the conclusion of Walter's model

Company	Condition of r vs K_e	Correlation between Size of Dividend and Market Price of share	Optimum dividend payout ratio
Growth	$r > K_e$	Negative	Zero
Constant	$r = K_e$	No correlation	Every payout ratio
Decline	$r < K_e$	Positive	100%

Growth Company: In this condition company is able to invest/utilize the fund in a better manner. In this case shareholders can accept low dividend because their value of share would be higher.

Decline Company: In this case company is not in a position to cover the cost of capital; in such case shareholders would prefer a higher dividend so that they can utilize their funds elsewhere in more profitable opportunities.

Advantages of Walter's Model

1. The formula is **simple to understand** and easy to compute.
2. It can envisage **different possible market prices** in different situations and considers internal rate of return, market capitalisation rate and dividend payout ratio in the determination of market value of shares.

Limitations of Walter's Model

1. The formula **does not consider all the factors** affecting dividend policy and share prices. Moreover, determination of market capitalisation rate is difficult.
2. Further, the formula **ignores such factors as taxation**, various legal and contractual obligations, management policy and attitude towards dividend policy and soon.

GORDON'S MODEL

According to Gordon's model dividend is relevant and dividend policy of a company affects its value.

Assumptions of Gordon's Model

This model is based on the following assumptions:

- Firm is an equity firm i.e. **no debt**.
- **IRR will remain constant**, because change in IRR will change the growth rate and consequently the value will be affected. Hence this assumption is necessary.
- **Ke will remain constant**, because change in discount rate will affect the present value.
- **Retention ratio** (b), once decided upon, is **constant** i.e. constant dividend payout ratio will be followed.
- **Growth rate** ($g = br$) is also **constant**, since retention ratio and IRR will remain unchanged and growth, which is the function of these two variables, will remain unaffected.
- $K_e > g$, this assumption is necessary and based on the principles of series of sum of geometric progression for 'n' number of years.
- All investment proposals of the firm are to be **financed through retained earnings** only.

The following formula is used by Gordon to find out price per share:

$$P_0 = \frac{E_1(1-b)}{K_e - br}$$

Where,

P_0 = Price per share

E_1 = Earnings per share

b = Retention ratio; $(1 - b)$ = Payout ratio)

According to Gordon's model, when **IRR is greater than cost of capital, the price per share increases and dividend pay-out decreases**. On the other hand when IRR is lower than the cost of capital, the price per share decreases and dividend pay-out increases.

Following is the conclusion of Gordon's model

Company	Condition of r vs K_e	Optimum dividend payout ratio
Growth	$r > K_e$	Zero
Constant	$r = K_e$	There is no optimum ratio
Declining	$r < K_e$	100%

Advantages of Gordon's Model

1. The dividend discount model is a **useful heuristic model** that relates the present stock price to the present value of its future cashflows.

This Model is **easy to understand**.

Limitations of Gordon's Model

1. The dividend discount model **depends** on projections about company growth rate and future capitalization rates of the remaining cash flows, which may be **difficult to calculate accurately**.
2. The **true intrinsic value** of a stock is **difficult to determine** realistically.,

16.5. Summary:

1. Dividend decision is one of the most important areas of management decisions. It is easy to understand but difficult to implement. Generally, the dividend can be in

the form of Cash Dividend and Stock Dividend.

2. Dividend policy is generally governed by long term financing decision and wealth maximization decision. Some other factors also play major role in this decision like growth opportunities, expectation of shareholders, trend of the industry, legal constraints etc.
3. The three major theories of dividend decision are classified under irrelevance (M.M. Hypothesis) and relevance category (Walter's model & Gordon's Model).

16.6. Key Words:

1. **Cost of capital:** If the financing requirements can be financed through debt (relatively cheaper source of finance), then it should be preferred to distribute more dividend but if the financing is to be done through fresh issue of equity shares, it is better to use retained earnings as much as possible.
2. **Stock price:** Stock price here means market price of the shares. Generally, higher dividends increase value of shares and low dividends decrease it.
3. **Stability of Dividends:** Stability in dividend can be maintaining either fixing amount or rate of dividend irrespective of earnings of the company.

16.7. SELF-ASSESSMENT QUESTIONS:

1. What do you mean by Dividend?
2. What are the essentials of Gordon's dividend model?
3. Outline the contributions of MM on dividend decision.
4. What factors determine the dividend decision?

16.8. FURTHER READINGS:

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Lesson-17**WORKING CAPITAL MANAGEMENT****Objectives:**

After studying this lesson, you should be able to know:

- the significance of working capital management
- the determinants of working capital
- the estimates of working capital
- the financing of current assets and

Structure:**17.1 Introduction****17.2 Significance of working capital management****17.3 Determinants of working capital****17.4 Estimates of working capital****17.5 Financing of current assets****17.6 Summary****17.7 Keyword****17.8 Self – Assessment Questions****17.9 Further Readings****17.1 INTRODUCTION:**

The term Working Capital also called gross working capital refers to the firm's aggregate of Current Assets and current assets are these assets which can be convertible into cash within an accounting period, generally a year. Therefore, they are Cash or mere cash resources of a business concern. However, we can understand the meaning of Working Capital from the following:

a) "Working capital means the funds available for day-to-day operations of an enterprise. It also represents the excess of current assets over current liabilities including short-term loans". — Accounting Standards Board, The Institute of Chartered Accountants of India.

b) “Working capital is that portion of a firm’s current assets which is financed by short term funds.”- Gitman, L.J. From the above definitions, we can say that the working capital is the firm’s current assets or the excess of current assets over current liabilities. However, the later meaning will be more useful in most of the times as in all cases we may not find excess of current assets over current liabilities.

Concepts of Working Capital Working capital have two concepts:

- i) Gross working capital and
- ii) Net working capital.

Gross Working capital refers to the total of the current assets and not working capital refers to the excess of the current assets over current liabilities. Though both concepts are important for managing it, gross working capital is more helpful to the management in managing each individual current asset for day-to-day operations. But, in the long run, it is the net working capital that is useful for the purpose. When we want to know the sources from which funds are obtained, it is not working capital that is more important and should be given greater emphasis. The definition given by the Accountants, U.S.A., will give clear view of working capital which is given below: Working capital sometimes called net working capital, is represented by excess of current assets over current liabilities and identifies the relatively liquid portion of total enterprise capital which constitutes a margin of better for maturing obligations within the ordinary operation cycle of the business.” Each concern has its own limitations and constraints within which it has to decide whether it should give importance to gross or not working capital.

KINDS OF WORKING CAPITAL

There are two kinds of working capital, the distinction of which made keeping in view the nature of such funds in a business concern, which are as follows:

- (a) Rigid, fixed, regular or permanent working capital; and
- (b) Variable, seasonal, temporary or flexible working capital.

Every business concern has to maintain certain minimum amount of current assets at all times to carry on its activities efficiently and effectively. It is indispensable for any business concern to keep some material as stocks, some in the shape of work-in-progress and some in the form of finished goods. Similarly, it has to

maintain certain amount of cash to meet its day-to-day requirements. Without such minimum amounts, it cannot sustain and carry on its activities. Therefore, some amount of working capital i.e., current assets is permanent in the business without any fluctuations like fixed assets and such amount is called Working Capital. To say precisely, Permanent Working Capital is the irreducible minimum amount of working capital necessary to carry on its activities without any interruptions. It is that minimum amount necessary to outlays its fixed assets effectively. On the other hand, temporary working capital is that amount of current assets which is not permanent and fluctuating from time to time depending upon the company's requirements and it is generally financed out of short term funds, It may also high due to seasonal character of the industry as such it is also called seasonal working capital.

17.2 SIGNIFICANCE OF WORKING CAPITAL MANAGEMENT

Working Capital of a business should be commensurate with its needs. Too high or too low working capital of a business or two extremes of working capital are equally dangerous to the existence of the business enterprise itself. High amount of working capital, though increases its liquidity position but reduces its profitability and on the other hand too low working capital though increases its profitability reduces its liquidity. Both such extreme situations may cause business concerns to shut down.

DANGER OF TOO HIGH AMOUNT OF WORKING CAPITAL

- (a) It results in unnecessary accumulation of inventories and gives chance to inventory mishandling, wastage, pilferage, theft, etc., and losses increase.
- (b) Excess working capital means idle funds which earns no profits for the business.
- (c) It shows a defective credit policy of the company resulting in higher incidence of bad debts and adversely affects Profitability.
- (d) It results in overall inefficiency.

DANGER OF INADEQUATE OR LOW AMOUNT OF WORKING CAPITAL

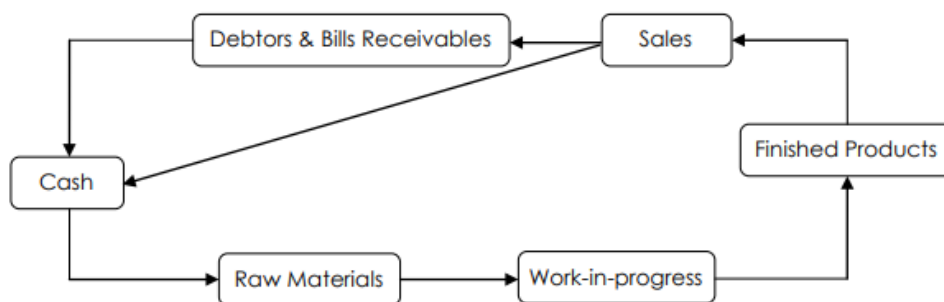
- (a) It becomes difficult to implement operating plans and achieve the firm's profit target.
- (b) It stagnates growth and it will become difficult to the firm to undertake profitable ventures for non availability of working capital funds.

- (c) It may not be in a position to meet its day-to-day current obligations and results in operational inefficiencies.
- (d) The Return on Investment falls due to under utilisation of fixed assets and other capacities of the business concern.
- (e) Credit facilities in the market will be lost due to faulty working capital.
- (f) The reputation and goodwill of the firm will also be impaired considerably.

WORKING CAPITAL CYCLE

Working Capital Cycle or Operating Cycle are synonymous terms in the context of management of working capital. Any business concern, whether it is of financial nature, trade organisation or a manufacturing organization needs certain time to net fruits of the efforts. That is, by investment of cash, producing or doing something for some time will fetch profit. But soon after the investment of cash, it cannot get that profit by way of cash again immediately. It takes time to do so. The time required to take from investment of cash in some assets and conversion of it again into cash termed as operating or working capital cycle. Here the cycle refers to the time period.

Chart for Operating Cycle or Working Capital Cycle.



In case of trading concerns, the operating cycle will be: Cash → Stock → Debtors → Cash.



In case of financial concerns, the operating cycle will be: Cash → Debtors → Cash only.



It is obvious from the above that the time gap between the sales and their actual realisation of cash is technically termed as Operating Cycle or Working Capital Cycle. The period of working capital cycle may differ from one business enterprise to the other depending upon the nature of the enterprise and its activities. It means the pattern of working capital cycle do change according to its activities.

17.3 Determinants of Working Capital

The size or magnitude and amount of working capital will not be uniform for all organizations. It differs from one type of organization to the other type of organization. It is depending upon various conditions and environmental factors of each and every organization. There are many factors that determine the size of working capital. However, there are some factors, which are common to the most of the business concerns. Such factors are enumerated below:

1. **Nature and size of the Business:** A company's working capital requirements depends on the activities it carried on and its size too. For instance, public utility organisation or service organisation where its activities are of mere service nature, does not require high amount of working capital, as it has no need of maintaining any stocks of inventories. In case of trading organisation the magnitude of working capital is high as it requires to maintain certain stocks of goods as also some credit to debtors. Further, if we go to manufacturing organisation the cycle period of working capital is high because the funds are to be invested in each and every type of inventory forms of raw-material, work-in-progress, finished goods as also debtors. Industrial units too require a large amount of working capital.
2. **Production Policies:** These policies will have a great significance in determining the size of the working capital. Where production policies are designed in such a way that uniform production is carried on throughout the accounting period, such concern requires a uniform and lesser amount of working capital. On the other hand, the concerns with production policies according to the needs of the customers will be peak at sometimes and require high amount of working capital. In seasonal industries too, where production policies are laid down tightly in the business season requires a high amount of working capital.
3. **Process of Manufacture:** If the manufacturing process of a particular industry is longer due to its complex nature, more working capital is required to finance that

process, because, longer the period of manufacture, the larger the inventory tied up in the process and naturally requires a high amount of working capital.

