ਜਗਤ ਗੁਰੂ ਨਾਨਕ ਦੇਵ
ਪੰਜਾਬ ਸਟੇਟ ਓਪਨ ਯੂਨੀਵਰਸਿਟੀ
ਪਟਿਆਲਾ

The Motto of Our University

(SEWA)

SKILL ENHANCEMENT

EMPLOYABILITY

WISDOM

ACCESSIBILITY

JAGAT GURU NANAK DEV
PUNJAB STATE OPEN UNIVERSITY, PATIALA

(Established by Act No. 19 of 2019 of the Legislature of State of Punjab)

MASTER OF COMMERCE

Semester-I

MCMM21103T
ACCOUNTING FOR MANAGERIAL DECISIONS

Head Quarter: C/28, The Lower Mall, Patiala-147001
Website: www.psou.ac.in

The Study Material has been prepared exclusively under the guidance of Jagat Guru Nanak Dev Punjab State Open University, Patiala, as per the syllabi prepared by Committee of Experts and approved by the Academic Council.

COURSE COORDINATOR AND EDITOR:

Dr. Pinky Sra

Assistant Professor

JGND PSOU, Patiala

PREFACE

Jagat Guru Nanak Dev Punjab State Open University, Patiala was established in December 2019 by Act 19 of the Legislature of State of Punjab. It is the first and only Open University of the State, entrusted with the responsibility of making higher education accessible to all, especially to those sections of society who do not have the means, time or opportunity to pursue regular education.

In keeping with the nature of an Open University, this University provides a flexible education system to suit every need. The time given to complete a programme is double the duration of a regular mode programme. Well-designed study material has been prepared in consultation with experts in their respective fields.

The University offers programmes which have been designed to provide relevant, skill-based and employability-enhancing education. The study material provided in this booklet is self-instructional, with self-assessment exercises, and recommendations for further readings. The syllabus has been divided in sections, and provided as units for simplification.

The Learner Support Centres/Study Centres are located in the Government and Government aided colleges of Punjab, to enable students to make use of reading facilities, and for curriculum-based counselling and practicals. We, at the University, welcome you to be a part of this institution of knowledge.

Prof. G. S. Batra
Dean Academic Affairs

JAGAT GURU NANAK DEV PUNJAB STATE OPEN UNIVERSITY, PATIALA
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M.COM

SEMESTER-I

(MCMM21103T): ACCOUNTING FOR MANAGERIAL DECISIONS

MAX. MARKS: 100
EXTERNAL: 70
INTERNAL: 30
PASS: 35%
Credits:6

Objective:

To impart the students, knowledge about the use of financial, cost and other data for the purpose of managerial planning, control and decision making.

INSTRUCTIONS FOR THE CANDIDATES:

Candidates are required to attempt any two questions each from the sections A and B of the question paper and any ten short questions from Section C. They have to attempt questions only at one place and only once. Second or subsequent attempts, unless the earlier ones have been crossed out, shall not be evaluated.

SECTION A

Fundamentals of Accounting

Unit-1 Accounting an Overview: Basic Cost Concepts

Unit-2 Financial Statements: Understanding Financial Statements

Analysis of Financial Statements

Unit-3 Techniques of Financial Analysis

Unit-4 Statement of Changes in Financial Position

Unit-5 Cash Flow Analysis

Budgeting and Budgetary Control

Unit-6 Basic Concepts of Budgeting, Preparation and Review of Budgets, Approaches to Budgeting

SECTION B

Standard Costing

Unit-7 Standard Costing, Variance Analysis – I

Unit-8 Variance Analysis – II, Responsibility Accounting

Cost Volume Profit Analysis

Unit-9 Marginal Costing

Unit-10 Break Even Analysis

Unit-11 Relevant Costs for Decision Making, Reporting to Management

Unit-12 Recent Developments in Accounting

Suggested Readings:

- Arora, M. N. *Management Accounting.* Himalaya Publishing House, New Delhi
- Banerjee, Bhabatosh. (2019) Financial Policy and Management Accounting. Prentice Hall of
- India.
- 3Khan, M. Y., & Jain, P. K. *Management Accounting.* McGraw Hill.
- Lal, Jawahar and Srivastava, Seema. *Cost Accounting*. McGraw Hill Publishing Co., New
- Delhi.
- Maheshwari, S. N. *Principles of Management Accounting*. Sultan Chand and Sons
- Pandey, I. M. *Management Accounting*. New Delhi.
- Pillai, R S N and Bhagvathi, V. *Management Accounting*. S Chand & Company
- Robert, S. Kaplan & Anthony, A. Atkinson. *Advanced Management Accounting.* Prentice-Hall
- Rustagi, R.P. *Management Accounting*: Galgotia
- Sharma, R. K. & Gupta, Shashi K. *Management Accounting Principles & Practice*: Kalyani Publishers.

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SEMESTER-I

(MCMM21103T): ACCOUNTING FOR MANAGERIAL DECISIONS

COURSE COORDINATOR AND EDITOR: DR. PINKY SRA

SECTION A

UNIT NO.	**UNIT NAME**
UNIT 1	Accounting An Overview Basic Cost Concepts
UNIT 2	Financial Statements Understanding Financial Statements
UNIT 3	Techniques of Financial Analysis
UNIT 4	Statement of Changes in Financial Position
UNIT 5	Cash Flow Analysis
UNIT 6	Basic Concepts of Budgeting Preparation and Review of Budgets Approaches to Budgeting

SECTION B

UNIT No.	**UNIT NAME**
UNIT 7	Standard Costing Variance Analysis – I
UNIT 8	Variance Analysis – II Responsibility Accounting
UNIT 9	Marginal Costing
UNIT 10	Break Even Analysis
UNIT 11	Relevant Costs for Decision Making Reporting to Management
UNIT 12	Recent Developments in Accounting

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SEMESTER-I

COURSE: ACCOUNTING FOR MANAGERIAL DECISIONS

UNIT 1 - ACCOUNTING: AN OVERVIEW: BASIC COST CONCEPTS

STRUCTURE

1.0 OBJECTIVES

After studying this unit, the students will know about the

- Concept of accounting and its different branches
- Users of accounting information

- Nature, advantages and limitations of management accounting
- Tools of management accounting
- Basic cost concepts and classification

1.1 INTRODUCTION

Accounting plays an important role in the smooth functioning of every business organisation. Every day numerous transactions do take place in every business organisation. Though the number and magnitude of these transactions vary from organisation to organisation, recording of such transactions is utmost important to know the exact picture of the business organisation. Proper recording of business transactions and events ensures the smooth conduct of business affairs. Accounting helps an organisation to know what it owes to others and what others owe to the business organisation. Through accounting records one can know the balances of different assets and liabilities in the organisation. Moreover, it enables an organisation to know the net result of business done during a particular accounting period. The information generated through proper maintenance of accounting records is of immense use for the different stakeholders. The information that is cost related is dealt with to ascertain the exact cost of different products and services offered by the organisation. Access to such cost related information also enables an organisation to plan for cost reduction and cost control. Besides the cost data other information pertaining to assets, liabilities, income, expenditure, and cash flow is also useful for managers to take different decisions.

This unit gives an overview of the accounting concept followed by need of accounting, users of accounting information, and different branches of accounting with special emphasis on managerial or management accounting. The last few sections of the unit deal with the basic cost concepts.'

1.2 MEANING OF ACCOUNTING

Accounting is the process of recording, classifying, and summarising the financial transactions and events of an organisation and analysing and interpreting the results thereof. The process of accounting begins with the identification and recording of those transactions and events which are of a financial nature. The transactions or events which cannot be expressed in terms of money are not recorded in the books of account. The term transaction refers to exchange of goods or services between two or more entities. However, the term event can be described as any incidence that occurs as a result of something or passage of time and have an effect on the account balances of the organisation. All transactions and events are first recorded in the primary books viz. Journal or Subsidiary books. After initial recording of transactions and events in the books of original entry (primary books), these are classified into different accounts in the ledger, that is, secondary books. In ledger, based on the nature the transactions are classified as assets, liabilities, income or expenditure. Finally, the transactions and events are summarised in profit and loss account and the balance sheet. The job of accounting even does not end here. The financial statements so prepared are analysed to derive meaningful results for the different stakeholders of the business organisation, viz. creditors, bankers, investors, employees, government, taxation authorities, and management. In the present-day business organisations where there exist separation of ownership and management, globalisation of businesses, and growing social accountability of organisations, the importance of communicating the results of the business organisations to these stakeholders have increased tremendously. The American Accounting Association in 1966 defined accounting as:

"The process of identifying, measuring and communicating economic information to permit informed judgements and decisions by users of accounts."

Thus, the term accounting can be described as the process of recording, classifying, and summarising the financial transactions and events of an organisation and analysing, interpreting and communicating the results thereof.

The term accounting is often confused with the term book keeping; however, the two are different from each other. **Accounting is a broader concept than book keeping.** Accounting begins where the book-keeping ends. It is book keeping which serves as a base for accounting. Book keeping is concerned with recording and classifying of business transactions and events whereas accounting uses the information provided by book keeping records to prepare financial statements. Book keeping do not have any branches whereas accounting has sub fields, viz. financial accounting, cost accounting, management accounting etc.

The term accounting should also be differentiated from the term accountancy. The term **accountancy has wider scope than accounting**. The term accounting refers to the systematic process of measuring, recording, classifying and summarising the financial transactions and events of an organisation and analysing, interpreting and communicating the results thereof to the users of accounting information whereas the term accountancy refers to the entire body of knowledge covering accounting principles, conventions, standards and techniques which are followed in the process of accounting. It can be said that accounting is the action based on accountancy driven knowledge. Thus, accounting deals with the practical part whereas the term accountancy deals with both, that is, conceptual and practical parts.