4. **Growth and Expansion of Business:** A business concern at status requires a uniform amount of working capital as against the concerns which are growing and expanding. It is the tendency of any business organisation to grow further and further till its saturation point, if any. Such growth may be within the existing units by increased activities. Similarly, business concerns will expand their organisation by establishing new units. In both the cases, the need for working capital requirement increases as the organisation increases.
5. **Fluctuations in the Trade Cycle:** Business activities vary according to the general fluctuations in the world. There are four stages in a trade cycle which affects the activities of any business concern. Accordingly, the requirements of working capital are bound to change. When conditions of boom prevail, it is the policy of any prudent management to build or pile up large stock of inventories of various forms to take the advantage of the lower prices. Such fluctuations causes a business concern to demand for more amount of working capital. The other phase of trade cycle i.e., depression i.e., low or absence of business activities cause business concerns to demand for more working capital. In condition of depression, the products produced are not sold due to fall in demand, lack of purchasing power of the people. As a result of which entire production obtained was not sold in the market and high inventories are piled up. Therefore, there arises the need for heavy amount of working capital. Thus, the two extreme stages of trade cycles make the business concerns to demand for more working capital. In the former case due to acts and policies of management and in the later case due to natural phenomena of trade cycle.
6. **Terms and conditions of Purchases and Sales:** A business concern which allows more credit to its customers and buys its supplies for cash requires more amount of working capital. On the other hand, business concerns which do not allow more credit period to its customers and seek better credit facilities for their supplies naturally require lesser amount of working capital.
7. **Dividend Policy:** A consistent dividend policy may affect the size of working capital. When some amount of working capital is financed out of the internal generation of funds such affect will be there. The relationship between dividend policy and working, capital is well established and very few companies declare

dividend without giving due consideration to its effects on cash and their needs for cash. If the dividend is to be declared in cash, such outflow reduces working capital and therefore, most of the business concerns declare dividend now-a-days in the form of bonus shares as such retain their cash. A shortage of working capital acts as powerful reason for reducing or skipping cash dividend.

8. **Price Level Changes:** The changes in prices make the functions of a finance manager difficult. The anticipations of future price level changes are necessary to avoid their affects on working capital of the firm. Generally, rising price level will require a company to demand for more amount of working capital, because the same level of current assets requires higher amount of working capital due to increased prices.
9. **Operating Efficiency:** The Operating efficiency of a firm relates to its optimum utilisation of resources available whether in any form of factor of production, say, capital, labour, material, machines etc; If a company is able to effectively operate its costs, its operating cycle is accelerated and requires relatively lessor amount of working capital. On the other hand, if a firm is not able to utilise its resources properly will have slow operating cycle and naturally requires higher amount of working capital.
10. **Percentage of Profits and Appropriation out of Profits:** The capacity of all the firms will not be same in generating their profits. It is natural that some firms enjoy a dominant and monopoly positions due to the quality of its products, reputations, goodwill etc. (for example Colgate Tooth Paste, Bata Chapels etc.,)and some companies will not have such position due to poor quality and other inherent hazards. The company policy of retaining or distribution of profits will also affect the working capital. More appropriation out of profits than distribution of profit necessarily reduces the requirements of working capital.
11. **Other Factors:** Apart from the above general considerations, there may be some factors responsible for determination of working capital which are inherent to the type of business. Some of such factors may be as follows:
 - (a) General co-ordination and control of the activities in the organisation.
 - (b) Absence of specialisation of products and their advantages.
 - (c) Market facilities.
 - (d) Means of transport and communication system.
 - (e) Sector in which the firm works i.e., private or public sector etc.

(f) Government policy as regard to:

i) Imports and Exports

(g) Tax considerations.

(h) Availability of labour and its organisation.

(i) Area in which it is situated such as backward, rural sub-urban, etc.,

17.4 Estimate of Working Capital Requirements

“Working Capital is the life blood and controlling nerve center of a business.” No business can be successfully run without an adequate amount of working capital. To avoid the shortage of working capital at once, an estimate of working capital requirements should be made in advance so that arrangements can be made to procure adequate working capital. But estimation of working capital requirements is not an easy task and large numbers of factors have to be considered before starting this exercise. There are different approaches available to estimate the working capital requirements of a firm which are as follows:

(1) Working Capital as a Percentage of Net Sales: This approach to estimate the working capital requirement is based on the fact that the working capital for any firm is directly related to the sales volume of that firm. So, the working capital requirement is expressed as a percentage of expected sales for a particular period. This approach is based on the assumption that higher the sales level, the greater would be the need for working capital. There are three steps involved in the estimation of working capital.

- a) To estimate total current assets as a % of estimated net sales.
- b) To estimate current liabilities as a % of estimated net sales, and
- c) The difference between the two above, is the net working capital as a % of net sales.

(2) Working Capital as a Percentage of Total Assets or Fixed Asset: This approach of estimation of working capital requirement is based on the fact that the total assets of the firm are consisting of fixed assets and current assets. On the basis of past experience, a relationship between (i) total current assets i.e., gross working capital; or net working capital i.e. Current assets – Current liabilities; and (ii) total fixed assets or total assets of the firm is established. The estimation of working capital

therefore, depends upon the estimation of fixed capital which depends upon the capital budgeting decisions.

Both the above approaches to the estimation of working capital requirement are simple in approach but difficult in calculation.

(3) Working Capital based on Operating Cycle: In this approach, the working capital estimate depends upon the operating cycle of the firm. A detailed analysis is made for each component of working capital and estimation is made for each of these components. The different components of working capital may be enumerable as follows:

Current Assets

Cash and Bank Balance

Inventory of Raw Material

Inventory of Work-in-Progress

Inventory of Finished Goods

Current Liabilities

Creditors for Purchases

Creditors for Expenses

For manufacturing organisation, the following factors have to be taken into consideration while making an estimate of working capital requirements.

<i>Factors Requiring Consideration While Estimating Working Capital</i>
1. Total costs incurred on material, wages and overheads
2. The length of time for which raw material are to remain in stores before they are issued for production.
3. The length of production cycle or work in process i.e. the time taken for conversion of raw material into finished goods.
4. The length of sales cycle during which finished goods are to be kept waiting for sales.
5. The average period of credit allowed to customers.
6. The amount of cash required to pay day to day expenses of the business.
7. The average amount of cash required to make advance payments, if any.
8. The average credit period expected to be allowed by suppliers.
9. Time lag in the payment of wages and other expenses.

From the total amount blocked in current assets estimated on the basis of the first seven items given above, the total of the current liabilities i.e. the last two items, is

deducted to find out the requirements of working capital. In case of purely trading concern, points 1,2,3 would not arise but all other factors from points 4 to 9 are to be taken into consideration. In order to provide for contingencies, some extra amount generally calculated as a fixed percentage of the working capital may be added as margin of safety.

Suggested Proforma for estimation of working capital requirements under operating cycle is given below:

Estimation of Working Capital Requirements

<i>I. Current Assets:</i>	<i>Amount</i>	<i>Amount</i>	<i>Amount</i>
Minimum Cash Balance		****	
Inventories:			
Raw Materials	****		
Work-in-Progress	****		
Finished Goods	****	****	
Receivables			
Debtors	****		
Bills	****	****	
Gross Working Capital (CA)		****	****
<hr/>			
<i>II. Current Liabilities :</i>	<i>Amount</i>		<i>Amount</i>
Creditors for purchases	****		
Creditors for Wages	****		
Creditors for Overheads	****		
Total Current Liabilities (CL)	****		****
Excess of CA over CL			****
+ Safety Margin			****
<i>Net Working Capital</i>			****

Illustration 1: XYZ Ltd. has obtained the following data concerning the average working capital cycle for other companies in the same industry :

Raw material stock turnover	20 Days
Credit received	40 Days

Work-in-Progress Turnover	15 Days
Finished goods stock turnover	40 Days
Debtors' collection period	<u>60 Days</u>
	<u>95 Days</u>

Using the following data, calculate the current working capital cycle for XYZ Ltd.
And briefly comment on it.

	(Rs. in '000)
Sales	3,000
Cost of Production	2,100
Purchase	600
Average raw material stock	80
Average work-in-progress	85
Average finished goods stock	180
Average creditors	90
Average debtors	350

Solution: Operating cycle of XYZ Ltd.

1. Raw material

$$(\text{Average Raw Material} / \text{Total Purchase}) \times 365 = 49 \text{ Days}$$

2. Work-in-progress

$$(\text{Average Work-in-progress} / \text{Total cost of goods sold}) \times 365 = 15 \text{ Days}$$

3. Finished Goods

$$(\text{Average Finished goods} / \text{Total cost of goods sold}) \times 365 = 31 \text{ Days}$$

4. Debtors

$$(\text{Average Debtors} / \text{Total Sales}) \times 365 = 43 \text{ Days}$$

5. Creditors

$$(\text{Average Creditor} / \text{Total Purchase}) \times 365 = 55 \text{ Days}$$

$$\text{Net Operating Cycle} = 49 \text{ days} + 15 \text{ days} + 31 \text{ days} + 43 \text{ days} - 55 \text{ days}$$

$$= 138 \text{ Days} - 55 \text{ Days} = 83 \text{ Days}$$

Comment : For XYZ Ltd., the working capital cycle is below the industry average, including a lower investment in net current assets. However, the following points should be noted about the individual elements of working capital.

- a) The stock of raw materials is considerably higher than average. So there is a need for stock control procedure to be reviewed.
- b) The value of creditors is also above average; this indicates that XYZ Ltd. is delaying the payment of creditors beyond the credit period. Although this is an additional source of finance, it may result in a higher cost of raw materials or loss of goodwill among the suppliers.
- c) The finished goods stock is below average. This may be due to a high demand for the firm's goods or to efficient stock control. A low finished goods stock can, however, reduce sales since it can cause delivery delays.
- d) Debts are collected more quickly than average. The company might have employed good credit control procedure or offer cash discounts for early payments.

Illustration 2: From the following information you are required to estimate the net working capital:

	<i>Cost per unit</i>
	<i>Rs.</i>
Raw Materials	400
Direct labour	150
Overheads (excluding depreciation)	300
Total Cost	<u>850</u>
Additional Information:	<u>30</u>
Selling-Price	Rs.1,000 per unit
Output	52,000 units per annum
Raw Material in stock	average 4 weeks
Work-in-process: (assume 50% completion stage with full material consumption)	average 2 weeks
Finished goods in stock	average 4 weeks
Credit allowed by suppliers	average 4 weeks

Credit allowed to debtors

average 8 weeks

Cash at bank is expected to be

Rs.50,000

Assume that production is sustained at an even pace during the 52 weeks of the year.

All sales are on credit basis. State any other assumption that you might have made while computing.

Solution :

Statement Showing Net Working Capital Requirements		
<i>Current Assets :</i>		<i>Rs.</i>
Minimum cash balance		50,000
Stock of Raw Materials (4 weeks)		
52,000 x 400 x $\frac{4}{52}$		16,00,000
Stock of work-in-progress (2 weeks)		
Raw material 52,000 x 400 x $\frac{4}{52}$	8,00,000	
Direct labour (50% completion)		
52,000 x 150 x $\frac{4}{52}$	1,50,000	
Overheads (50% completion)		
52,000 x 300 x $\frac{4}{52}$	3,00,000	12,50,000
Stock of Finished goods (4 weeks)		
52,000 x 850 x $\frac{4}{52}$		34,00,000
Amount blocked in Debtors at cost (8 weeks)		
52,000 x 850 x $\frac{4}{52}$		68,00,000
Total Current Assets		1,31,00,000
<i>Less: Current Liabilities:</i>		
Creditors for raw materials (4 weeks)		
52,00,000 x 400 x $\frac{4}{52}$		16,00,000
Net Working Capital Required		1,15,00,000

17.5 FINANCING OF CURRENT ASSETS

Accruals: The major accrual items are wages and taxes. These are simply what the firm owes to its employees and to the government.

Trade Credit: Trade credit represents the credit extended by the supplier of goods and services. It is a spontaneous source of finance in the sense that it arises in the normal transactions of the firm without specific negotiations, provided the firm is considered creditworthy by its supplier. It is an important source of finance

representing 25% to 50% of shortterm financing. Working capital advance by commercial banks Working capital advance by commercial banks represents the most important source for financing current assets.

Forms of Bank Finance: Working capital advance is provided by commercial banks in three primary ways:

- (i) cash credits / overdrafts,
- (ii) loans, and
- (iii) purchase / discount of bills.

In addition to these forms of direct finance, commercial banks help their customers in obtaining credit from other sources through the letter of credit arrangement. **Cash Credit / Overdrafts:** Under a cash credit or overdraft arrangement, a pre-determined limit for borrowing is specified by the bank. The borrower can draw as often as required provided the out standings do not exceed the cash credit / overdraft limit.

Loans: These are advances of fixed amounts which are credited to the current account of the borrower or released to him in cash. The borrower is charged with interest on the entire loan amount, irrespective of how much he draws.

Purchase / Discount of Bills: A bill arises out of a trade transaction. The seller of goods draws the bill on the purchaser. The bill may be either clean or documentary (a documentary bill is supported by a document of title to goods like a railway receipt or a bill of lading) and may be payable on demand or after a usance period which does not exceed 90 days. On acceptance of the bill by the purchaser, the seller offers it to the bank for discount / purchase. When the bank discounts / purchases the bill it releases the funds to the seller. The bank presents the bill to the purchaser (the acceptor of the bill) on the due date and gets its payment.

Letter of Credit: A letter of credit is an arrangement whereby a bank helps its customer to obtain credit from its (customer's) suppliers. When a bank opens a letter of credit in favour of its customer for some specific purchases, the bank undertakes the responsibility to honour the obligation of its customer, should the customer fail to do so. Regulation of Bank Finance Concerned about such a distortion in credit allocation, the Reserve Bank of India (RBI) has been trying, particularly from the mid 1960s onwards, to bring a measure of discipline among industrial borrowers and to

redirect credit to the priority sectors of the economy. From time to time, the RBI issue guidelines and directives relating to matters like the norms for inventory and receivables, the Maximum Permissible Bank Finance, the form of assistance, the information and reporting system, and the credit monitoring mechanism. The important guidelines and directives have stemmed from the recommendations of various committees such as the Dehejia Committee, the Tandon Committee, the Chore Committee, and the Marathe Committee. However, in recent years, in the wake of financial liberalisation, the RBI has given freedom to the boards of individual banks in all matters relating to working capital financing. From the mid-eighties onwards, special committees were set up by the RBI to prescribe norms for several other industries and revise norms for some industries covered by the Tandon Committee. Public Deposits Many firms, large and small, have solicited unsecured deposits from the public in recent years, mainly to finance their working capital requirements.

Inter-corporate Deposits: A deposit made by one company with another, normally for a period up to six months, is referred to as an intercorporate deposit. Such deposits are usually of three types.

- a) **Call Deposits:** In theory, a call deposit is withdrawal by the lender on giving a day's notice. In practice, however, the lender has to wait for at least three days. The interest rate on such deposits may be around 10 percent per annum.
- b) **Three-months Deposits:** More popular in practice, these deposits are taken by borrowers to tide over a short-term cash inadequacy that may be caused by one or more of the following factors: disruption in production, excessive imports of raw material, tax payment, delay in collection, dividend payment, and unplanned capital expenditure. The interest rate on such deposits is around 12 percent per annum.
- c) **Six-month Deposits:** Normally, lending companies do not extend deposits beyond this time frame. Such deposits, usually made with first-class borrowers, carry an interest rate of around 15 percent per annum.

Short-term loans from financial institutions

The Life Insurance Corporation of India and the General Insurance Corporation of India provide short-term loans to manufacturing companies with an excellent track record. Rights debentures for working capital Public limited

companies can issue “Rights” debentures to their shareholders with the object of augmenting the long-term resources of the company for working capital requirements. The key guidelines applicable to such debentures are as follows: The amount of the debenture issue should not exceed (a) 20% of the gross current assets, loans, and advances minus the long-term funds presently available for financing working capital, or (b) 20% of the paid-up share capital, including preference capital and free reserves, whichever is the lower of the two. The debt-equity ratio, including the proposed debenture issue, should not exceed 1:1. The debentures shall first be offered to the existing Indian resident shareholders of the company on a pro rata basis.

Commercial paper

Commercial paper represents short-term unsecured promissory notes issued by firms which enjoy a fairly high credit rating. Generally, large firms with considerable financial strength are able to issue commercial paper. The important features of commercial paper are as follows: The maturity period of commercial paper usually ranges from 90 days to 360 days. Commercial paper is sold at a discount from its face value and redeemed at its face value. Hence the implicit interest rate is a function of the size of the discount and the period of maturity. Commercial paper is either directly placed with investors who intend holding it till its maturity. Hence there is no well developed secondary market for commercial paper.

Factoring

Factoring, as a fund based financial service, provides resources to finance receivables as well as facilitates the collection of receivables. It is another method of raising short-term finance through account receivable credit offered by commercial banks and factors. A commercial bank may provide finance by discounting the bills or invoices of its customers. Thus, a firm gets immediate payment for sales made on credit. A factor is a financial institution which offers services relating to management and financing of debts arising out of credit sales. Factoring is becoming popular all over the world on account of various services offered by the institutions engaged in it. Factors render services varying from bill discounting facilities offered by commercial banks to a total take-over of administration of credit sales including maintenance of sales ledger, collection of accounts receivables, credit control and protection from bad debts, provision of finance and rendering of advisory services to their clients.

Factoring, may be on a recourse basis, where the risk of bad debts is borne by the client, or on a non-recourse basis, where the risk of credit is borne by the factor. At present, factoring in India is rendered by only a few financial institutions on a recourse basis. However, the Report of the Working Group on Money Market (Vaghul Committee) constituted by the Reserve Bank of India has recommended that banks should be encouraged to set up factoring divisions to provide speedy finance to the corporate entities. In spite of many services offered by factoring, it suffers from certain limitations. The most critical fall outs of factoring include

- (i) the high cost of factoring as compared to other sources of short-term finance,
- (ii) the perception of financial weakness about the firm availing factoring services, and
- (iii) adverse impact of tough stance taken by factor, against a defaulting buyer, upon the borrower resulting into reduced future sales.

INVENTORY MANAGEMENT

Inventory constitutes an important item in the working capital of many business concerns. Net working capital is the difference between current assets and current liabilities. Inventory is a major item of current assets. The term inventory refers to the stocks of the product a firm is offering for sale and the components that make up the product. Inventory is stores of goods and stocks. This includes raw materials, work-in-process and finished goods. Raw materials consist of those units or input which are used to manufacture goods that require further processing to become finished goods. Finished goods are products ready for sale. The classification of inventory and the levels of the components vary from organisation to organisation depending upon the nature of business. For example steel is a finished product for a steel industry, but raw material for an automobile manufacturer. Thus, inventory may be defined as “Stock of goods that is held for future use”. Since inventory constitute about 50 to 60 percent of current assets, the management of inventories is crucial to successful Working Capital Management. Working capital requirements are influenced by inventory holding. Hence, there is a need for effective and efficient management of inventory. A good inventory management is important to the successful operations of the most of the organizations, unfortunately the importance of inventory is not always appreciated by top management. This may be due to a

failure to recognize the link between inventory and achievement of organisational goals or due to ignorance of the impact that inventory can have on costs and profits.

Inventory management refers to an optimum investment in inventory. It should neither be too low to effect the production adversely nor too high to block the funds unnecessarily. Excess investment in inventory is unprofitable for the business. Both excess and inadequate investment in inventory is not desirable. The firm should operate within the two danger points. The purpose of inventory management is to determine and maintain the optimum level of inventory investment.

Techniques and Tools of Inventory Control:

1. Economic Order Quantity(EOQ).
2. Fixing Levels of Material.
 - (a) Minimum Level
 - (b) Maximum Level
 - (c) Reorder Level
 - (d) Danger Level
3. ABC Inventory Control
4. Perpetual Inventory System
5. VED classification.
6. Just-In-Time (JIT)
7. FSN Analysis
8. Inventory Turnover Ratio

MANAGEMENT OF RECEIVABLES

Receivables mean the book debts or debtors and these arise, if the goods are sold on credit. Debtors form about 30% of current assets in India. Debt involves an element of risk and bad debts also. Hence, it calls for careful analysis and proper management. The goal of Receivables Management is to maximize the value of the firm by achieving a tradeoff between risk and profitability. The objectives of Receivables Management are as follows:

- (a) To obtain optimum (non-maximum) value of sales;

- (b) To control the cost of receivables, cost of collection, administrative expenses, bad debts and opportunity cost of funds blocked in the receivables.
- (c) To maintain the debtors at minimum according to the credit policy offered to customers.
- (d) To offer cash discounts suitably depending on the cost of receivables, bank rate of interest and opportunity cost of funds blocked in the receivables.

17.6 Summary

The inflow of income from sale throughout the year is not certain and not uniform, the company has to depend on external sources for at least a part of its operational needs. The need for working capital arises from the operating or cash cycle of the firm. The operating cycle refers to the length of time required to convert the non-cash current assets into cash. In other words cash cycle refers to the time involved in completing the following sequence of events: conversion of cash into inventory, inventory into receivables and receivables into cash. If it were possible to complete these sequence instantaneously, there would be no need for working. But since the nature of these activities is each that a perfect synchronization is not possible and a certain amount of working capital is necessary.

A wide variety of factors influence the total investment in the working capital of an enterprise. They can be categorized into two groups viz., internal factors and external factors. Some of the internal factors such as promotional and formative phase, nature of business, size of business, manufacturing cycle, credit terms to customers, production policies, growth and expansion programmes, profit levels and dividend policy, reserve policy, depreciation policy and operating efficiency, on the other hand external factors may include business cycle, technological developments, shifts in demand for product, taxation, price-level changes, vagaries in supply of raw-materials, competitive conditions and transport and communication development.

17.7 Keywords

- **Manufacturing Cycle:** An extended time interval between the raw-materials purchases and the completion of the manufacturing process yielding the finished product is called manufacturing cycle.
- **Working Capital Gap:** Current assets minus non-bank short-term liabilities.

- **Cash Credit:** Loan sanctioned by bank on mortgage of stocks through negotiations.
- **Gross Working Capital:** Total investment in current assets.
- **Current Ratio:** Current assets divided by current liabilities.
- **Temporary Working Capital:** Investment required financing the changing needs of current assets.

17.8 Self – Assessment Questions

1. What do you mean by planning of working capital needs? Explain the factors that should be considered while planning the working capital needs.
2. List out the determinants of working capital.
3. Explain the concepts and significance of operating cycle.
4. What information is need for working capital estimation?

17.9 Further Readings

1. Hampton .J , 'Financial Decision Making', Prentice Hall India, Delhi
2. Schaum's Outline of Financial Mgmt, Third Edition by Jae Shim and Joel Siegel
3. **I.M. Pandey** : Financial Management
4. **V.E. Ramamurty** : Working capital management
5. **P.V. Kulkarni** : Financial Management
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Lesson 18

Cash Management

Objectives:

After studying this lesson, you should be able to:

- Acquire an understanding of cash management
- Familiarize with various models of cash management
- know some other issues relevant to cash management

Structure:**18.1 Introduction****18.2 Cash Budget****18.3 Managing Cash Collection and Disbursements****18.4 Cash Management Model****18.5 Recent Developments in Cash Management****18.6 Summary****18.7 Keyword****18.8 Self – Assessment Questions****18.9 Further Readings****18.1 Introduction**

Management of cash is an important function of the finance manager. It is concerned with the managing of: Cash flows into and out of the firm; Cash flows within the firm; and Cash balances held by the firm at a point of time by financing deficit or investing surplus cash.

The main objectives of cash management for a business are:-

- Provide adequate cash to each of its units;
- No funds are blocked in idle cash; and
- The surplus cash (if any) should be invested in order to maximize returns for the business.

A cash management scheme therefore, is a delicate balance between the twin objectives of liquidity and costs.

The Need for Cash

The following are three basic considerations in determining the amount of cash or

liquidity as have been outlined by Lord Keynes:

- Transaction need: Cash facilitates the meeting of the day-to-day expenses and other debt payments. Normally, inflows of cash from operations should be sufficient for this purpose. But sometimes this inflow may be temporarily blocked. In such cases, it is only the reserve cash balance that can enable the firm to make its payments in time.
- Speculative needs: Cash may be held in order to take advantage of profitable opportunities that may present themselves and which may be lost for want of ready cash/settlement.
- Precautionary needs: Cash may be held to act as for providing safety against unexpected events. Safety as is explained by the saying that a man has only three friends an old wife, an old dog and money at bank.

Cash Planning

Cash Planning is a technique to plan and control the use of cash. This protects the financial conditions of the firm by developing a projected cash statement from a forecast of expected cash inflows and outflows for a given period. This may be done periodically either on daily, weekly or monthly basis. The period and frequency of cash planning generally depends upon the size of the firm and philosophy of management. As firms grows and business operations become complex, cash planning becomes inevitable for continuing success.