1.3 USERS OF ACCOUNTING INFORMATION

The users of accounting information can be either external users or internal users. The information needs of external users, viz. creditors, banks, tax authorities etc. is fulfilled by financial accounting, whereas the information needs of internal users; especially the management is primarily fulfilled by management accounting. The list of different users of accounting information along with a brief description of their need is enumerated below:

(i) **Investors:** Investors are the one who provide risk capital to the business. They are the one who are the residual claimants on the profits and the assets of the business enterprise. They have a constant requirement to assess the financial position of the business organisation both in terms of profitability and solvency so that they can review their investment decisions on real time basis.

(ii) **Banks or money lenders:** They are the one who provide loan capital to the business organisation. They are always interested in the regular and timely payment of their interest dues and the timely repayment of principal amount by the business organisation. Consequentially they have a constant need to judge the financial position of the organisation.

(iii) **Creditors or suppliers:** These are the people who supply raw materials, goods or other utilities to the enterprise on credit basis. Since they are interested in the timely payment of their dues, they have a constant need to assess the liquidity position of the business organisation.

(iv) **Customers:** This sub group of stakeholders is also interested in the stability and continuity of the business organisation to ensure the regular long-term supplies of goods and to enjoy the benefit of better after sale services.

(v) **Employees:** The employees of an organisation are also interested in the profitability, stability and continuity of the business organisation to ensure timely payment of their salary and other remuneration, retirement and other social security benefits. Thus, they also need to monitor the firm's financial position on continuous basis.

(vi) **Taxation authorities and other government agencies:** Taxation authorities in a country are always interested in the accuracy of the records so as to have an exact assessment of the direct and indirect tax liability of the organisation. Further different government agencies also regulate business organisations to control prices, to ensure optimum allocation of scarce national resources, and to promote the public good at large.

(vii) **Public:** A business organisation contributes to the local community and public at large in many ways, viz. employment opportunities, infrastructure development, and general overall development of local community through contributions to better education and health facilities. Moreover, local communities are also interested to know the environment protection works and other social responsibility works of the business organisation so as to get a reasonable assessment of social cost benefit analysis of the organization's existence.

(viii) **Management:** This sub group of the stakeholders has a constant need of the accounting information to take several decisions. In the cut throat competition of today management faces the tough challenge of survival and being ahead of its competitors. It is also through accounting records that management determine the effects of its previous decisions.

1.4 BRANCHES OF ACCOUNTING

The various sub-fields of accounting include:

(i) **Financial Accounting:** It is the branch of accounting that deals with the recording, classifying, and summarising financial transactions and events and analysing, interpreting and communicating the results thereof. Financial accounting is historical in nature as it records those transactions which had already occurred. The end product of financial accounting is the few important statements, namely Profit and Loss Account, Balance Sheet, and Statement of Changes in Financial Position. The Profit and Loss account determines the net result of a particular accounting period and the balance sheet reveals the financial position of the organisation on a particular date. Statement of Changes in Financial Position states various transactions that led to the inflow and outflow of funds in a particular accounting period. These financial statements are prepared on the basis of accounting standards issued by the Institute of Chartered Accountants of India and the law laid down in the act applicable to the respective organisation. There are some basic accounting principles and guidelines called Generally Accepted Accounting Principles (GAAP) which provide the framework for setting up the comprehensive accounting rules, standards and industry specific accounting practices.

(ii) **Cost Accounting:** It is the branch of accounting which involves with the application of accounting and costing principles, techniques and methods for the ascertainment of cost of every unit of product and service produced by the organisation with the aim of cost reduction and cost control.

(iii) **Management Accounting:** It is the branch of accounting that involves the presentation of accounting information in a way that it becomes useful to management. In simple words it can be referred as accounting for managers, that is, accounting which provides necessary information to the managers to discharge different functions. Management accounting enables a business organisation to conduct its operations more efficiently.

(iv) **Social Responsibility Accounting:** This branch of accounting deals with the accounting for the various social costs incurred by the organisation and the social benefits of its existence. It involves measurement and communication of the social and environmental effects of economic actions of the organisation to the various stakeholders.

(v) **Human Resource Accounting:** This accounting sub field deals with the identification, quantification and reporting of investments made in human resources of an organisation. The two basic purposes of this accounting branch are to ascertain the total cost incurred in acquiring, maintaining and developing the employees of the organisation and to determine the future potential of these employees in monetary terms.

(vi) **International Accounting:** It is the branch of accounting that considers International Accounting Standards at the time of balancing of books of account.

1.5 TEST YOUR UNDERSTANDING (A)

(1) Define the term accounting.

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(2) List various users of accounting information.

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(3) Fill up the blank spaces:

(a) Accounting is the process of recording, classifying, and summarising the financial ……….. and ………… of an organisation.

(b) The two important financial statements prepared in financial accounting are ………………………………… and …………………………..

(c) The aim of cost accounting is ………………………. and ………………….

(d) The accounting branch which deals with the measurement and communication of the social and environmental effects of economic actions of the organisation is called ………….. accounting.

1.6 NATURE OF MANAGEMENT ACCOUNTING

The prime focus of management accounting is to provide relevant information to the management to help better decision making and hence to improve the efficiency of the business organisation. Managerial accountants use information generated by different branches of accounting for the pursuit of organisational goals. Following are the chief characteristics of management accounting:

(i) Management accounting is futuristic in nature. Financial accounting provides facts which are historical in nature and managerial accountants use such historical information to decide the future course of action.

(ii) Management accounting is an internal accounting system as its sole purpose is to report the accounting information in a way it is suitable to management. The internal reporting purpose of management accounting makes it more flexible and freer from the any statutory requirements.

(iii) Management accounting reports are of both short and long durations. For example, sales reports can be prepared over short intervals whereas the capital expenditure budget is prepared for the longer horizon. Further the reports should be prompt and timely to ensure better decision making.

(iv) Management accounting aims to establish the cause-and-effect relationship of any activity performed by the business organisation.

(v) Management accounting uses special tools and techniques viz. financial planning and analysis, standard costing, cost volume profit analysis, budgetary control, project appraisal etc. to make accounting data more useful to the management. The choice of a particular tool depends upon the necessity of the situation.

1.7 TOOLS OF MANAGEMENT ACCOUNTING

Management accountant has to furnish information to the management that varies in character. He has to –

- provide diagnostic information which he has derived from past records.
- provide data for formulation of business plans; both long term and short term.
- assist management in capital budgeting.
- provide information necessary for control.

For performing all these duties, he has various tools and techniques in his arsenal. Though it is not practically possible to list all of those tools and techniques; a few important tools are discussed below:

(i) Financial Statement Analysis: It is concerned with the methodical classification and evaluation of the information provided by the financial statements so that true position regarding profitability and financial soundness of the business organisation can be ascertained. It collects the raw information from the financial statements of the organisation and converts it into meaningful information that can be used for taking managerial decisions. Financial statement analysis can be of different types, viz. horizontal analysis, vertical analysis, ratio analysis etc.

(ii) Fund Flow Analysis: It is the analysis done on the basis of fund flow statement which depicts the changes in fund (working capital) position of the organisation. Efficient management of working capital is necessary for the very survival of the business organisation and to boost its profitability.

(iii) Cash Flow Analysis: It is the analysis done on the basis of cash flow statement which depicts the changes in cash and cash equivalents position of the organisation. Efficient management of cash is important for keeping the organisation technically solvent and also to improve its profitability. Proper cash flow analysis enables an organisation to adjust its liquidity cushion, rearrange the maturity structure of its debts and making arrangements for availability of cash at times it is needed.

(iv) Standard Costing and Variance Analysis: It involves setting standards for each element of cost, measuring the actual cost, comparing the actual cost with the standards set to find variances, analysing the cause for such variances and taking corrective actions following management by exception to control costs and hence to improve the efficiency of the business organisation.

(v) Marginal costing and Cost Volume Profit Analysis: Marginal costing is a technique in which the variable costs are charged to product leaving the fixed costs to be covered from a fund known as contribution. The technique of cost volume profit analysis is the extension of the marginal coasting technique as it analyses how changes in the level of business activities (volume of production) influences the fixed cost and variable cost and hence affect the firm's profitability.

(vi) Differential costing: This technique compares the cost and revenue of two different alternatives by analysing each of the crucial elements that are affected by the decision involving choice among alternatives. The technique of differential costing analyses only the relevant costs and revenues while taking managerial decisions.

(vii) Budgetary Control: It is an important technique used for planning and control. It involves framing of budgets, comparison of actual performance with the budgeted performance, computation of deviations and undertaking remedial measures for minimising these deviations or revising budgets, if necessary.

(viii) Revaluation Accounting: The purpose of revaluation accounting is to value the assets at their fair market value so as to enable the management to deal with the problem of fixed assets' replacement in times of rising prices.

(ix) Mathematical and statistical Methods: Besides the above discussed tools, there are several mathematical techniques viz. linear programming, queuing theory, decision theory, Network Analysis, Games Theory, Simulation theory, etc. that are increasingly applied in the determination of product mix, inventory control, project and product planning, logistics management and other areas. Further statistical tools are also used in the forecasting and presentation of information. While techniques like analysis of time series and interpolation are useful in demand estimation; histograms, frequency curves, charts and diagrams are useful in the presentation of information to the management.

1.8 UTILITY OF MANAGEMENT ACCOUNTING

Management accounting provides invaluable services to management in performing of its functions. It increases the operational efficiency of both; the management and its employees. The prime management functions are – planning, organising, coordinating, motivating, communicating and controlling. The basic advantage of management accounting lies in the fact that it helps in the performance of each of these functions. A brief description of some of the main advantages of management accounting is given below:

(i) **Planning and business forecasting:** This function of management involves the formulation of policies, setting up of goals and initiating necessary programs for achievement of these goals. Management accounting makes available the relevant data in the desired manner which helps management in effective planning and decision making.

(ii) **Organising:** Management accounting studies by dividing the whole organisation into suitable profit or cost centres. A sound system of internal control and internal audit for each of these cost centres and profit centres helps in organising and thus to establish a sound business structure.