The very first step in this direction is to estimate the requirement of cash. For this purpose, cash flow statements and cash budget are required to be prepared. The technique of preparing cash flow and funds flow statements have been discussed in Accounting paper at Intermediate level of CA course. The preparation of cash budget has however, been demonstrated here.

18.2 Cash Budget: Cash Budget is the most significant device to plan for and control cash receipts and payments. This represents cash requirements of business during the budget period.

The various purposes of cash budgets are:-

- Coordinate the timings of cash needs. It identifies the period(s) when there might either be a shortage of cash or an abnormally large cash requirement;
- It also helps to pinpoint period(s) when there is likely to be excess cash;

- It enables firm which has sufficient cash to take advantage like cash discounts on its accounts payable; and
- Lastly it helpstoplan/arrangeadequatelyneededfunds(avoiding excess/shortage of cash) on favorable terms.

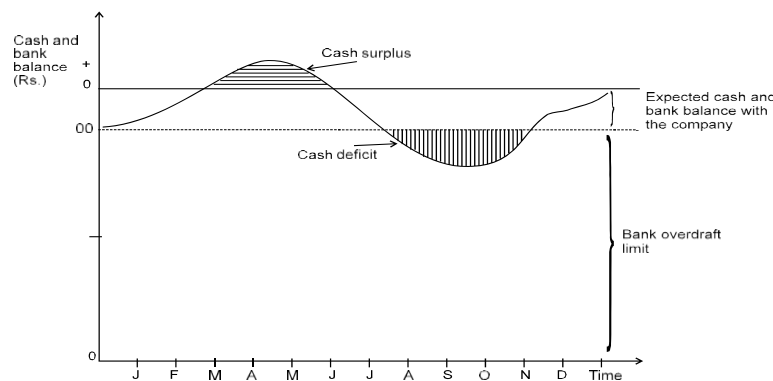
On the basis of cash budget, the firm can decide to invest surplus cash in marketable securities and earn profits.

Main Components of Cash Budget

Preparation of cash budget involves the following steps:-

- a. Selection of the period of time to be covered by the budget. It is also defining the planning horizon.
- b. Selection of factors that have a bearing on cash flows. The factors that generate cash flows are generally divided into following two categories:-
 - i. Operating (cash flows generated by operations of the firm); and
 - ii. Financial (cash flows generated by financial activities of the firm).

The following figure highlights the cash surplus and cash shortage position over the period of cash budget for preplanning to take corrective and necessary steps.



METHODS OF CASH FLOW BUDGETING

A cash budget can be prepared in the following ways:

1. Receipts and Payments Method: In this method all the expected receipts and payments for budget period are considered. All the cash inflow and outflow of all functional budgets including capital expenditure budgets are considered. Accruals and adjustments in accounts will not affect the cash flow budget. Anticipated cash inflow is added to the opening balance of cash and all cash payments are deducted from this to arrive at the closing balance of cash. This method is commonly used in business organizations.

2. Adjusted Income Method: In this method the annual cash flows are calculated by adjusting the sales revenues and cost figures for delays in receipts and payments (change in debtors and creditors) and eliminating non-cash items such as depreciation.

3. Adjusted Balance Sheet Method: In this method, the budgeted balance sheet is predicted by expressing each type of asset and short-term liabilities as percentage of the expected sales. The profit is also calculated as a percentage of sales, so that the increase in owner's equity can be forecasted. Known adjustments, may be made to long-term liabilities and the balance sheet will then show if additional finance is needed.

It is important to note that the capital budget will also be considered in the preparation of cash flow budget because the annual budget may disclose a need for new capital investments and also, the costs and revenues of any new projects coming on stream will need to be incorporated in the short-term budgets.

The Cash Budget can be prepared for short period or for long period.

Cash budget for short period

Preparation of cash budget month by month would require the following estimates:

(a) As regards receipts:

1. Receipts from debtors;
2. Cash Sales; and
3. Any other source of receipts of cash (say, dividend from a subsidiary company)

(b) As regards payments:

1. Payments to be made for purchases;
2. Payments to be made for expenses;
3. Payments that are made periodically but not every month;
 - a. Debenture interest;
 - b. Income tax paid in advance;
 - c. Sales tax etc.
4. Special payments to be made in a particular month, for example, dividends to shareholders, redemption of debentures, repayments of loan, payment of assets acquired, etc.

Cash Budget for long period

Long-range cash forecast often resemble the projected sources and application

of funds statement. The following procedure may be adopted to prepare long-range cash forecasts:

- (i) Take the cash at bank and in the beginning of the year:
- (ii) Add:
 - a. Trading profit (before tax) expected to be earned;
 - b. Depreciation and other development expenses incurred to be written off;
 - c. Sale proceeds of assets’;
 - d. Proceeds of fresh issue of shares or debentures; and
 - e. Reduction in working capital that is current assets (except cash) less current liabilities.
- (iii) Deduct:
 - a. Dividends to be paid.
 - b. Cost of assets to be purchased.
 - c. Taxes to be paid.
 - d. Debentures or shares to be redeemed.
 - e. Increase in working capital.

18.3 Managing Cash Collection and Disbursements

Having prepared the cash budget, the finance manager should ensure that there is not a significant deviation between projected cash flows and actual cash flows.

To achieve this cash management efficiency will have to be improved through a proper control of cash collection and disbursement.

The twin objectives in managing the cash flows should be:-

- Accelerate cash collections as much as possible; and
- Decelerate or delay cash disbursements.

Let’s discuss each of the two objectives individually.

Accelerating Cash Collections

A firm can conserve cash and reduce its requirements for cash balances if it can speed up its cash collections by issuing invoices quickly or by reducing the time lag between a customer pays bill and the cheque is collected and funds become available for the firm’s use.

A firm can use decentralized collection system known as concentration

banking and lock box system to speed up cash collection and reduce float time.

- (i) **Concentration Banking:** In concentration banking the company establishes a number of strategic collection centres in different regions instead of a single collection centre at the head office. This system reduces the period between the time a customer mails in his remittances and the time when they become spendable funds with the company. Payments received by the different collection centers are deposited with their respective local banks which in turn transfer all surplus funds to the concentration bank of head office. The concentration bank with which the company has its major bank account is generally located at the headquarters. Concentration banking is one important and popular way of reducing the size of the float.
- (ii) **Lock Box System:** Another means to accelerate the flow of funds is a lock box system. While concentration banking, remittances are received by a collection centre and deposited in the bank after processing. The purpose of lock box system is to eliminate the time between the receipts of remittances by the company and deposited in the bank. A lock box arrangement usually is on regional basis which a company chooses according to its billing patterns.

Under this arrangement, the company rents the local post-office box and authorizes its bank at each of the locations to pick up remittances in the boxes. Customers are billed with instructions to mail their remittances to the lock boxes. The bank picks up the mail several times a day and deposits the cheques in the company's account. The cheques may be micro-filmed for record purposes and cleared for collection. The company receives a deposit slip and lists all payments together with any other material in the envelope. This procedure frees the company from handling and depositing the cheques.

The main advantage of lock box system is that cheques are deposited with the banks sooner and become collected funds sooner than if they were processed by the company prior to deposit. In other words lag between the time cheques are received by the company and the time they are actually deposited in the bank is eliminated.

The main drawback of lock box system is the cost of its operation. The bank provides a number of services in addition to usual clearing of cheques and requires compensation for them. Since the cost is almost directly proportional to the number of cheques deposited. Lock box arrangements are usually not

profitable if the average remittance is small. The appropriate rule for deciding whether or not to use a lock box system or for that matter, concentration banking, is simply to compare the added cost of the most efficient system with the marginal income that can be generated from the released funds. If costs are less than income, the system is profitable, if the system is not profitable, it is not worth undertaking.

Different Kinds of Float with reference to Management of Cash: The term float is used to refer to the periods that affect cash as it moves through the different stages of the collection process. Four kinds of float with reference to management of cash are:

- **Billing float:** An invoice is the formal document that a seller prepares and sends to the purchaser as the payment request for goods sold or services provided. The time between the sale and the mailing of the invoice is the billing float.
- **Mail float:** This is the time when a cheque is being processed by post office, messenger service or other means of delivery.
- **Cheque processing float:** This is the time required for the seller to sort, record and deposit the cheque after it has been received by the company.
- **Banking processing float:** This is the time from the deposit of the cheque to the crediting of funds in the sellers account.

Controlling Payments

An effective control over payments can also cause faster turnover of cash. This is possible only by making payments on the due date, making excessive use of draft (bill of exchange) instead of cheques.

Availability of cash can be maximized by playing the float. In this, a firm estimates accurately the time when the cheques issued will be presented for encashment and thus utilizes the float period to its advantage by issuing more cheques but having in the bank account only so much cash balance as will be sufficient to honour those cheques which are actually expected to be presented on a particular date.

Also company may make payment to its outstation suppliers by a cheque and send it through mail. The delay in transit and collection of the cheque, will be used to increase the float.

18.4 CASH MANAGEMENT MODELS

In recent years several types of mathematical models have been developed which helps to determine the optimum cash balance to be carried by a business organization.

The purpose of all these models is to ensure that cash does not remain idle unnecessarily and at the same time the firm is not confronted with a situation of cash shortage.

All these models can be put in two categories:-

- Inventory type models; and
- Stochastic models.

Inventory type models have been constructed to aid the finance manager to determine optimum cash balance of his firm. William J. Baumol's economic order quantity model applies equally to cash management problems under conditions of certainty or where the cash flows are predictable.

However, in a situation where the EOQ Model is not applicable, stochastic model of cash management helps in determining the optimum level of cash balance. It happens when the demand for cash is stochastic and not known in advance.

William J. Baumol's Economic Order Quantity Model, (1952)

According to this model, optimum cash level is that level of cash where the carrying costs and transactions costs are the minimum.

The carrying costs refer to the cost of holding cash, namely, the interest foregone on marketable securities. The transaction costs refer to the cost involved in getting the marketable securities converted into cash. This happens when the firm falls short of cash and has to sell the securities resulting in clerical, brokerage, registration and other costs.

The optimum cash balance according to this model will be that point where these two costs are minimum. The formula for determining optimum cash balance is:

$$C = \sqrt{\frac{2U \times}{P}}$$

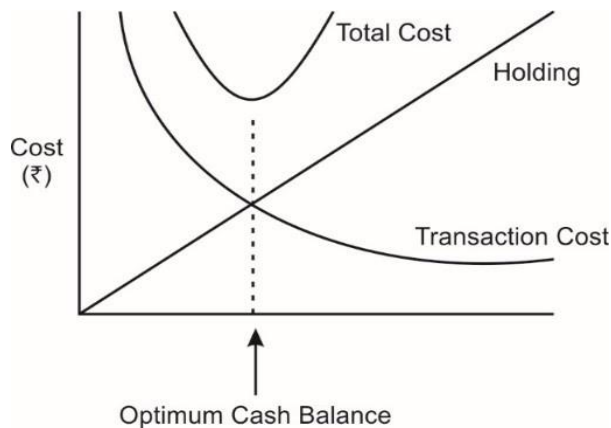
Where, C=Optimum cash balance

U=Annual (or monthly) cash disbursement

P=Fixed cost per transaction.

S=Opportunity cost of one rupee p.a. (or p.m.)

This can be explained with the following diagram:



The model is based on the following assumptions:

- (i) Cash needs of the firm are known with certainty.
- (ii) The cash is used uniformly over a period of time and it is also known with certainty.
- (iii) The holding cost is known and it is constant.
- (iv) The transaction cost also remains constant.

Miller-Orr Cash Management Model (1966)

According to this model the net **cash flow is completely stochastic**.

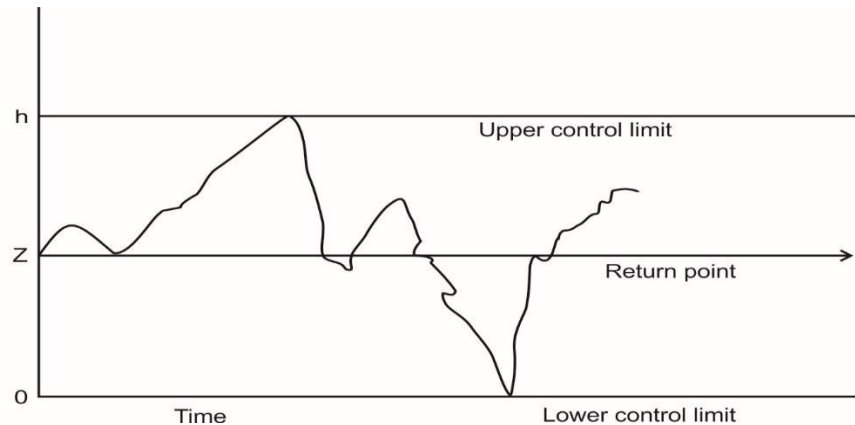
When changes in cash balance occur randomly the application of control theory serves a useful purpose. The Miller-Orr model is one of such control limit models.