(iii) **Coordination:** Management accounting through departmental budgets and reports helps in achieving the effective coordination among different departments of the organisation.

(iv) **Motivating employees:** An effective management accounting system enables to make suitable division of work among its employees. Unreasonable standards of performances are avoided which are the main cause of employee's unrest. Deviations of actual employee performance from the standard or budgeted performance are analysed by distinguishing between the controllable and uncontrollable deviations; holding employees responsible only for the controllable deviations.

(v) **Controlling:** The system of management accounting through techniques like budgetary control and standard costing enables the management to compare the actual levels of performance with the budgeted or standard levels of performance and thus helps in exercising appropriate control measures.

(vi) **Maximisation of profits:** The thrust of various management accounting techniques is to make the optimum utilisation of available resources, reducing cost of production and increasing the efficiency of each individual in the organisation. Thus, it helps in achieving the higher return on capital by proper planning, distribution and controlling.

(vii) **Improves service to customers:** The effective implementation of management accounting techniques helps in achieving better cost efficiency, thus enabling lower cost of products and services offered by the business organisation. Such improved cost of production ultimately leads to lower prices of its products and services.

1.9 LIMITATIONS OF MANAGEMENT ACCOUNTING

Management accounting being relatively a new discipline suffers from certain limitations. Some of the major limitations of management accounting are:

(i) **Limitations of accounting records:** Most of the management accounting information is derived from financial accounting and cost accounting records which are historical in nature. Thus the quality of management decisions depends upon the accuracy and precision of these accounting records.

(ii) **Lack of knowledge in other disciplines:** The application of management accounting requires the knowledge of a number of related subjects. Management accountant must possess the knowledge of accounting, statistics, economics, management, engineering and other related disciplines to effectively utilise the management accounting tools.

(iii) **Employee resistance:** The conclusions drawn by management accountant are not executed automatically. There may be resistance at different levels in the organisation and he may have to convince people at all levels to implement his decisions.

(iv) **Personal bias:** The interpretation of the financial information depends upon the capability and personal judgement of the interpreter. There is a possibility that the management accountant's personal bias may enter into his analysis and interpretation of financial information and thus may affect the objectivity of his decisions.

(v) **Management accounting is only a tool:** Management accounting is not an alternative to administration or management. The tools and techniques of management accounting only provide the relevant information to the management to take decisions. The decisions are to be finally taken by the management. Thus management accountant only provides the supplementary service to management and in no way is a replacement to the management.

1.10 TEST YOUR UNDERSTANDING (B)

(1) Define management accounting.

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(2) State three main limitations of management accounting.

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(3) Mention five important tools of management accounting.

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(4) State which of the statements are true and which are false?

a) Management accounting is historical in nature.
b) Management accounting is an internal accounting system.
c) In marginal costing technique both the fixed costs and the variable costs are charged to products.
d) Ratio analysis is an important tool of management accounting.

1.11 BASIC COST CONCEPTS

Cost is one of the most important terms used in management accounting. The term cost is defined in different ways by experts from different areas. Even in our everyday life we use this term several times. The dictionary meaning of the term cost is 'the price paid to acquire something'. However, the exact meaning of the term depends upon the context in which that term is referred to. The term cost may refer to total cost, per unit cost, fixed cost, variable cost, marginal cost, direct cost, opportunity cost, out of pocket cost, prime cost, conversion cost etc. For understanding the exact meaning of the term cost and to avoid any confusion it should always precede by a modifier. Moreover, the context in which the term cost is referred to must also be made clear to avoid any misleading interpretations of the cost concept. Some of the important definitions of cost are listed below:

According to CIMA London the term cost is "The amount of expenditure (actual or notional) incurred on or attributable to a given thing".

According to the Committee on Cost Terminology of American Accounting Association the term cost means "the foregoing in monetary terms, incurred or potentially to be incurred in the realisation of the objective of management which may be manufacturing of a product or rendering of a service".

On the basis of above definitions, it can be stated that the term cost is the measurement of sacrifice which may be in the form of decrease in the level of its assets. Further the different resources (material, labour or other services) utilised will be measured in common monetary units. Finally, such sacrifice of resources should be to achieve some stated objective which may be either to manufacture a product or to render some service.

The term cost must be distinguished from expense and loss. To understand the difference between cost, expense and loss let us first distinguish expired and unexpired cost. **Expired cost** refers to that expenditure whose revenue generating capacity has expired. In other words that expenditure cannot generate any revenue in future. On the other hand, the term **unexpired cost** refers to that expenditure whose revenue producing capacity has not yet expired. In other words it is the expenditure incurred which can generate revenue in the future. For example, amount spent on purchase of plant and machinery will be an unexpired cost as the plant and machinery purchased will have the potential to generate revenue in future years. The expired cost will be further divided into expense and loss. The term **expense** refers to that part of the expired cost whose revenue generating capacity has been used to produce the revenue. For example, cost of goods sold. On the other hand, the term **loss** refers to that part of expired cost whose revenue producing capacity could not be used to produce the revenue. For example, goods lost by fire, theft etc.

In general, all costs can be attributed to the overall firm. However, this attribution of cost to the overall firm is of no managerial use. For effective planning and control the cost should be attributed to a small segment of a firm, may be a unit of a product or service. The smallest unit to which the costs are attributable is called **cost object or cost unit**. It may be a unit of product or group of products, a division, a department in the firm, a particular machine, labour hour, sales territory, a contract, a job etc. The term cost unit may vary from firm to firm. In a car manufacturing company, the cost may be measured per car, whereas in a footwear company the cost may be measured per batch (say 100 pairs) of shoes. The cost object should be such that it is feasible to attribute the cost to it.

Cost centre is another term associated with the concept of cost. It refers to the organisational unit or department for which costs are accumulated or to which the costs can be allocated. When the costs accumulated for a cost centre are assigned to the person in charge of that centre then such a cost centre is also called responsibility centre.

1.12 COST CLASSIFICATION

It is the logical process of categorising the costs according to their common characteristics to fulfil accounting objective and assist economic analysis. Before going through the different types of costs it must be clearly understood that any particular cost may be assigned to more than one category. For example, salary paid to an employee is out of pocket cost, fixed cost as well as labour cost. Some of the prime bases on which costs can be grouped into different categories are described below:

(i) **On the basis of nature of element:** Under this basis the costs are divided into three categories. These are material cost, labour cost and expenses.

Material cost refers to the cost incurred on purchase of physical items such as raw materials, components, consumable stores, packing material etc. Material cost can be further divided into Direct Material Cost and Indirect Material Cost. Direct material cost refers to the cost of those materials which can be easily traceable to the production of finished goods. It generally comprises the major cost of the finished product. This cost can be conveniently calculated on per unit basis. The direct material cost includes:

- The cost of all raw materials, for example, the cost of wood for manufacturing furniture.
- The cost of all the components which are assembled into the finished product, and

- The cost of primary packing material which is used to preserve the basic character of the product.

On the other hand, the materials which are of very small value viz. cost of nails used in making furniture or gum used in book binding are considered as indirect material cost.

Labour cost refers to the cost incurred on human's physical and mental effort that goes into the production of finished product. It can be further divided into direct labour cost and indirect labour cost. Direct labour cost refers to the remuneration paid to the labour which is directly involved in producing the product. The examples of direct labour cost are wages paid to labour engaged in production such as machine operators, wages paid to supervisors etc. Direct labour cost forms the major component of labour cost. It can be conveniently calculated on per unit basis. On the other hand, the residual labour cost which cannot be categorised as direct labour cost is called indirect labour cost. For example, the remuneration paid to trainee or apprentices.

Expense refers to the cost incurred on items other than material or labour. Expenses can also be divided into direct expenses and indirect expenses. The term direct expenses refer to those expenses which can be conveniently calculated on per unit basis. For example, hire charges of machinery specifically hired for a particular job or order. On the other hand, the expenses which cannot be conveniently calculated on per unit basis are called indirect expenses. For example, salary of factory gate keeper, electricity bill of office, insurance charges of vehicles etc.

(ii) **On the basis of function:** Under this basis of cost classification the costs are divided into different categories on the basis of their occurrence in relation to a particular function of a business undertaking, that is, production, administration, selling and distribution etc. The cost incurred to manufacture or construct an item is called **manufacturing or production cost** and the cost incurred in operating a business undertaking is called commercial cost. The commercial cost can be further divided into administration cost and selling and distribution cost. **Administration cost** refers to the cost which is incurred in performing the administrative functions viz. planning, organising, directing and controlling in the company. Further the **selling and distribution cost** though named together yet relates to different activities of the organisation. The selling cost is the one which is incurred to create, stimulate demand and securing orders for the firm's products. For example, advertisement cost, salesman's salary etc. On the other hand the term distribution cost refers to the order filling costs. It includes transportation costs, warehousing etc.

(iii) On the basis of traceability: On the basis of degree of traceability of the cost with the product manufactured or service rendered, it can be either direct cost or indirect cost. The **direct cost** is the one which can be easily traceable to the product or service. It can be conveniently calculated on per unit basis. It includes direct material cost, direct labour cost and direct expenses. Direct cost is also termed as ***Prime Cost***. On the other hand the cost which cannot be easily traceable to product or service is called **indirect cost or overhead**. For example, depreciation, salary of office clerk, printing and stationary cost etc. It comprises indirect material cost, indirect labour cost and indirect expenses. Further the indirect cost or overhead can be factory overhead, administration overhead or selling and distribution overhead. In the absence of any direct expenses the aggregate of direct labour cost and factory overheads is called conversion cost, that is, the cost directly incurred to convert the material into finished product.