This model is designed to determine the time and size of transfers between an investment account and cash account. In this model control limits are set for cash balances. These limits may consist of h as upper limit, z as the return point; and zero as the lower limit.

- When the cash balance reaches the upper limit, the transfer of cash equal to $h - z$ is invested in marketable securities account.
- When it touches the lower limit, a transfer from marketable securities account to cash account is made.
- During the period when cash balance stays between (h, z) and $(z, 0)$ i.e. high and low limits no transactions between cash and marketable securities account is made.

The high and low limits of cash balance are set up on the basis of fixed cost associated with the securities transactions, the opportunity cost of holding cash and

the degree of likely fluctuations in cash balances. These limits satisfy the demands for cash at the lowest possible total costs. The following diagram illustrates the Miller-Orr model.



The MO Model is more realistic since it allows variations in cash balance within lower and upper limits. The finance manager can set the limits according to the firm's liquidity requirements i.e., maintaining minimum and maximum cash balance.

18.5 RECENT DEVELOPMENTS IN CASH MANAGEMENT

It is important to understand the latest developments in the field of cash management, since it has a great impact on how we manage our cash. Both technological advancement and desire to reduce cost of operations has led to some innovative techniques in managing cash. Some of them are:-

Electronic Fund Transfer

With the developments which took place in the Information technology, the present banking system is switching over to the computerisation of banks branches to offer efficient banking services and cash management services to their customers. The network will be linked to the different branches, banks. This will help the customers in the following ways:

- Instant updation of accounts.
- The quick transfer of funds.
- Instant information about foreign exchange rates.

Zero Balance Account

For efficient cash management some firms employ an extensive policy of substituting marketable securities for cash by the use of zero balance accounts. Every day the firm totals the cheques presented for payment against the account. The firm

transfers the balance amount of cash in the account if any, for buying marketable securities. In case of shortage of cash the firm sells the marketable securities.

Money Market Operations

One of the tasks of 'treasury function' of larger companies is the investment of surplus funds in the money market. The chief characteristic of money market banking is one of size. Banks obtain funds by competing in the money market for the deposits by the companies, public authorities, High Net worth Investors (HNI), and other banks. Deposits are made for specific periods ranging from overnight to one year; highly competitive rates which reflect supply and demand on a daily, even hourly basis are quoted. Consequently, the rates can fluctuate quite dramatically, especially for the shorter-term deposits. Surplus funds can thus be invested in money market easily.

Petty Cash Imprest System

For better control on cash, generally the companies use petty cash imprest system wherein the day-to-day petty expenses are estimated taking into account past experience and future needs and generally a week's requirement of cash will be kept separate for making petty expenses. Again, the next week will commence with the pre-determined balance. This will reduce the strain of the management in managing petty cash expenses and help in the managing cash efficiently.

Management of Temporary Cash Surplus

Temporary cash surpluses can be profitably invested in the following:

- Short-term deposits in Banks and financial institutions.
- Short-term debt market instruments.
- Long-term debt instruments.
- Shares of Blue chip listed companies.

Electronic Cash Management System

Most of the cash management systems now-a-days are electronically based, since 'speed' is the essence of any cash management system. Electronically, transfer of data as well as funds play a key role in any cash management system. Various elements in the process of cash management are linked through a satellite. Various places that are interlinked may be the place where the instrument is collected,

the place where cash is to be transferred in company's account, the place where the payment is to be transferred etc.

Certain networked cash management system may also provide a very limited access to third parties like parties having very regular dealings of receipts and payments with the company etc. A finance company accepting deposits from public through sub-brokers may give a limited access to sub-brokers to verify the collections made through him for determination of his commission among other things.

Electronic-scientific cash management results in:

- Significant saving in time.
- Decrease in interest costs.
- Less paper work.
- Greater accounting accuracy.
- More control over time and funds.
- Supports electronic payments.
- Faster transfer of funds from one location to another, where required.
- Speedy conversion of various instruments into cash.
- Making available funds wherever required, whenever required.
- Reduction in the amount of 'idle float' to the maximum possible extent.
- Ensures no idle funds are placed at any place in the organization.
- It makes inter-bank balancing of funds much easier.
- It is a true form of centralised 'Cash Management'.
- Produces faster electronic reconciliation.
- Allows for detection of book-keeping errors.
- Reduces the number of cheques issued.
- Earns interest income or reduce interest expense.

Virtual Banking

The practice of banking has undergone a significant change in the nineties. While banks are striving to strengthen customer base and relationship and move towards relationship banking, customers are increasingly moving away from the confines of traditional branch banking and are seeking the convenience of remote electronic banking services. And even within the broad spectrum of electronic banking the virtual banking has gained prominence

Broadly virtual banking denotes the provision of banking and related services

through extensive use of information technology without direct recourse to the bank by the customer. The origin of virtual banking in the developed countries can be traced back to the seventies with the installation of Automated Teller Machines (ATMs). Subsequently, driven by the competitive market environment as well as various technological and customer pressures, other types of virtual banking services have grown in prominence throughout the world.

The Reserve Bank of India has been taking a number of initiatives, which will facilitate the active involvement of commercial banks in the sophisticated cash management system. One of the pre-requisites to ensure faster and reliable mobility of funds in a country is to have an efficient payment system. Considering the importance of speed in payment system to the economy, the RBI has taken numerous measures since mid-Eighties to strengthen the payments mechanism in the country.

Introduction of computerized settlement of clearing transactions, use of Magnetic Ink Character Recognition (MICR) technology, provision of inter-city clearing facilities and high value clearing facilities, Electronic Clearing Service Scheme (ECSS), Electronic Funds Transfer (EFT) scheme, Delivery vs. Payment (DVP) for Government securities transactions, setting up of Indian Financial Network (INFINET) are some of the significant developments.

Introduction of Centralised Funds Management System (CFMS), Securities Services System (SSS), Real Time Gross Settlement System (RTGS) and Structured Financial Messaging System (SFMS) are the other top priority items on the agenda to transform the existing system into a state-of-the art payment infrastructure in India.

The current vision envisaged for the payment systems reforms is one, which contemplates linking up of at least all important bank branches with the domestic payment systems network thereby facilitating cross border connectivity. With the help of the systems already put in place in India and which are coming into being, both banks and corporates can exercise effective control over the cash management.

Advantages of Virtual Banking

The advantages of virtual banking services are as follows:

- Lower cost of handling a transaction.
- The increased speed of response to customer requirements.
- The lower cost of operating branch network along with reduced staff costs leads to cost efficiency.

- Virtual banking allows the possibility of improved and a range of services being made available to the customer rapidly, accurately and at his convenience.

The popularity which virtual banking services have won among customers is due to the speed, convenience and round the clock access they offer.

18.6 Summary

1. Firms make and use cash forecasts in order to be able to plan for expected surpluses and deficits. A common approach to short-term forecasts is the receipts and disbursement approach.
2. Many firms have small surpluses available for short-term investment. In these circumstances, firm may benefit by using optimization models that balance investment income against transaction costs of investing and disinvesting.

18.7 Keyword

1. **CashPlanning:** Cash Planning is a technique to plan and control the use of cash. This protects the financial conditions of the firm by developing a projected cash statement from a forecast of expected cash in flows and out flows for given period.
2. **Mailfloat:** This is the time when a cheque is being processed by post office, messenger service or other means of delivery.
3. **Petty Cash Imprest System:** For better control on cash, generally the companies use petty cash imprest system where in the day-to-day petty expenses are estimated taking into account past experience and future needs and generally a week's requirement of cash will be kept separate for making petty expenses. Again, the next week will - determined balance.

18.8 Self – Assessment Questions

1. What are the basic considerations in determining the amount of cash or liquidity?
2. How to prepare short-term and long-term cash budget?
3. Briefly discuss the Miller (MM) Model.
4. Write a short note on Recent Developments in Cash Management

18.9 Further Readings

1. "Financial Management by I.M. Pandey
2. "Working capital management by V.E. Ramamurthy

3. “Financial Management by P.V. Kulkarni
4. “Financial Management Policy by James C. Vanhorne
- 5.“Financial Management” by C Paramasivan and T Subramanian
- 6.Schaum’s Outline of Financial Mgmt, Third Edition by Jae Shim and Joel Siegel
7. Hampton .J , 'Financial Decision Making', Prentice Hall India, Delhi

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Lesson 19: Receivable Management**Objectives:**

After studying this lesson, you should be able to know:

- the receivable management
- the various models in Receivable management
- other aspects relevant to Receivable management

Structure:**19.1 Introduction****19.2 Factors Determining Credit Policy****19.3 Factors under the Control of the Finance Manager****19.4 Financing Receivables****19.5 Innovations in Receivable Management****19.6 Summary****19.7 Keyword****19.8 Self – Assessment Questions****19.9 Further Readings****19.1 Introduction**

Management of receivables refers to planning and controlling of 'debt' owed to the firm from customer on account of credit sales. It is also known as trade credit management. The basic objective of management of receivables (debtors) is to optimise the return on investment on these assets.

Large amounts are tied up in receivables, there are chances of bad debts and there will be cost of collection of debts. On the contrary, if the investment in receivables is low, the sales may be restricted, since the competitors may offer more liberal terms. Therefore, management of receivables is an important issue and requires proper policies and their implementation.

Aspects of Management of Debtors

There are basically three aspects of management of receivables:

1.Credit Policy: The credit policy is to be determined. Decision of Credit standards, Credit terms and collection efforts is included in Credit policy. It involves a trade-off between the profits on additional sales that arise due to credit being extended on the one hand and the cost of carrying those debtors and bad debt losses on the other. This seeks to decide credit period, cash discount and other relevant matters. The credit period is generally stated in terms of net days. For example if the firm's credit terms are "net 50". It is expected that customers will repay credit obligations not later than 50 days.

Further, the cash discount policy of the firm specifies:

- (a) The rate of cash discount.
- (b) The cash discount period; and
- (c) The net credit period.

For example, the credit terms may be expressed as "3/15 net 60". This means that a 3% discount will be granted if the customer pays within 15 days; if he does not avail the offer he must make payment within 60 days.

2. Credit Analysis: This requires the finance manager to determine as to how risky it is to advance credit to a particular party.

3.Control of Receivable: This requires finance manager to follow up debtors and decide about a suitable credit collection policy. It involves both lying down of credit policies and execution of such policies.

There is always cost of maintaining receivables which comprises of following costs:

- (i) The company requires additional funds as resources are blocked in receivables which involves a cost in the form of interest (loan funds) or opportunity cost (own funds)
- (ii) Administrative costs which include record keeping, investigation of credit worthiness etc.
- (iii) Collection costs.
- (iv) Defaulting costs.

19.2 Factors Determining Credit Policy

The credit policy is an important factor determining both the quantity and the quality of accounts receivables. Various factors determine the size of the investment a company makes in accounts receivables. They are, for instance:

- i. The effect of credit on the volume of sales;
- ii. Credit terms;
- iii. Cash discount;
- iv. Policies and practices of the firm for selecting credit customers;
- v. Paying practices and habits of the customers;
- vi. The firm's policy and practice of collection; and
- vii. The degree of operating efficiency in the billing, record keeping and adjustment function, other costs such as interest, collection costs and bad debts etc., would also have an impact on the size of the investment in receivables. The rising trend in these costs would depress the size of investment in receivables.

The firm may follow a lenient or a stringent credit policy. The firm which follows a lenient credit policy sells on credit to customers on very liberal terms and standards.

On the contrary a firm following a stringent credit policy sells on credit on a highly selective basis only to those customers who have proper credit worthiness and who are financially sound.

Any increase in accounts receivables that is, additional extension of trade credit not only results in higher sales but also requires additional financing to support the increased investment in accounts receivables. The costs of credit investigations and collection efforts and the chances of bad debts are also increased.

19.3 Factors under the Control of the Finance Manager

The finance manager has operating responsibility for the management of the investment in receivables. His involvement includes:-

- (a)Supervising the administration of credit;
- (b)Contribute to top management decisions relating to the best credit policies of the firm;
- (c)Deciding the criteria for selection of credit applications; and
- (d)Speed up the conversion of receivables into cash by aggressive collection policy.

In summary the finance manager has to strike a balance between the cost of increased investment in receivables and profits from the higher levels of sales.

19.4 Financing Receivables

Pledging of accounts receivables and Factoring have emerged as the important sources of financing of accounts receivables now-a-days.

- (i) **Pledging:** This refers to the use of a firm's receivable to secure a short term loan. A firm's receivables can be termed as its most liquid assets and this serve as prime collateral for a secured loan. The lender scrutinizes the quality of the accounts receivables, selects acceptable accounts, creates a lien on the collateral and fixes the percentage of financing receivables which ranges around 50 to 90%. The major advantage of pledging accounts receivables is the ease and flexibility it provides to the borrower. Moreover, financing is done regularly. This, however, suffers on account of high cost of financing.
- (ii) **Factoring:** Factoring is a relatively new concept in financing of accounts receivables. This refers to outright sale of accounts receivables to a factor or a financial agency. A factor is a firm that acquires the receivables of other firms. The factoring lays down the conditions of the sale in a factoring agreement. The factoring agency bears the right of collection and services the accounts for a fee.

Normally, factoring is the arrangement on a non-recourse basis where in the event of default the loss is borne by the factor. However, in a factoring arrangement with recourse, in such situation, the accounts receivables will be turned back to the firm by the factor for resolution.

There are a number of financial institutions providing factoring services in India. Some commercial banks and other financial agencies provide this service. The biggest advantages of factoring are the immediate conversion of receivables into cash and predicted pattern of cash flows. Financing receivables with the help of factoring can help a company having liquidity without creating a net liability on its financial condition. Besides, factoring is a flexible financial tool providing timely funds, efficient record keepings and effective management of the collection process. This is not considered to be as a loan. There is no debt repayment, no compromise to balance sheet, no long term agreements or delays associated with other methods of raising capital. Factoring allows the firm to use cash for the growth needs of business.

19.5 Innovations in Receivable Management

During the recent years, a number of tools, techniques, practices and measures have been invented to increase effectiveness in accounts receivable management.

Following are the major determinants for significant innovations in accounts receivable management and process efficiency.

1. Re-engineering Receivable Process: In some of the organizations real cost reductions and performance improvements have been achieved by re-engineering in accounts receivable process. Re-engineering is a fundamental re-think and re-design of business processes by incorporating modern business approaches. The nature of accounts receivables is such that decisions made elsewhere in the organization are likely to affect the level of resources that are expended on the management of accounts receivables.

The following aspects provide an opportunity to improve the management of accounts receivables:

(a) Centralization: Centralization of high nature transactions of accounts receivables and payable is one of the practices for better efficiency. This focuses attention on specialized groups for speedy recovery.

(b) Alternative Payment Strategies: Alternative payment strategies in addition to traditional practices result into efficiencies in the management of accounts receivables. It is observed that payment of accounts outstanding is likely to be quicker

where a number of payment alternatives are made available to customers. Besides, this convenient payment method is a marketing tool that is of benefit in attracting and retaining customers. The following alternative modes of payment may also be used alongwith traditional methods like Cheque Book etc., for making timely payment, added customer service, reducing remittance processing costs and improved cash flows and better debtor turnover.

- (i) **Direct debit:** I.e., authorization for the transfer of funds from the purchaser's bank account.
 - (ii) **Integrated Voice Response (IVR):** This system uses human operators and a computer based system to allow customers to make payment over phone. This system has proved to be beneficial in the organisations processing a large number of payments regularly.
 - (iii) **Collection by a third party:** The payment can be collected by an authorized external firm. The payments can be made by cash, cheque, credit card or Electronic fund transfer. Banks may also be acting as collecting agents of their customers and directly depositing the collections in customers' bank accounts.
 - (iv) **Lock Box Processing:** Under this system an outsourced partner captures cheques and invoice data and transmits the file to the client firm for processing in that firm's systems.
 - (v) **Payments via Internet:** by using fund transfer methods like RTGS, NEFT, IPMS UPIs, App based payment like PayTm, Phone Pe, etc.
- (c) **Customer Orientation:** Where individual customers or a group of customers have some strategic importance to the firm a case study approach may be followed to develop good customer relations. A critical study of this group may lead to formation of a strategy for prompt settlement of debt.

2.Evaluation of Risk: Risk evaluation is a major component in the establishment of an effective control mechanism. Once risks have been properly assessed controls can be introduced to either contain the risk to an acceptable level or to eliminate them entirely. This also provides an opportunity for removing inefficient practices. This involves a re-think of processes and questioning the way that tasks are performed. This also opens the way for efficiency and effectiveness benefits in the management of accounts receivables.

3.Use of Latest Technology: Technological developments now-a-days provides an opportunity for improvement in accounts receivables process. The major innovations available are the integration of systems used in the management of accounts receivables, the automation and the use of e- commerce.

(a)E-commerce refers to the use of computer and electronic telecommunication technologies, particularly on an inter-organizational level, to support trading in goods and services. It uses technologies such as Electronic Data Inter-change (EDI), Electronic Mail, Electronic Funds Transfer (EFT) and Electronic Catalogue Systems to allow the buyer and seller to transact business by exchange of information between computer application systems.

(b)Automated Accounts Receivable Management Systems: Now-a- days all the big companies develop and maintain automated receivable management systems. Manual systems of recording the transactions and managing receivables are not only cumbersome but ultimately costly also. These integrated systems automatically update all the accounting records affected by a transaction. For example, if a transaction of credit sale is to be recorded, the system increases the amount the customer owes to the firm, reduces the inventory for the item purchased, and records the sale. This system of a company allows the application and tracking of receivables and collections, using the automated receivables system allows the company to store important information for an unlimited number of customers and transactions, and accommodate efficient processing of customer payments and adjustments.

4.Receivable Collection Practices: The aim of debtors' collection should be to reduce, monitor and control the accounts receivable at the same time maintain customer goodwill. The fundamental rule of sound receivable management should be to reduce the time lag between the sale and collection. Any delays that lengthen this span causes receivables to unnecessary build up and increase the risk of bad debts. This is equally true for the delays caused by billing and collection procedures as it is for delays caused by the customer.

The following are major receivable collection procedures and practices:

- (i) Issue of Invoice.
- (ii) Open account or open-end credit.

- (iii) Credit terms or time limits.
- (iv) Periodic statements.
- (v) Use of payment incentives and penalties.
- (vi) Record keeping and Continuous Audit.
- (vii) Export Factoring: Factors provide comprehensive credit management, loss protection collection services and provision of working capital to the firms exporting internationally.
- (viii) Business Process Outsourcing: This refers to a strategic business tool whereby an outside agency takes over the entire responsibility for managing a business process.

5.Use of Financial tools/techniques: The finance manager while managing accounts receivables uses a number of financial tools and techniques. Some of them have been described hereby as follows:

- (i) **Credit analysis:** While determining the credit terms, the firm has to evaluate individual customers in respect of their credit worthiness and the possibility of bad debts. For this purpose, the firm has to ascertain credit rating of prospective customers.

Credit rating: An important task for the finance manager is to rate the various debtors who seek credit facility. This involves decisions regarding individual parties so as to ascertain how much credit can be extended and for how long. In foreign countries specialized agencies are engaged in the task of providing rating information regarding individual parties. Dun and Broad street is one such source.

The finance manager has to look into the credit-worthiness of a party and sanction credit limit only after he is convinced that the party is sound. This would involve an analysis of the financial status of the party, its reputation and previous record of meeting commitments.

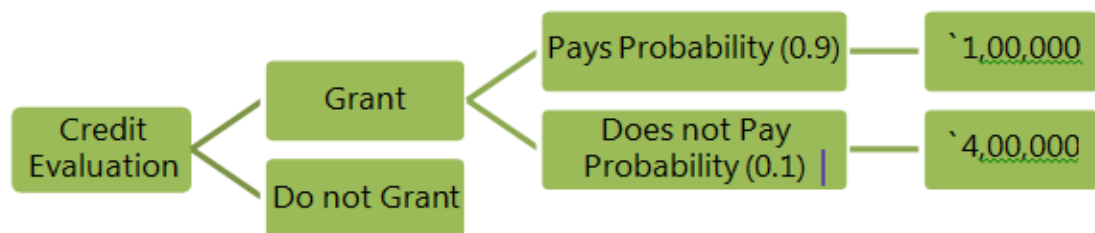
The credit manager here has to employ a number of sources to obtain credit information. The following are the important sources: Trade references; Bank references; Credit bureau reports; Past experience; Published financial statements; and Salesman's interview and reports.

Once the credit-worthiness of a client is ascertained, the next question is to set a limit of the credit. In all such enquiries, the credit manager must be discreet and should always have the interest of high sales in view.

- (ii) Decision tree analysis of granting credit:** The decision whether to grant credit or not is a decision involving costs and benefits. When a customer pays, the seller makes profit but when he fails to pay the amount of cost going into the product is also gone. If the relative chances of recovering the dues can be decided it can form a probability distribution of payment or non-payment. If the chances of recovery are 9 out of 10 then probability of recovery is 0.9 and that of default is 0.1.

Credit evaluation of a customer shows that the probability of recovery is 0.9 and that of default is 0.1 the revenue from the order is ₹ 5 lakhs and cost is ₹ 4 lakhs. The decision is whether credit should be granted or not.

The analysis is presented in the following diagram.



The weighted net benefit is ₹ $[1,00,000 \times 0.9 \text{ i.e. } 90,000 - 0.1 \times 4,00,000 \text{ i.e. } 40,000]$
 = 50,000. So credit should be granted.

- (iii) Control of receivables:** Another aspect of management of debtors is the control of receivables. Merely setting of standards and framing a credit policy is not sufficient; it is, equally important to control receivables.

- (iv) Collection policy:** Efficient and timely collection of debtors ensures that the bad debt losses are reduced to the minimum and the average collection period is shorter. If a firm spends more resources on collection of debts, it is likely to have smaller bad debts. Thus, a firm must work out the optimum amount that it should spend on collection of debtors. This involves a trade-off between the level of expenditure on the one hand and decrease in bad debt losses and investment in debtors on the other.

The collection cell of a firm has to work in a manner that it does not create too much resentment amongst the customers. On the other hand, it has to keep the amount of the outstanding in check. Hence, it has to work in a very smoothen manner and diplomatically.

It is important that clear-cut procedures regarding credit collection are set up. Such procedures must answer questions like the following:

- a. How long should a debtor balance be allowed to exist before collection process is started?
- b. What should be the procedure of follow up with defaulting customer? How reminders are to be sent and how should each successive reminder be drafted?
- c. Should there be collection machinery whereby personal calls by company's representatives are made?
- d. What should be the procedure for dealing with doubtful accounts? Is legal action to be instituted? How should account be handled?

19.6 Summary

Accounts receivable constitute about 1/3 of the current assets of business enterprises. Consequently efficient and effective management of accounts receivable can contribute to significantly improve the profitability and liquidity of the business firm.

19.7 Keywords

- 1. Control of Receivable:** This requires finance manager to follow-up debtors and decides about a suitable credit collection policy. It involves both laying down of credit policies and execution of such policies.
- 2. Factoring:** Factoring is a relatively new concept in financing of accounts receivables. This refers to outright sale of accounts receivables to a factor or a financial agency. A factor is a firm that acquires the receivables of other firms.
- 3. E-commerce** refers to the use of computer and electronic tele communication technologies, particularly on an inter-organizational level, to support trading in goods and services.

19.8 Self – Assessment Questions

1. Describe the managerial aspects of credit policy decision.
2. Discuss the factors to determining the credit policy.
3. Briefly discuss financing receivable.
4. Write short note in new innovation in receivable management.

19 .9 FurtherReadings

1. Financial Management by I.M. Pandey
2. Working capital management by V.E. Ramamurty
3. Financial Management by P.V. Kulkarni
4. Financial Management Policy by James C. Vanhorne
5. “Financial Management” by C Paramasivan and T Subramanian
6. Schaum’s Outline of Financial Mgmt, Third Edition by Jae Shim and Joel Siegel
7. Hampton .J , 'Financial Decision Making', Prentice Hall India, Delhi

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Lesson - 20

Inventory Management

Objectives:

After studying this lesson, you should be able to:

- Acquire the knowledge on Inventory management
- Familiarize with various models of Inventory management
- Know some other Inventory management issues

Structure:

20.1 Introduction

20.2 motives for holding inventories

20.3 inventory related benefits and costs

20.4 EOQ model

20.5 selective inventory management techniques

20.6 summaries

20.7 keywords

20.8 self – assessment questions

20.9 further readings

20.1 Introduction

Inventories constitute a major element of working capital. It is, therefore, important that investment in inventory is properly controlled. The objectives of inventory management are, to a great extent, similar to the objectives of cash management. Inventory management covers a large number of problems including fixation of minimum and maximum levels, determining the size of inventory to be carried, deciding about the issues, receipts and inspection procedures, determining the economic order quantity, proper storage facilities, keeping check over obsolescence and ensuring control over movement of inventories.