(iv) On the basis of changes in activity level or volume of production: On this basis the costs can be divided into three types, that is, fixed cost, variable cost, and semi-variable or semi-fixed cost. The term **fixed cost** refers to that cost which do not changes with the level of activity or volume of production. For example, rent of building, insurance of building, salary of permanent staff, depreciation etc. The total fixed cost remains same irrespective of the level of output however the per unit fixed cost decreases with the level of output. (See Fig. 1)

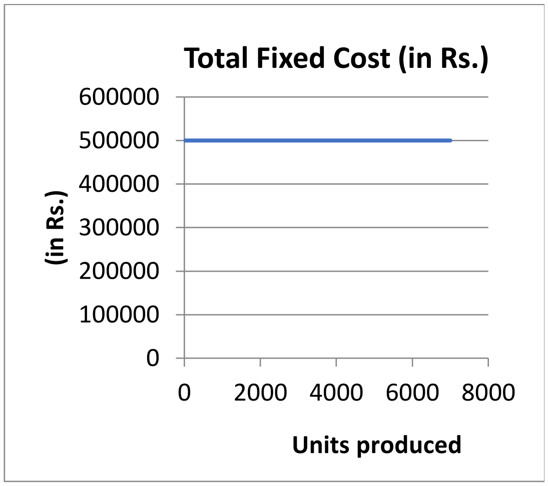

Figure 1 (a)

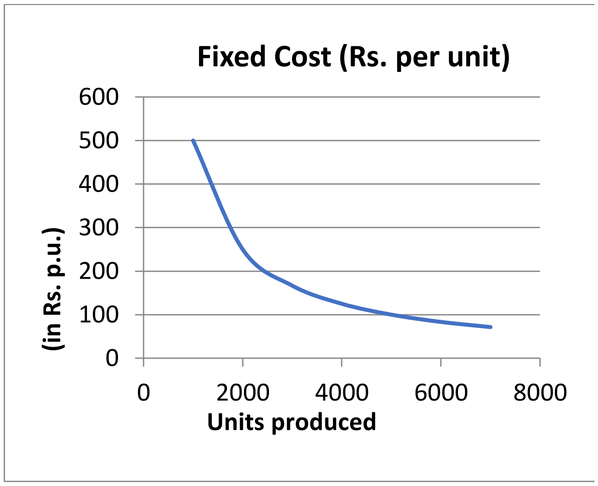

Figure 1 (b)

It is worth mention here that some fixed costs remain constant over a particular range of activity level and increases when the volume increases beyond that range. For example, supervision costs. Such fixed costs increase in steps, thus are called **step fixed costs** (see Fig. 2).

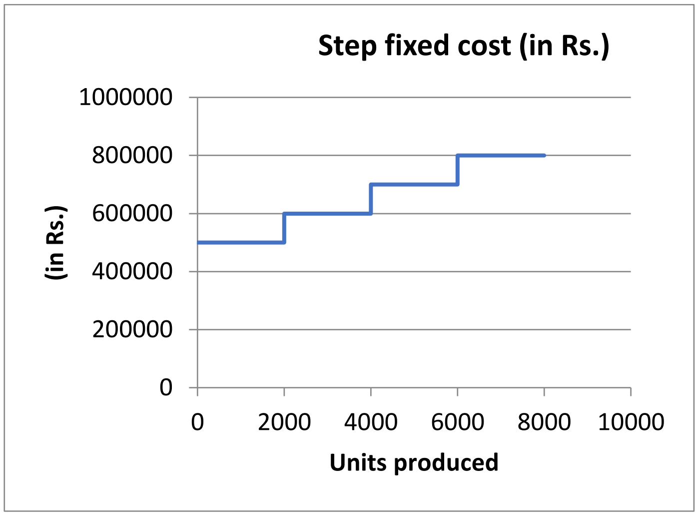

Figure 2

The fixed cost can be further of two types. These are committed fixed costs and discretionary fixed costs. The **committed fixed costs** are the one which occurs due to the past commitments of the organisation viz. depreciation on plant and machinery. On the other hand, the **discretionary fixed costs** are incurred either due to the policy or discretion of management. For example, cost of research and development, training cost of employees, etc. Since most of the fixed costs are the result of past commitment or incurred due to management policy or discretion, thus are not controllable at the departmental level. Such costs can generally be controlled at the top level of the management.

The term **variable cost** refers to those costs which changes proportionately with the level of activity. Mathematically, there exists a linear relationship between the variable costs and the volume of production. If the volume increases by 10 percent, then total variable costs also increase by 10 percent. For example, material costs, labour cost etc (See Fig. 3). The total raw material cost increases proportionately with the level of output and per unit material cost remains constant for different level of activities. Further the labour costs may increase in a step wise fashion rather than increasing exactly in a linear fashion. However the rise in steps is so small and frequent that for all practical purposes such costs are considered as variable costs.

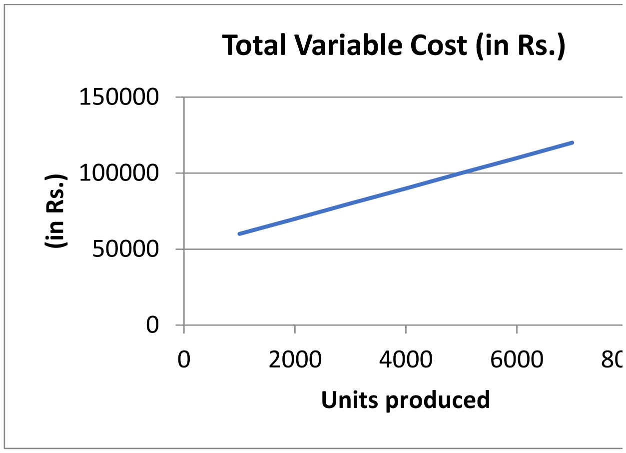

Figure 3 (a)

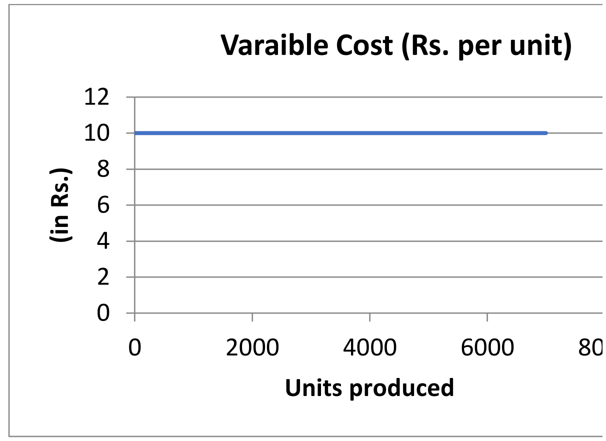

Figure 3 (b)

The third type of cost on the basis of its variability with the level of activity can be **semi- fixed cost or semi-variable cost**. It refers to the mixed cost which comprises of two components namely, fixed component and variable component. The fixed component of the cost remains same irrespective to the level of activity or volume of production whereas the variable component of the cost changes proportionately with the level of activity. For example, repairs and maintenance cost, telephone bill, power charges etc. Figure 4 shows the relationship of total semi-variable cost to the level of output.

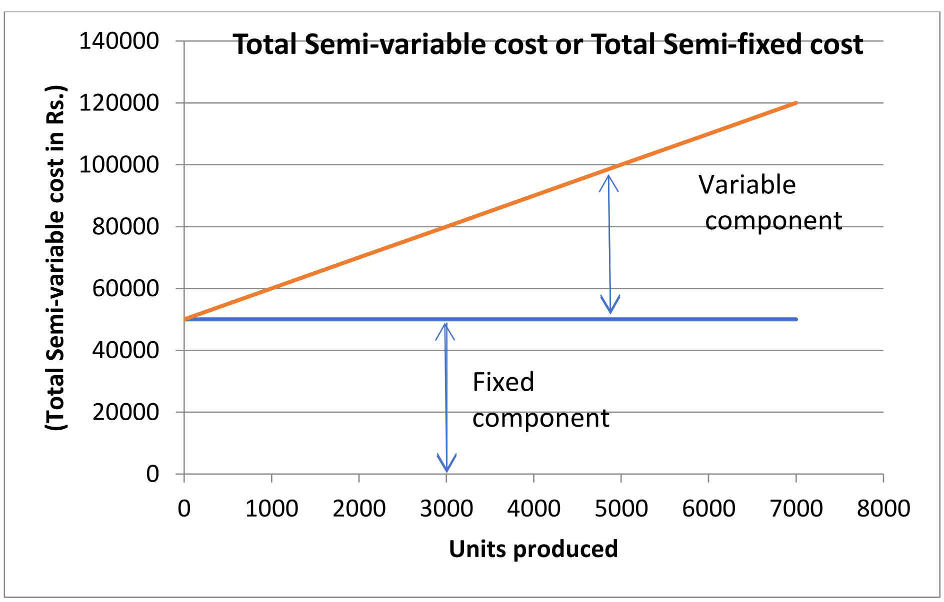

Figure 4

Though it is common practice to assume that total fixed cost remains constant irrespective of the level of output and the total variable cost increases proportionately with the level of output but practically this definition of fixed cost and variable cost remains valid over a particular range of activity and not over the entire range of level of activity. Such range of activity is termed as **relevant range** of activity. Beyond the relevant range there may be some increase even in the fixed costs and the variable costs may change disproportionately with the further increase in the level of output beyond a particular range. This may happen due to several reasons viz., decrease in efficiency of newly recruited labour to produce additional units, bulk discounts in raw material cost on big orders etc. Thus, it is very important to understand that for managerial decision making the costs are viewed as fixed or variable considering a relevant range in which the firm normally operates.

(v) On the basis of controllability: One of the main objectives of management accounting is to control the costs. On the basis of controllability, the costs can be classified as **controllable costs and uncontrollable costs**. The costs which are influenced by the actions of a particular person or a particular department in the organisation are said to be controllable by that person or at that particular level of management. On the other hand, the costs which are not influenced by the actions of a particular department or person are said to be non-controllable by that person or that particular department of the organisation. The distinction of costs between controllable and uncontrollable is always according to the point of reference. A cost uncontrollable by one person or department may be controllable by another person or department of the organisation. Controllability of costs depends upon the level and management and the period of time. A cost may be uncontrollable at lower level of management but the same cost can be controllable at the higher level of management. For example, a sales manager may not control the cost incurred on salaries of salesman, but the same can be controlled by the personnel manager of the organisation by following appropriate human resource policies. Further a cost which is uncontrollable in the short period of time may become controllable in the long period. For example, the depreciation cost is uncontrollable in the short period because of past commitments however may become controllable in the long period by following appropriate policies regarding plant up gradation, modernisation or disposition. Lastly it is worth mention here that a cost need not be hundred percent controllable to classify it as controllable cost. It is rare that a person or department can control all the factors influencing a particular cost. A cost can be termed as controllable by a person if through his actions, he can bring a significant change in the cost.

(vi) On the basis of relationship with accounting period: On this basis of cost classification, it can be either capital cost or revenue cost. The cost which is related to more than one accounting periods is called **capital cost**. For example, cost incurred on purchase of machinery, cost incurred on plant up gradation etc. Such costs increase the earning capacity of the firm and the benefit of such costs accrue to the firm in more than one year. On the other hand, the **revenue cost** means the cost which is related to a particular accounting period. For example, cost of raw material consumed, cost of labour, depreciation on machinery etc.

(vii) On the basis of relationship with inventory: On this basis the costs can be classified into product costs and period costs. The term **product cost** refers to those costs which are associated with the units of product. These are the costs which are absorbed by the units produced thus determines the value of inventory. Product costs comprise of direct materials, direct labour and factory overheads (either wholly or partly). On the other hand the term **period cost** refers to those costs which are associated with the time rather than the units produced. These costs do not form part of inventory valuation and are charged as expenses to profit and loss account of the period in which such costs are incurred. Administration overheads and selling and distribution overheads are treated as period costs.

(viii)On the basis of planning and control: On this basis the costs can be classified as budgeted costs and standard costs. **Budgeted cost** is the estimation of cost which is likely to be incurred on various segments of business operations such as manufacturing, administration, selling and distribution, research and development etc. in the budget period to achieve the Organisational goals. On the other hand, the term **standard cost** refers to the technically estimated costs for various elements of cost viz., material, labour, overheads that should be incurred to produce the output. Though both the budgeted costs and the standard costs are the estimated costs for future yet standard costs are more intensive in nature. The aim of budgeted costs is better planning of different business operations whereas the primary emphasis of standard costs is on cost control.

(ix) On the basis of managerial decision making: The following categorization of costs may help the management in decision making –

a) **Differential cost** is the difference in cost of two alternatives. The knowledge of differential cost is very important while selecting between different alternatives. Thus, differential cost is the relevant cost in decision making. When there is no change in the fixed cost of two alternatives, differential cost equals only the difference in variable costs of two alternatives. However, when there is a change in both the fixed cost and the variable cost of two alternatives, differential cost equals the difference in total cost of two alternatives.

b) **Marginal cost** is the cost of making one additional unit of output. In accounting the marginal cost equals only the variable cost of making additional unit as the fixed costs are assumed to remain constant with the level of output. Marginal costing is an important technique in management accounting where only the variable costs (marginal costs) are charged to product leaving the fixed costs to be covered from a fund known as contribution. The technique of marginal costing is very important tool available to management for better decision making.

c) **Opportunity cost** is the cost of next best alternative. It refers to the value of benefit foregone by sacrificing an alternative course of action to select the best course of action. The knowledge of opportunity cost is very important as it keeps on reminding the management that what it could have earned if used its resources in another (next best) alternative. It keeps constant pressure on management to earn higher than the opportunity cost so as to prove the rightfulness of its decision.

d) **Out of pocket cost** is the cost which causes present or future cash outflows from the business. For example, salaries paid, wages paid, rent, raw material cost etc. Since depreciation cost and amortisation of intangible assets do not involve any cash outlay thus it is not out of pocket cost.

e) **Imputed or notional cost** refers to the notional value of that factor whose cost actually is not incurred due to the self-ownership of the asset. For example, notional rental value of self-owned building, interest on owner's funds.

f) **Replacement cost** is the cost of replacing an identical asset. It is the price at which an identical asset of same type and age is available in the market. The concept of replacement is important to adjust the firm's financial statements for inflation. However, there is a limitation that one can know replacement cost only when such similar assets (similar to firm's existing assets) are traded in the market.

g) **Avoidable cost** refers to that cost which can be avoided by taking a particular action, say by discontinuing a particular product or division. On the other hand, **unavoidable cost** refers to that cost which cannot be avoided by taking a particular action. The distinction between the two is very important in deciding the relevant costs for decision making.

h) **Sunk costs** are the costs incurred in the past for which nothing can be done at the moment. Such costs are the result of past decisions of management and are irrelevant in the present decision-making situations. For example, investment in fixed assets.

1.13 TEST YOUR UNDERSTANDING (C)

1. Differentiate between the term cost, expense and loss.

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……………………………………………………………………………………………………
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2. Define the term cost centre and cost unit.

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……………………………………………………………………………………………………

3. Differentiate between the term direct cost and indirect cost.

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……………………………………………………………………………………………………
……………………………………………………………………………………………………

4. Differentiate between the term controllable cost and uncontrollable cost.

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……………………………………………………………………………………………………

5. Fill up the blank spaces:

   a. …………………… is the difference in the cost of two alternatives.
   b. The amount of benefit foregone by sacrificing an alternative course of action is called ……….

c. The costs which form part of inventory valuation are called …………………….

d. Per unit ………. cost remains same irrespective of the level of output.

1.14 LET US SUM UP

- Accounting is the process of recording, classifying, and summarising the financial transactions and events of an organisation and analysing and interpreting the results thereof.
- Book keeping is concerned with recording and classifying of business transactions and events whereas accounting uses the information provided by book keeping records to prepare financial statements.
- The users of accounting information can be either external users or internal users.
- Financial accounting, cost accounting and management accounting are the major sub fields of accounting.
- Managerial accountants use information generated by different branches of accounting for the pursuit of organisational goals.
- Management accountant has several tools and techniques in his arsenal that helps him to generate important information which is relevant for better decision making.
- Management accounting being relatively a new discipline suffers from certain limitations.
- Cost is the measurement of sacrifice which may be in the form of decrease in the current level of its assets.
- The term cost must be distinguished from expense and loss.
- The smallest unit to which the costs are attributable is called cost object or cost unit.
- Cost centre refers to the organisational unit or department for which costs are accumulated or to which the costs can be allocated.
- On the basis of nature of element, the costs are divided into material cost, labour cost and expenses.
- On the basis of managerial function, the cost can be divided into production cost, administration cost and selling and distribution cost.
- On the basis of degree of traceability of the cost with the product manufactured or service rendered, it can be either direct cost or indirect cost.
- On the basis of changes in activity level or volume of production the costs can be divided into three types, that is, fixed cost, variable cost and semi-variable or semi-fixed cost.

- The costs which are influenced by the actions of a particular person or a particular department in the organisation are said to be controllable by that person or at that particular level of management.
- On the basis of relationship with accounting period the cost can be either capital cost or revenue cost.
- Product cost refers to those costs which are absorbed by the units produced thus determines the value of inventory and period costs are those costs which are associated with the time rather than the units produced.

1.15 KEY TERMS

Accounting: It can be described as the process of recording, classifying, and summarising the financial transactions and events of an organisation and analysing, interpreting and communicating the results thereof.

Accountancy: It is the entire body of knowledge covering accounting principles, conventions, standards and techniques which are followed in the process of accounting.

Financial Accounting: It is the branch of accounting that deals with the recording, classifying, and summarising financial transactions and events and analysing, interpreting and communicating the results thereof.

Cost Accounting: It is the branch of accounting which involves with the application of accounting and costing principles, techniques and methods for the ascertainment of cost of every unit of product and service produced by the organisation with the aim of cost reduction and cost control.

Management Accounting: It is the branch of accounting that involves the presentation of accounting information in a way that it becomes useful to management.

Cost Object or Cost Unit: The smallest unit to which the costs are attributable is called cost object or cost unit.

Cost centre: It refers to the organisational unit or department for which costs are accumulated or to which the costs can be allocated.

Direct cost: It is the cost which can be easily traceable to the product or service. It can be conveniently calculated on per unit basis.

Overhead: It is the cost which cannot be easily traceable to product or service.

Fixed cost: It refers to that cost which do not changes with the level of activity or volume of production.

Variable cost: It refers to those costs which changes proportionately with the level of activity.

Product cost: It refers to those costs which are absorbed by the units produced thus determines the value of inventory.

Period cost: It refers to those costs which are associated with the time rather than the units produced thus do not form part of inventory valuation. These costs are charged as expenses to profit and loss account of the period in which such costs are incurred.

Opportunity cost: It is the cost of next best alternative. It refers to the value of benefit foregone by sacrificing an alternative course of action to select the best course of action.