20.2 MOTIVES FOR HOLDING INVENTORIES

It is possible to identify three major motives for holding inventories.

1. The transaction motive propels a business to maintain inventories so that there are no bottlenecks in production and/or sales. It is natural for a business to plan inventory investment commensurate with the level of transactions in the business. The business seeks to ensure that on the shop floor production does not get stalled for want of materials, etc., and sales do not suffer on account of non-availability of finished goods.
2. The precautionary motive is also at work. Inventories are held so that there is a cushion against unpredictable events. For instance, there may be a sudden and unforeseen spurt in demand for finished goods or there may occur a sudden and unforeseen slump or delay in supply of raw materials or other components needed for production. An enterprise would surely like to have some cushion to tide over such situations.
3. Inventories may also be held so that advantage can be taken of price fluctuations. For instance, if the price of a particular raw material is expected to go up rather steeply, an enterprise may decide to hold a larger than necessary stock of this item (acquired prior to escalation).

20.3 INVENTORY RELATED BENEFITS AND COSTS

As indicated earlier inventories include stocks of raw materials, semi-manufactured or semi-processed goods or work-in-process' and finished products. While trading businesses carry inventories of the merchandise they offer for sale, manufacturing businesses carry inventories of all three kinds.

Raw materials inventories are maintained so that there remains some flexibility in purchasing and in production scheduling. Inventories of semi-manufactured goods ensure flexibility in production scheduling and utilization of resources, and inventories of finished products ensure flexibility in production scheduling and marketing.

By carrying inventories a firm can address to a large extent demand and lead time uncertainties. The principle followed is that of carrying what we call a "buffer". Inventories can also ease out the flow of production when there are time lags in deliveries. Inventories may also help achieve some economies of scale in purchasing

and help tide over the problems of seasonal variations. It follows from the above that there are several advantages to be derived from holding a large inventory, such as economies in production and purchasing and flexibility in operations. However, there are several disadvantages and costs associated with carrying large inventories and that is why we must devote our attention to the question of inventory management.

When inventories are inadequate a firm is unable to produce and sell. The cost of incurring shortages is the opportunity cost of not having an item in stock when demanded. Such a situation entails the possibility of the loss of sales or of backlogging. In either case there are tangible and intangible costs of not meeting the demand on time. When inventories are carried there are certain costs involved and it is necessary for one to take these into account in planning for inventories.

Ordering Costs : When a purchase order is placed for the acquisition of inventories certain costs are incurred, e.g. , clerical and administrative salaries, rent for the space occupied by these departments, postage, telegram, telephone bills, stationary, etc. The ordering costs are directly proportional to the number of orders placed.

The cost of the materials purchased.

1. **Carrying Costs:** such as, the following:

- a) Insurance charges for covering the risk of fire hazards, theft, etc.
- b) Rent of the floor space occupied, interest on funds borrowed for stocks
- c) Heating, lighting of the space occupied
- d) Indirect labour costs involved in storage, stocktaking, security, etc.
- e) Material handling costs
- f) Cost of wastage and material losses in the stores
- g) Risk of obsolescence and deterioration and fall in prices of the inventories carried

h) The opportunity cost of carrying inventories: which means had the money blocked in inventories been invested elsewhere in the business it would have earned a return and hence the loss of return may be considered as an opportunity cost.

Several models have been developed for the purpose of inventory planning and control. The basic purpose behind such modeling is to arrive at the level of optimum investment in inventories. As will be evident from the discussion that follows these models allow one figure out the optimum lot size, i.e., the number of units that should be ordered each time.

There exist basically two kinds of models, deterministic and stochastic or probabilistic. The deterministic models are built on the premise that there is no uncertainty associated with the demand and replenishment or lead times.

The probabilistic models take cognizance of the fact that there is always some uncertainty associated with the demand pattern and lead times.

For the purpose of exposition we shall now proceed to develop a deterministic model for arriving at the Re-Order Quantity or the Economic Order Quantity (EOQ). This is an important concept in the purchase of raw materials and in the storage of finished goods and in-transit inventories. We shall determine optimal order quantity for a particular item of inventory. In this exercise we are going to arrive at the optimal order quantity of an item of inventory, given, its forecasted usage, the ordering cost and the carrying cost. Ordering can mean purchase or production.

Let us assume that the usage of this particular item is known with certainty and that the usage is stationary or steady throughout the period of time being analyzed. In essence, what we are assuming is that if the usage is 5200 units a year, the usage every week is 100 units. Goods are used evenly throughout the year. It is noteworthy that the EOQ Model can be modified to take account of increasing or decreasing use over time. For the purpose of this exercise such modifications are not being considered. We are assuming that the cost per order or the ordering cost, k , is constant regardless of the size of the order. As discussed earlier, k , represents the clerical and administrative and other costs involved in placing an order for the purchase of raw materials. For finished goods inventories the cost of ordering involves scheduling a production run and for in-transit inventories it involves basically record keeping. Obviously, the total ordering cost is the cost per order times the number of orders placed.

Illustration 1 : *A company's requirements for ten days are 6,300 units. The ordering cost per order is ₹ 10 and the carrying cost per unit is ₹ 0.26. You are required to calculate the economic order quantity.*

Solution

The economic order quantity is:

$$EOQ = \sqrt{\frac{2 \times 6,300 \times 10}{0.26}} = \sqrt{\frac{1,26,000}{0.26}} = 700 \text{ units (approx).}$$

Illustration 2: *Sidharda Limited uses a large quantity of salt in its production process. Annual consumption is 60,000 tonnes over a 50-week working year. It costs ₹ 100 to initiate and process an order and delivery follow two weeks later. Storage costs for the salt are estimated at 10 paise per tonne per annum. The current practice is to order twice a year when the stock falls to 10,000 tonnes. Recommend an appropriate ordering policy for Sidharda Limited, and contrast it with the cost of the current policy.*

Solution

The recommended policy should be based on the EOQ model.

$F = ₹ 100$ per order

$S = 60,000$ tonnes per year

$H = ₹ 0.10$ per tonne per year

Substituting : $EOQ = \sqrt{\frac{2 \times 100 \times 60,000}{0.10}} = 10,954$ tonnes per order

Total cost of optimum policy = holding costs + ordering costs

Number of orders per year = $60,000 / 10,954 = 5.5$ orders

Re-order level = $2 \times 60,000 / 50 = 2,400$ tonnes

$= (0.1 \times 10,954) / 2 + (100 \times 60,000) / 10,954$

$= 547.70 + 547.74 = 1,095$

To compare the optimum policy with the current policy, the average level of stock under the current policy must be found. An order is placed when stock falls to 10,000 tonnes, but the lead time is two weeks. The stock used in that time is $(60,000 \times 2)/50 = 2,400$ tonnes. Before delivery, inventory has fallen to $(10,000 - 2,400) = 7,600$ tonnes. Orders are made twice per year, and so the order size $= 60,000/2 = 30,000$ tonnes. The order will increase stock level to $30,000 + 7,600 = 37,600$ tonnes. Hence the average stock level $= 7,600 + (30,000/2) = 22,600$ tonnes. Total costs of current policy $= (0.1 \times 22,600) + (100 \times 2) = 2,460$ per year.

Advise: The recommended policy should be adopted as the costs (£1,365 per year) are less than the current policy.

Illustration 3: Rajan Company is a distributor of air filters to retail stores. It buys its filters from several manufacturers. Filters are ordered in lot sizes of 1,000 and each order costs £40 to place. Demand from retail stores is 20,000 filters per month, and carrying cost is £0.10 a filter per month.

(a) What is the optimal order quantity with respect to so many lot sizes?

(b) What would be the optimal order quantity if the carrying cost were £0.05 a filter per month?

(c) What would be the optimal order quantity if ordering costs were £10?

Solution

$$(a) \text{EOQ}^* = \sqrt{\frac{2(20)(40)}{100}} = 4$$

Carrying costs $= £0.10 \times 1,000 = £100$. The optimal order size would be 4,000 filters, which represents five orders a month.

$$(b) \text{EOQ}^* = \sqrt{\frac{2(20)(40)}{50}} = 5.66$$

Since the lot size is 1,000 filters, the company would order 6,000 filters each time. The lower the carrying cost, the more important ordering costs become relatively and the larger the optimal order size.

$$(c) \text{EOQ}^* = \sqrt{\frac{2(20)(10)}{100}} = 2$$

The lower the order cost, the more important carrying costs become relatively and the smaller the optimal order size.

20.5 SELECTIVE INVENTORY MANAGEMENT TECHNIQUES

Selective inventory management techniques, such as the A-B-C analysis, or the V-E-D analysis or F-S-N analysis can help introduce efficiency. The logic behind this approach is that in any large number we usually have ‘significant few’ and ‘insignificant many’.

In a study conducted some time ago, an automobile Company found that its most expensive or “A” parts constitute only 9% of its total number of parts but account for 57% of the inventory value. Its next most expensive or “B” category items make up 10% of the total number of parts, but account for 18% of the inventory value. “C” category items account for 20% in number and 15% in value terms. The “D” category items constitute 61% by number but represent only 10% in value. This sort of analysis can be attempted in virtually every enterprise and the results are likely to be very similar indeed.

Economies will be attainable when stringent control is imposed on “A” items maintaining bare minimum necessary level of inventories of these. Relatively larger quantities of the cheaper items may be maintained without compromising the goals of financial management. As a result of the study above referred the company started maintaining 2 days’ supply in the manufacturing plant of the “A” items, 5 days’ supply of “B” items, 10 days’ supply of “C” items and 20 or more days’ supply of “D” items.

While the kind of analysis described above is known as the A-B-C analysis, the F-S-N analysis and the V-E-D analysis are similar to this in principle.

Under the F-S-N analysis goods are classified into fast-moving, slow-moving and non-moving categories.

Under the V-E-D analysis goods are classified into vital, essential and desirable categories.

Obviously a firm can, according to the circumstances obtaining in it, use a combination of these techniques to control and monitor inventories and to achieve the goals of working capital management.

20.6 Summary

In this unit we have discussed the nature and importance of inventory management as a segment of working capital management. Various motives for holding inventories as well as benefits and costs associated with maintaining inventories have been discussed. The process of designing and operating a deterministic Economic Order Quantity model has been explained and illustrated. This unit closes with a discussion of selective inventory management techniques viz. A-B-C analysis, F-S-N and V-E-D analysis.

20.7 Keyword

1.Ordering Costs : When a purchase order is placed for the acquisition of inventories certain costs are incurred, e.g. , clerical and administrative salaries, rent for the space occupied by these departments, postage, telegram, telephone bills, stationary, etc.

2. The opportunity cost of carrying inventories: which means had the money blocked in inventories been invested elsewhere in the business it would have earned a return and hence the loss of return may be considered as an opportunity cost.

20.8 Self – Assessment Questions

1. What is the purpose of inventory?
2. Write a short note on inventory related benefits and costs.
3. Briefly discuss about EOQ.
4. Discuss the selective inventory management techniques.

20.9 Further Readings

1. **S.C. Kuchhal** : Corporate Finance
2. **I.M. Pandey** : Financial Management
3. **V.E. Ramamurty** : Working capital management
4. **P.V. Kulkarni** : Financial Management
5. **James C. Vanhorne** : Financial Management Policy

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Lesson 21**Computerized Accounting System in Tourism****Objectives:**

After studying this lesson, you should be able to know:

- the concept of Computerized Accounting
- various models of Computerized Accounting
- some other relevant aspects in Computerized Accounting

Structure:

21.1 Introduction

21.2 Comparison between Manual and Computerized Accounting

21.3 Advantages of Computerized Accounting System

21.4 Limitations of Computerized Accounting System

21.5 Accounting Packages

21.6 Summary

21.7 Keyword

21.8 Self – Assessment Questions

21.9 Further Readings

21.1 Introduction:

A computerized accounting system is an accounting information system that the financial transactions and the events as per Generally Accepted Accounting Principles (GAAP) to produce reports as per user requirements. Every accounting system, manual or computerized, has two aspects. First, it has to work under a set of well-defined concepts called accounting principles. Another, that there is a user-defined framework for maintenance of records and generation of reports.