1.16 REVIEW QUESTIONS

1. 'Management accounting deals with accounting information which is useful to management'. Explain.
2. Explain the role of management accountant in the management process.
3. Briefly explain the various tools of managerial accounting.
4. 'Management accounting is only a tool and not an alternative to administration or management'. Comment.
5. Give a brief note on the significance of each of these costs:
    a. Opportunity cost
    b. Imputed or notional cost
    c. Differential cost
    d. Marginal cost
6. Distinguish between:
    a. Product cost and Period cost
    b. Direct cost and Indirect cost
    c. Cost, expense and loss
    d. Controllable cost and uncontrollable cost

1.17 ANSWERS TO TEST YOUR UNDERSTANDING

Answers to test your understanding - A

3 a. Transactions, events

3 b. Profit and Loss Account, Balance Sheet

3 c. Cost reduction, cost control

3 d. Social Responsibility Accounting

Answers to test your understanding - B

4 a. False

4 b. True

4 c. False

4 d. True

Answers to test your understanding - C

5 a. differential cost

5 b. opportunity cost

5 c. Period cost

5 d. Variable

1.18 FURTHER READINGS

1. I.M. PANDEY, Management accounting, Vikas Publishing House, New Delhi.
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3. Ravi M. Kishore, Cost and Management Accounting, Taxmann.
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5. M.N. Arora, Cost and Management Accounting, Himalya Publishing House,

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SEMESTER-I

COURSE: ACCOUNTING FOR MANAGERIAL DECISIONS

UNIT 2 – FINANCIAL STATEMENTS: UNDERSTANDING FINANCIAL STATEMENTS

STRUCTURE

2.0 OBJECTIVES

After studying this unit, the students will know about the

- Different types of financial statements

- Accounting principles governing financial statements
- Format of preparing different financial statements
- List of items along with their meanings that are included in different financial statements
- Limitations of financial statements

2.1 INTRODUCTION

Accounting records are summarised to generate accounting information that is useful to different internal and external parties' viz. management, shareholders, creditors, bankers, suppliers, customers, employees, government and society. This summarised information of firm's financial transactions and events is organised systematically in the form of different financial statements. The two main financial statements are Balance Sheet and Income Statement. Besides these two important financial statements, a firm also prepares Statement of Cash Flows and Statement of Changes in Equity. At the end of financial statements certain notes are also provided to disclose the assumptions made by the accountants while preparing these financial statements. Such notes are the essential part of these financial statements as they make these financial statements fully understandable.

This unit discusses in brief about the different financial statements prepared by a firm.

2.2 MEANING OF FINANCIAL STATEMENTS

Financial statement is a document prepared by a firm from its accounting records. These statements are prepared by following consistently the different Generally Accepted Accounting Principles and procedures. These financial statements are the means to communicate the firm's financial position to its users. Thus it is utmost important that these statements should be prepared carefully and following the well accepted accounting principles on consistent basis. These statements must present a true and fair view of firm's financial position and activities to its stakeholders. Though different financial statements are prepared by different organisations; the two important financial statements namely, Balance Sheet (Statement of Assets and Liabilities) and Profit and Loss Account (Statement of Profit and Loss) are prepared by every firm. According to Sec. 2(40) of The Companies Act 2013 *"financial statement" in relation to a company, includes—*

(i) a balance sheet as at the end of the financial year;

(ii) a profit and loss account, or in the case of a company carrying on any activity not for profit, an income and expenditure account for the financial year;

(iii) cash flow statement for the financial year;

(iv) a statement of changes in equity, if applicable; and

(v) any explanatory note annexed to, or forming part of, any document referred to in sub-clause (i) to sub-clause (iv):

Provided that the financial statement, with respect to one person company, small company, dormant company and private company (if such private company is a start-up) may not include the cash flow statement.

Before elaborating on the different financial statements prepared by a firm, let us first know the various accounting concepts and conventions on which these statements are based. Every management accountant must be familiar with these principles in order to understand that how these statements are prepared and how to correctly interpret them.

2.3 ACCOUNTING PRINCIPLES AND CONCEPTS

The accounting principles are the general guidelines that are followed for sound accounting practices. These principles provide a broader framework within which the accountants may differ. The basic objective of these accounting principles is to ensure that the financial statements of a firm depict the true and fair picture of the net result of its operations and the financial position of the firm. The accounting principles which are worldwide accepted and recognized at a time by the accountants are called generally accepted accounting principles (GAAP). These accounting principles keep on evolving over time and an old principle may be replaced by a new and better accounting principle. However, for an accounting principle to be recognized as GAAP it must outperform on the basis of cost benefit analysis and must be free from personal biasness of the accountant. There is no comprehensive list of these accounting concepts and principles. A few most important accounting concepts that form the basis of firm's financial statements are discussed below:

i) **Business entity concept:** It states that while recording the business transactions and events in the books of account, the business or the firm should be identified as a separate entity from those of its owners. In case of company form of ownership, the business firm has separate legal entity from its owners, however in case of sole proprietorship and partnership firms the law does not distinguish between the business firm and its owners. But in accounting this concept requires that an accountant should always consider the business firm as a separate entity from its owners and all financial transactions and events must be recorded following this concept. For example, goods withdrawn by owner for personal use of the owner are treated as drawings and the money introduced by the owner in the business is treated as capital, thus distinguishing between the owner's fund and the business firm's fund.

ii) **Money measurement concept:** This concept demands that only those transactions and events will be recorded in the books of accounts which can be measured in money terms. For example, value of purchases, goods sold, depreciation, interest etc. The knowledge of this accounting concept is very essential to have the correct interpretation of firm's financial statements. While reading a financial statement one must remember that these statements depict only those assets and liabilities of the firm which are capable of money measurement. Besides these monetary assets a firm may have some non-monetary assets viz. management reputation, loyal customers, hardworking employees, or some non-monetary liabilities viz. fraudulent management, dishonest employees etc. which are not depicted by these financial statements but may have serious effect on the firm's position. Further the money measurement concept follows the assumption of constant price levels and thus ignores the falling purchasing power of money in inflationary environment.

iii) **Going concern concept:** The assumption of going concern concept states that the business entity will continue to operate for a fairly long period of time. The fair long period means the time period in which all the assets can be realised to their fullest possible extent, that is, will live their full lives. Following the going concern concept implies that all the assets will be reflected at values equivalent to their usable economic value and not at the values at which such assets can be immediately liquidated in the market.

iv) **Cost concept:** This concept states that an asset will be recorded in the books of account at its cost, that is, the price paid to acquire the asset and not at the fair market value of the asset. Initially the asset will be reflected at its cost of acquisition. In subsequent years it will appear at cost less depreciation, where depreciation reflects the expired part of asset's cost due to its use in the production of goods and services or due to the obsolescence of the asset.

v) **Duality concept:** The duality concept states that each business transaction and event have two aspects and both the aspects are recorded with a DEBIT and an equal offsetting CREDIT. Every business entity creates goods and services with the use of economic resources it owns. The economic resources owned by the business entity are called *assets*. The funds to acquire these assets are either provided by the owners of the business or its creditors / bankers. These funds are called equities. Further the funds which are provided by owners are called owners' equity or capital and the funds provided by outsiders are called outsiders' equity or liabilities. Every business transaction or event will have double impact and the duality concept states that both the aspects of every transaction and event will be recorded in such a way that the fundamental accounting equation (Assets = Equities, or Assets = Owner's equity + liabilities) always holds.

vi) **Accounting period concept:** This concept states that the continuous life of business entity is divided into small periods, called accounting periods for which the business transactions and events are summarized to ascertain the net result of business operations during a particular accounting period and also to depict the true state of its financial position at the end of such accounting period. Such accounting period can be the calendar year, financial year or any other period.

vii) **Matching concept:** This concept states that while preparing the financial statements same accounting period expenses should be matched with the same accounting period revenues in order to ascertain the correct profit or loss of the accounting period. For this purpose, revenue should be recognised in the accounting period following the realisation concept and the expenses incurred to earn these revenues should be matched in the same accounting period. For example, cost of goods sold should be recorded in the same accounting period in which the sales revenue is recognised. The matching of expenses with revenues is based on accrual system and not on the basis of cash system. Revenue is realised when the ownership of goods or services is transferred and not when the cash is received. Similarly, the expenses are recognised when the assets or services are put to use to earn the revenue during the accounting period and not when the cash is paid to acquire such assets.

viii) **Realisation concept:** This concept states that the revenue should be recognised when it is realised, and it is considered to be realised when the ownership of goods and services is transferred to the customer and thus is not dependent on the receipt of cash.

ix) Consistency concept: This principle requires that the business entity should follow consistency in its accounting policies over the different accounting periods. It will make the accounts comparable over the different accounting periods. However in case a change in accounting policy is necessary it must be clearly explained in the accounts and the figures of the previous year should be adjusted to make the financial statements comparable over years.

x) Conservatism concept: This concept states that the accountant should follow the principle of conservatism while recording business transactions. He should follow the practice of *'anticipate no profit but provide for all possible losses'*. Following this principle an accountant generally values the unsold stock at 'cost price or market price whichever is lower'.

2.4 BALANCE SHEET

The balance sheet is the most important financial statement of any business organisation. It depicts the financial position of the enterprise at a particular point of time; thus it is also called *Statement of Financial Position* or *Statement of Assets and Liabilities*. It provides a summarised view of the firm's assets and the various claimants against those assets. As this statement is prepared at a particular point of time, it is a status report rather than a flow report. Balance sheet is an important tool used by different stakeholders' viz. shareholders, creditors, bankers etc. to analyse the financial position of the enterprise. Balance sheet statement depicts the liquidity position and the solvency position of the organisation. A comparison of balance sheets prepared at different times also depicts the growth of the business enterprise over the time period. While reading this statement one must keep in mind the various accounting principles and assumptions followed by the enterprise at the time of recording the various transactions or events or at the time of valuation of its various assets / liabilities. Balance sheet can be either prepared in the 'T' shape format, that is, *Horizontal Format* or in the *Vertical Format*. However, in case of a Joint Stock Company the balance sheet and other financial statements must be prepared in the form provided in new schedule III of The Companies Act, 2013 as amended from time to time. More recently, vide Ministry of Corporate Affairs notification dated March 24, 2021 the new schedule III incorporated certain amendments to align the company's financial statements with the ever-increasing auditor's reporting requirements. Changes made in schedule III are made applicable on financial statements prepared for financial year 2021-2022 onwards. Section 129 of The Companies Act, 2013 requires that *"financial statements shall give a true and fair view of the state of affairs of the company or* *companies, comply with the accounting standards notified under section 133 and shall be in the form or forms as may be provided for different class or classes of companies in Schedule III"*. Proforma of the balance sheet as prescribed in Part-I of Schedule III of The Companies Act, 2013 is given below:

Part I – Balance Sheet

Name of the Company……………………..

Balance Sheet as at ……………………

(Rupees in ……………)

Particulars	Note No.	Figures as at the end of current reporting period	Figures as at the end of previous reporting period
1	2	3	4
I. Equities and Liabilities			
(1) Shareholders' funds			
(a) Share capital			
(b) Reserves and surplus			
(c) Money received against share warrants			
(2) Share application money pending allotment			
(3) Non –current liabilities			
(a) Long-term borrowings			
(b) Deferred tax liabilities (Net)			
(c) Other Long-term liabilities			
(d) Long term provisions			
(4) Current liabilities			
(a) Short-term borrowings			
(b) Trade payables			
(c) Other current liabilities			
(d) Short-term provisions			
Total			

II. Assets

Non-current assets

(1) (a) Fixed Assets

(i) Tangible assets

(ii) Intangible assets

(iii) Capital work-in-progress

(iv) Intangible assets under development

(b) Non-current investments

(c)Deferred tax assets (net)

(d)Long term loans and advances

(e) Other non-current assets

(2) Current assets

(a) Current investments

(b) Inventories

(c) Trade receivables

(d) Cash and cash equivalents

(e) Short-term loans and advances

(f) Other current assets

Total

Source: The Companies Act, 2013.

Let us now have a brief description of various items listed in the balance sheet.

Current Assets: Generally speaking, these are those assets which can be converted into cash within the normal operating cycle of the business or within one year of the balance sheet reporting date. More specifically, it includes assets which are intended either for sale or for the purpose of consumption within the operating cycle of the business. It may also include assets which are primarily held for the purpose of being traded or are expected to be realized within twelve months of the reporting date. Lastly it also includes those cash and cash equivalents which are not restricted from being exchanged or used to settle a liability for at least twelve months after the reporting date. All assets other than current assets are termed as non-current assets.

Current Investments: It refers to the temporary or short-term investments made by the enterprise in different securities viz. shares, bonds, government securities, mutual funds etc. These are those investments which are readily realizable and are not intended to be held for a period of more than twelve months. Schedule III of The Companies Act, 2013 requires that a detailed classification of current investments must be provided, disclosing separately such investments in each type of instrument, and to each borrower or institution. Further the basis of valuation of each individual investment, aggregate amount of quoted investments along with their market value, aggregate amount of unquoted investments and the provision for diminution in the value of investment must also be disclosed.

Inventories: It includes raw material, work-in progress or semi-finished goods and the finished goods stock. Stock of raw material and work-in-progress ensures smooth flow of production process and the stock of finished goods is must to serve the customers demand in time. According to The Companies Act, 2013 inventories must be classified as raw materials, work-in-progress, finished goods, stock-in-trade, stores and spares, loose tools, and others. Further the mode of valuation of inventory must also be stated clearly. However generally going by the principle of conservatism, inventories are generally stated at cost price or market price whichever is lower.

Trade receivables: These are the amounts due from customers to whom the goods are sold or to whom services are provided on credit basis. The trade receivables are generally realisable in the normal operating cycle of the business. Trade receivables may be either secured or unsecured and the two should be disclosed separately in the balance sheet. Further the doubtful debts and the debts due by the directors or other officers of the company must also be disclosed separately.

Cash and cash equivalents: Cash and cash equivalents are the most liquid assets of the firm. It refers to the money in hand and at bank. While reporting cash and cash equivalents the bank deposits with maturity more than twelve months must be disclosed separately. Moreover, the balances at banks which are earmarked for some specific purpose such as for unpaid dividends etc. must also be disclosed separately.

Short-term loans and advances: It refer to dues from employees or associates, advance payments to suppliers etc. According to The Companies Act, 2013 such short-term loans and advances to related parties and to others must be disclosed separately. Further the secured and unsecured loans and advances and the good and doubtful loans and advances must be disclosed separately. Moreover, any allowance made for bad and doubtful loans and advances shall be disclosed separately under the relevant head. Lastly the loans and advances to the company directors or officers must be disclosed separately.

Other current assets: It includes all those current assets which do not fit into any of the specific current asset category.

Current Liabilities: These are those liabilities which are to be settled within the normal operating cycle of the business or within one year of the balance sheet date. All liabilities other than current liabilities are termed as non-current liabilities.

Short-term borrowings: It refers to short term credit availed by the enterprise from commercial banks and others to finance its current assets. These borrowings are ordinarily payable by the enterprise within one year. Schedule III of The Companies Act, 2013 requires that secured and unsecured short-term borrowings must be disclosed separately. Further in case of loans repayable on demand, those from banks must be disclosed separately from those which are from other parties. Moreover, loans and advances from related parties, and loans in the form of deposits should also be separately mentioned. A company should also disclose the aggregate amount of loans guaranteed by the directors or others. Lastly the period and amount of default in repayment and interest as on the balance sheet date shall be separately disclosed in each case.

Trade Payables: It refers to the amount due towards the suppliers of the firm from whom the goods or services have been purchased on credit basis. This amount is ordinarily payable in the operating cycle of the business or within one year whichever is less.

Other current liabilities: It refers to other current obligations of the firm. It may be in the form of income received in advance, interest accrued and due on borrowings, interest accrued but not due on borrowings, current maturities of long-term debt, unpaid dividends, unpaid matured debt and interest accrued thereon, application money received for allotment of securities and due as refund and interest thereon etc. According to Schedule III of The Companies Act, 2013 all of these components of other current liabilities must be disclosed separately.

Short-term provisions: These are the other form of current liabilities. It includes provision for taxes, provision for dividends etc. Every firm need to pay taxes, however the finalization of exact amount of tax with the taxation authorities takes time, so a provision is required to be created for the estimated amount of tax payment. Similarly, a firm may also create provision for the payment of dividend to its shareholders.

Non-current assets: All assets other than those which are current assets are termed as non-current assets. These are the assets which are held by the firm for long term, at least more than a year. These assets are acquired by the firm for the purpose of use in the business and not for the purpose of resale. It generally includes fixed assets, long term investments and other non-current assets.

Fixed assets: Fixed assets form a major part of the non-current assets in the manufacturing organisation. These will be further divided into tangible fixed assets and intangible fixed assets. **Tangible fixed assets** include land, buildings, plant and machinery, furniture, vehicles, office equipment's etc. Cost concept is followed while recording the value of fixed assets by a firm. Under this principle a fixed asset is initially recorded at its original cost and later on at cost less depreciation. Computation of depreciation depends upon the estimated useful life of the asset. Provisions of The Companies Act, 2013 demand that Tangible fixed assets which are on lease must be disclosed separately under each class of asset. Further the balance sheet must also disclose separately the additions, disposals, acquisition through business combinations and other adjustments and the related depreciation to each of the tangible fixed asset. **Intangible fixed assets** are the firm's rights and include goodwill, trademarks, copyrights, patents, licenses, franchise, mining rights, computer software etc.

Non-current investments: These are the long term investments of the firm in shares, bonds, debentures of other firms or government bodies, investment in mutual funds, partnership firms etc. Schedule III of The Companies Act, 2013 requires that a detailed classification of non-current investments must be provided, disclosing separately such investments in each type of instrument, to each borrower or institution to whom investment is provided. Further the long term investments carried at other than cost price must be disclosed separately along with their valuation basis.

Long term loans and advances: It refers to the long term loans and advances given by the firm to employees, directors or other officers, or to other parties. It includes capital advances, security deposits, loans and advances to related parties and other long term loans and advances. According to The Companies Act, 2013 such long-term loans and advances to related parties and to others must be disclosed separately. Further the secured and unsecured loans and advances and the good and doubtful loans and advances must be disclosed separately. Moreover any allowance made for bad and doubtful loans and advances shall be disclosed separately under the relevant head. Lastly the loans and advances to the company directors or officers must be disclosed separately.

Deferred tax assets (Net): It reflects the overpayment of tax by the firm which is due to be adjusted against future tax liability of the firm beyond one year period.

Other non-current assets: It includes long term trade receivables, deferred charges and any other non-current asset which cannot be covered under any other specified non-current asset.

Non-current liabilities: It refers to the liabilities payable over a longer period of time, that is, in a period which is longer than the normal operating cycle of the business or beyond one year from the balance sheet date. It includes long term borrowings of the firm, deferred tax liabilities, other long-term liabilities and the long term provisions.

Long term borrowings: It includes firm's borrowings in the form of bonds or debentures, term loans from banks or other institutions, borrowings in the form of deposits, deferred payment liabilities, loans and advances from related parties etc. Provisions of The Companies Act, 2013 requires that the company must separately disclose the period and amount of continuing default as on the balance sheet date in repayment of loan and interest.

Other long term liabilities: It covers long term liabilities of firm which are not covered under any other category. Provisions of The Companies Act, 2013 requires that the company must separately disclose any long term liabilities on account of trade payables under this category.

Long term provisions: A company may need to create several provisions for the payment of retirement and other social security benefits to its employees. Provisions of The Companies Act, 2013 requires that the company must separately disclose any long term provisions created for employee benefits under this category. Other long term provisions should also be mentioned specifying the nature of each such provision.

Deferred tax liabilities (Net): It refers to firm's tax liabilities which the firm owes but is not payable by the firm in the next one year.

Shareholders' Funds: The term shareholders' fund can also be termed as owners' equity irrespective of the type of business organisation. It refers to the owners' claim on the assets of the firm. The owners claim on assets of firm is a residual claim. Excess of assets over liabilities is called owners' equity. In other words whatever left after the claims of all the outsiders' are met is owners' equity. Since the balance sheet is prepared keeping the going concern principle and the cost concept in mind; under which all the assets are reflected at their book value and not at the market value, thus always there remain a difference in the book claim and the real claim of the owners on the business. Real claim of owners can only be judged in the event of winding up of the firm. The main components that contribute to owners claim on firms' assets include the initial or subsequent capital investment, and earnings of the firm which are retained by the firm and are not distributed back to the owner in the form of dividend.