In a computerized accounting system, the framework of storage and processing of data is called operating environment that consists of hardware as well as software in which the accounting system, works. The type of the accounting system used determines the operating environment. Both hardware and software are interdependent. The type of software determines the structure of the hardware. Further, the selection of hardware is dependent upon various factors such as the number of users, levels of secrecy and the nature of various activities of functional departments in an organization.

Take the case of a small organization for example, where the number of transactions and their variety is relatively small, a personal computer with standardized software may be sufficient. However, for a large business organisation with a number of geographically scattered departments and offices, more powerful computer systems supported by sophisticated networks are required to handle the voluminous data and the complex reporting requirements. In order to handle such requirements, multi-user operating systems such as UNIX, Linux, etc. are used.

Modern computerised accounting system is based on the concepts of database. A database is implemented using a database management system, which is defined by a set of computer programmes (or software) that manage and organize data effectively and provide access to the stored data by the application programmes. The accounting database is well-organized with active interface that uses accounting application programs and reporting system. Every computerized accounting system has two basic requirements:

- Accounting Framework: It consists a set of principles, coding and grouping structure of accounting.
- Operating Procedure: It is a well-defined operating procedure blended suitably with the operating environment of the organization.

The use of computers in any database oriented application has four basic requirements as mentioned below.

- Front – End Interface: It is an interactive link or a dialog between the user and database-oriented software through which the user communicates to the back-end database.

- **Back-End database:** It is a data storage system that is hidden from the user and responds to the requirement of the user to the extent the user is authorized to access.
- **Data Processing:** It is a sequence of actions that are taken to transform the data into decision useful information.
- **Reporting System:** It is an integrated set of objects that constitute the report.

The computerized accounting is also one of the database-oriented applications wherein the transaction data is stored in well-organized database. The user operates on such database using the required and desired interface and also takes the desired reports by suitable transformation of stored data into information. Therefore, the fundamentals of computerized accounting embrace all the basic requirements of any database-oriented application in computers. Accordingly, the computerized accounting system has the above four additional requirements.

21.2 Comparison between Manual and Computerized Accounting

Accounting, by definition, is the process of identifying, recording, classifying and summarising financial transactions to produce the financial reports for their ultimate analysis. Let us understand these activities in the context of manual and computerised accounting system.

Identifying: The identification of transactions, based on application of accounting principles is, common to both manual and computerised accounting system.

Recording: The recording of financial transactions, in manual accounting system is through books of original entries while the data content of such transactions is stored in a well-designed accounting database in computerised accounting system.

Classification: In a manual accounting system, transactions recorded in the books of original entry are further classified by posting into ledger accounts. This results in transaction data duplication. In computerised accounting, no such data duplication is made to cause classification of transactions. In order to produce ledger accounts, the stored transaction data is processed to appear as classified so that the same is presented in the form of a report. Different forms of the same transaction data are made available for being presented in various reports.

Summarizing: The transactions are summarised to produce trial balance in manual accounting system by ascertaining the balances of various accounts. As a result, preparation of ledger accounts becomes a prerequisite for preparing the trial balance. However, in computerised accounting, the originally stored transactions data are processed to churn out the list of balances of various accounts to be finally shown in the trial balance report. The generation of ledger accounts is not a necessary condition for producing trial balance in a computerised accounting system.

Adjusting Entries: In a manual accounting system, these entries are made to adhere to the principle of cost matching revenue. These entries are recorded to match the expenses of the accounting period with the revenues generated by them. Some other adjusting entries may be made as part of errors and rectification. However, in computerised accounting, Journal vouchers are prepared and stored to follow the principle of cost matching revenue, but there is nothing like passing adjusting entries for errors and rectification, except for rectifying an error of principle by having recorded a wrong voucher such as using payment voucher for a receipt transaction.

Financial Statements: In a manual system of accounting, the preparation of financial statements pre-supposes the availability of trial balance. However, in computerized accounting, there is no such requirement. The generation of financial statements is independent of producing the trial balance because such statements can be prepared by direct processing of originally stored transaction data.

Closing the Books: After the preparation of financial reports, the accountants make preparations for the next accounting period. This is achieved by posting of closing and reversing journal entries. In computerised accounting, there is year-end processing to create and store opening balances of accounts in database. It may be observed that conceptually, the accounting process is identical regardless of the technology used

21.3 Advantages of Computerized Accounting System:

- a. **Speed:** Accounting data is processed faster by using a computerized accounting system than it is achieved through manual efforts. This is because computers require far less time than human beings in performing a task.

- b. **Accuracy:** the possibility of error is eliminated in a computerized accounting system because the primary accounting data is entered once for all the subsequent usage and process in preparing the accounting reports. Normally, accounting errors in a manual accounting system occur because of repeated posting of same of original data by several times while preparing different types of accounting reports.
- c. **Reliability:** the computer system is well-adapted to performing repetitive operations. They are immune to tiredness, boredom or fatigue. As a result, computers are highly reliable compared to human beings. Since, computerized accounting system relies heavily on computers; they are relatively more reliable than manual accounting systems.
- d. **Up-to-Date Information:** The accounting records, in a computerized accounting system are updated automatically as and when accounting data is entered and stored. Therefore, latest information pertaining to accounts get reflected when accounting reports are produced and printed.
- e. **Real Time User Interface:** Most of the automated accounting systems are inter-linked through a network of computers. This facilitates the availability of information to various users at the same time on a real time basis (that is spontaneously).
- f. **Automated Document Production:** Most of the computerized accounting systems have standardized, user defined format of accounting reports that are generated automatically. The reports such as Cash book, Trail balance, Statement of accounts are obtained just by click of a mouse in a computerized accounting environment.
- g. **Scalability:** In a computerized accounting system, the requirement of additional manpower is confined to data entry operators for storing additional vouchers. The additional cost of processing additional transaction is almost negligible. As a result the computerized accounting systems are highly scalable.
- h. **Legibility:** The data displayed on computer monitor is legible. This is because the characters are type written using standard fonts. This helps in avoiding errors caused by untidy written figures in a manual accounting system.
- i. **Efficiency:** The computer based accounting system ensure better use of resources and time. This brings about efficiency in generating decisions, useful information and reports.

- j. **Quality Reports:** The inbuilt checks and untouchable features of data handling facilitate hygienic and true accounting reports that are highly objective and can be relied upon.
- k. **MIS Reports:** The computerized accounting system facilitates the real time production of management information reports, which will help management to monitor and control the business effectively. Debtors' analysis would indicate the possibilities of defaults (or bad debts) and also concentration of debt and its impact on the balance sheet. For example, if the company has a policy of restricting the credit sales by a fixed amount to a given party, the information is available on the computer system immediately when every voucher is entered through the data entry form. However, it takes time when it comes to a manual accounting system. Besides, the results may not be accurate.
- l. **Storage and Retrieval:** The computerized accounting system allows the users to store data in a manner that does not require a large amount of physical space. This is because the accounting data is stored in hard-disks, CD-ROMs, floppies that occupy a fraction of physical space compared to books of accounts in the form of ledger, journal and other accounting registers. Besides, the system permits fast and accurate retrieval of data and information.
- m. **Motivation and Employee Interest:** The computer system requires a specialized training of staff, which makes them feel more valued. This motivates them to develop interest in the job. However, it may also cause resistance when we switch over from a manual system to a computer system.

21.4 Limitations of Computerized Accounting System.

- a. **Cost of Training:** The sophisticated computerized accounting packages generally require specialized staff personnel. As a result, a huge training costs are incurred to understand the use of hardware and software on a continuous basis because newer types of hardware and software are acquired to ensure effective use of computerized accounting systems.
- b. **Staff Opposition:** Whenever the accounting system is computerized, there is a significant degree of resistance from the existing accounting staff, partly because of the fear that they shall be made redundant and largely because of the perception that they shall be less important to the organisation.

- c. **Disruption:** The accounting processes suffer a significant loss of work time when an organization switches over to the computerized accounting system. This is due to changes in the working environment that requires accounting staff to adapt to new systems and procedures.
- d. **System Failure:** The danger of the system crashing due to hardware failures and the subsequent loss of work is a serious limitation of computerized accounting system. However, providing for back-up arrangements can obviate this limitation. Software damage and failure may occur due to attacks by viruses. This is of particular relevance to accounting systems that extensively use internet facility for their online operations. No full in proof solutions are available as of now to tackle the menace of attacks on software by viruses.
- e. **Inability to Check Unanticipated Error:** Since the computers lack capability to judge, they cannot detect unanticipated errors as human beings commit. This is because the software to detect and check errors is a set of programmes for known and anticipated errors.
- f. **Breaches of Security:** Computer related crimes are difficult to detect as any alteration of data may go unnoticed. The alteration of records in a manual accounting system is easily detected by first sight. Fraud and embezzlement are usually committed on a computerized accounting system by alteration of data or programmes. Hacking of passwords or user rights may change the accounting records. This is achieved by tapping telecommunications lines, wire-tapping or decoding of programs. Also, the people responsible for tampering of data cannot be located which in a manual system is relatively easier to detect.
- g. **Ill-effects on Health:** The extensive use of computers systems may lead to development of various health problems. This affects adversely the working efficiency of accounting staff on one hand and increased medical expenditure on such staff on the other.

21.5 Accounting Packages

Every Computerised Accounting System is implemented to perform the accounting activity (recording and storing of accounting data) and generate reports as per the requirements of the user. From this perspective, the accounting packages are classified into the following categories : (a) Ready to use (b) Customised (c) Tailored Each of these categories offers distinctive features. However, the choice of the

accounting software would depend upon the suitability to the organisation especially in terms of accounting needs.

Ready-to-Use

Ready-to-Use accounting software is suited to organisations running small/conventional business where the frequency or volume of accounting transactions is very low. This is because the cost of installation is generally low and number of users is limited. Ready-to-use software is relatively easier to learn and people (accountant) adaptability is very high. This also implies that level of secrecy is relatively low and the software is prone to data frauds. The training needs are simple and sometimes the vendor (supplier of software) offers the training on the software free. However, these software offer little scope of linking to other information systems.

Customised

Accounting software may be customised to meet the special requirement of the user. Standardised accounting software available in the market may not suit or fulfill the user requirements. For example, standardised accounting software may contain the sales voucher and inventory status as separate options. However, when the user requires that inventory status to be updated immediately upon entry of sales voucher and report be printed, the software needs to be customized.

Customised software is suited for large and medium businesses and can be linked to the other information systems. The cost of installation and maintenance is relatively high because the high cost is to be paid to the vendor for customisation. The customisation includes modification and addition to the software contents, provision for the specified number of users and their authentication, etc. Secrecy of data and software can be better maintained in customised software. Since the need to train the software users is important, the training costs are therefore high.

Tailored

The accounting software is generally tailored in large business organisations with multi users and geographically scattered locations. These software requires specialised training to the users. The tailored software is designed to meet the

specific requirements of the users and form an important part of the organisational MIS. The secrecy and authenticity checks are robust in such softwares and they offer high flexibility in terms of number of users.

21.6 Summary

Variety of accounting software is available in the market. The most popular software used in India are Tally and Ex. The basic features of all accounting software are same on a global basis. The legal reporting requirements in a given country and the business needs affect the software contents. The other popular softwares are Sage, Wings 2000, Best Books, Cash Manager, and Ace Pays, etc.

21.7 Keyword

- **Accounting Framework:** It consist a set of principles, coding and grouping structure of accounting.
- **Speed:** Accounting data is processed faster by using a computerized accounting system than it is achieved through manual efforts. This is because computers require far less time than human beings in performing a task.
- **Ready-to-Use:** Accounting software is suited to organizations running small/ conventional business where the frequency or volume of accounting transactions is very low. This is because the cost of installation is generally low and number of users is limited. Ready-to-use software is relatively easier to learn and people (accountant) adaptability is very high. This also implies that level of secrecy is relatively low and the software is prone to data frauds. The training needs are simple and sometimes the vendor (supplier of software) offers the training on the software free. However, this software offers little scope of linking to other information systems.

21.8 Self – Assessment Questions

1. Discuss about the various accounting packages.
2. Define and discuss computerized accounting systems.
3. Distinguish between a manual and computerized accounting systems.
4. Describe the types of accounting software's with their advantages

21.9 Further Readings

1. Financial Accounting: A Managerial Perspective” by Narayanaswamy
2. Financial Accounting for Management” by N Ramachandran
3. Schaum’s Outline of Financial Mgmt, Third Edition by Jae Shim and Joel Siegel
4. Financial Accounting: A Managerial Emphasis” by Ashok Banerjee
5. Financial Accounting” by T S Reddy and A Murthy

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