Share capital: The term share capital refers to the part of firm's capital which is raised by the issue of ordinary shares or preference shares. Preference shares refer to those shares the holders of which carry two preferences over the equity or ordinary shareholders namely, priority in the payment of dividend and priority in the repayment of capital. Further these preference shares generally carry a fixed rate of dividend unless they are the participating preference shares where besides fixed dividend the holders are also rewarded with an additional dividend by participating in the higher profits of the firm. A firm may issue different types of preference shares at different times; which differ on the basis of rate of fixed dividend or on the basis of other features. Provisions of The Companies Act, 2013 requires that the company must separately disclose each category of preference shares and ordinary shares and under each category the detailed information regarding authorised capital, issued capital, subscribed and fully paid capital, subscribed and not fully paid capital, par value of share, reconciliation in the number of shares at the beginning and at the end of year, rights, restrictions and preferences attached to each class of shares, calls unpaid, forfeited shares etc. must also be provided separately.

Reserves and Surplus: It refers to the other main component of the owners' equity. Generally as a company gets older it keeps on accumulating surplus. In years when a firm generates profit from its operations, it may decide to distribute a part of it in the form of dividend to its shareholders and the rest may be retained by the firm for meeting its capital requirements. The surplus which is retained by the firm is called retained earnings and generally this balance keeps on growing with the age of the firm, unless the company decides to capitalise this surplus by issuing bonus shares to its shareholders. Other reserves include capital reserves, capital redemption reserve, securities premium reserve, debenture redemption reserve, revaluation reserve etc. and each of these must be disclosed separately in the balance sheet of the company.

Money received against share warrants: It refers to the amount received by the company against share warrants which will be converted into shares at a specified rate on a future date. Such money received is separately disclosed under the shareholders' funds.

2.5 TEST YOUR UNDERSTANDING (A)

(1) Define Balance sheet.

....

....

....

(2) List the various financial statements prepared by a business organisation.

…………………………………………………………………………………………………

…………………………………………………………………………………………………

…………………………………………………………………………………………………

(3) Differentiate between owner's equity and long-term liabilities.

....

....

....

(4) Fill up the blank spaces:

(i) .... concept states that revenue should be recognised in the books of the business entity only when it is realised.

(ii) Reserves and surpluses are the part of ....in the balance sheet.

(iii) The assets which are convertible into cash within the normal operating cycle of the business are called ………………….

(iv) .... states that a firm should record its assets at book value and not at the market value in the books of account.

2.6 PROFIT AND LOSS ACCOUNT

The Profit and Loss Account or the Statement of Profit and Loss is another important statement prepared by the business organisation. It depicts the net result of firm's activities during a particular accounting period. It is a flow statement as it reflects the result of operations carried over a particular period of time. This statement shows the summary of firm's revenues, and expenses over a particular time period. The net profit earned by the firm during the particular accounting period depicts the excess of its revenues over expenses during that period. Similarly, the net loss in an accounting period shows that the expenses of the firm have exceeded its revenues during the accounting period. The Statement of Profit and Loss can be prepared in different formats, viz. *T-*

shape format (Horizontal Format) or the *Vertical Format*. Proforma of Statement of Profit and Loss as prescribed in Part-II of Schedule III of The Companies Act, 2013 is given below:

Part II – STATEMENT OF PROFIT AND LOSS

Name of the Company……………………..

Profit and Loss Statement for the Year ended ……………………

(Rupees in ……………)

	Particulars	Note No.	Figures as at the end of current reporting period	Figures as at the end of previous reporting period
	1	2	3	4
I.	Revenue from operations			
II.	Other income			
III.	Total Revenue (I+II)			
IV.	Expenses:			
	Cost of materials consumed			
	Purchases of Stock-in-Trade			
	Changes in inventories of finished goods			
	Work-in-progress and Stock-in-Trade			
	Employee benefits expense			
	Finance costs			
	Depreciation and amortisation expense			
	Other expenses			
	Total expenses			
V.	Profit before exceptional and extraordinary items and tax (III - IV)			
VI.	Exceptional items			

VII.	Profit before extraordinary items and tax (V - VI)			
	1	2	3	4
VIII.	Extraordinary items			
IX.	Profit before tax (VII- VIII)			
X.	Tax expense:			
	(1) Current tax			
	(2) Deferred tax			
XI.	Profit (Loss) for the period from continuing operations (VII-VIII)			
XII.	Profit/(loss) from discontinuing operations			
XIII.	Tax expense of discontinuing operations			
XIV.	Profit/(loss) from Discontinuing operations (after tax) (XII-XIII)			
XV.	Profit (Loss) for the period (XI + XIV)			
XVI.	Earnings per equity share:			
	(1) Basic			
	(2) Diluted			
Total				

Source: The Companies Act, 2013.

Revenue from operations: It refers to the revenue generated by the firm from its routine operations. It can be either generated from sale of products or sale of services or can be generated from any other routine operation of the firm. While recording the revenue from operations a firm must follow the realisation concept, which states that the revenue should be recognised when it is realised and the revenue is considered to be realised when the ownership of goods is transferred or the services are rendered. Actual receipt of amount is not considered while recognising the revenue. According to provisions in Part-II of Schedule III of the Companies Act, 2013 a firm must separately disclose the revenue generated from sale of products, sale of services, and other operating revenues and the payment of excise duty must be shown separately as a subtraction from revenue from operations. Further in case of a finance company the revenue generated should be separated between interest income and the other financial services revenue.

Other income: It refers to the non-operating income of the firm, that is, income generated from other than routine operations of the firm. It include the income earned by way of interest earned on investments made by the firm (for firms not doing finance business), dividends received on investments, profit or loss on sale of investments or any other non-operating income.

Expenses: The term expense refers to the cost incurred by the firm to generate revenue. A few important items in the list of expenses include cost of materials consumed, employee salaries and wages, depreciation on firm's assets and the interest on borrowings (finance cost). Part-II of Schedule III of The Companies Act, 2013 requires that the finance cost shall be further classified as interest expense, other borrowing costs and applicable net gain/loss on foreign currency transactions and translation. While recording expenses in the Profit and Loss Statement the firm follows *'Matching Concept'*, which states that the same period expenses should be matched with the same period revenues. On the basis of this principle the expenses incurred to generate the revenue should be considered in the same accounting period in which the revenue is considered to be realised. Further the expenses which have no direct relation with the realisation of revenue should be considered in the accounting period in which such expenses have been incurred.

Depreciation and amortisation: The term depreciation refers to decrease in the value of asset due to wear and tear and obsolescence over a period of time. Amortisation is the practice of writing off the intangible asset's cost over its useful life. Depreciation and amortisation is the most important and major expense item that do not lead to any cash outflow. It is the prime reason of difference in any firm's net profit and its cash profit. Creation of depreciation charge is very important as it enables a firm to generate a fund which can be used to replace its old assets with the new ones.

2.7 CASH FLOW STATEMENT

The statement of cash flow depicts the changes in cash position of the firm over a particular accounting period. It shows the various items that have caused the inflow of cash into the firm and items that led to cash outflow from the firm during the particular accounting period. Cash being the life blood of every business organisation; preparation of this statement is very important. Further for every company governed by The Companies Act, 2013 subject to certain exemptions, it is mandatory to prepare the cash flow statement. The cash flow statement should be prepared as per *Accounting Standard 3 revised*. While preparing the cash flow statement the term cash flow means the flow of cash and cash equivalents. The term cash comprises cash on hand and the demand deposits at the bank. The term cash equivalents refer to short term investments, marketable securities or the highly liquid investments. For the purpose of preparing cash flow statement, different activities of the organisation are divided into three categories namely, operating activities, investment activities and the financing activities. The cash flow generated (or used in) from activities under these three different categories is shown separately in the cash flow statement.

Cash flow from operating activities: Operating activities are the main revenue producing activities of the firm. It refers to the cash generated out of routine operations of the firm. The different activities that determine a firm's cash flow from (or used in) operating activities include:

- Cash received from sale of goods and rendering of services
- Cash received by way of fee, commission, royalty etc.
- Cash payment to supplier of goods and services
- Cash payments to employees
- Cash payments of taxes or tax refunds, unless specifically related to investment or financing activities.

Note: A firm may either use the Direct Method or the Indirect Method to show its cash flow from operating activities. In the direct method major classes of gross cash receipts and gross cash payments are disclosed by the firm and in case of Indirect Method the net profit of the firm is adjusted for the effect of various non-cash items or non-operating items. The non-cash items refer to depreciation, amortization of intangible assets etc. and the non-operating items refers to profit or loss on sale of long-term assets or investments, dividend received, interest income, dividend paid etc. In simple words, the non-operating items here refer to those items which have affected the firm's profit but are either related to investment activities or the financing activities.

Cash from investment activities: Investment activities refers to the purchase or sale of long-term assets and investments other than those considered as cash equivalents. The different activities that determine a firm's cash flow from (or used in) investment activities include:

- Cash received from sale of fixed assets (including intangible assets)
- Cash received from sale of long-term investments
- Dividend or interest received on long term investments
- Cash paid for purchase of fixed assets (including intangible assets)
- Cash paid for purchase of long-term investments

Cash from financing activities: Financing activities refers to those activities which cause changes in the owners' equity or the long term outsiders' liabilities. The various activities that determine a firm's cash flow from financing (or used in) activities include:

- Cash received by issue of ordinary shares
- Cash received by issue of preference shares
- Cash received by issue of debentures or bonds
- Cash received by raising of term loan or mortgage loans
- Cash Paid for buyback of ordinary shares
- Cash paid for redemption of preference shares
- Cash paid for redemption of debentures or bonds
- Cash paid for repayment of term loan or mortgage loan
- Cash paid for payment of interest on debentures, bonds, term loans or mortgage loans etc.

Following is the specimen proforma of cash flow statement (Direct Method):

Cash Flow Statement

(Rs. '000)

Cash flow from operating activities		
Cash receipts from sale and customers	xxxxx	
Less: Cash paid to suppliers and employees	xxxxx	
Cash generated from (or used in) operations before tax and extraordinary item	xxxxx	
Less: Income tax paid	xxxxx	
Cash flow before extraordinary item	xxxxx	
Less / Add Extraordinary item	xxxxx	
Net cash from (or used in) operating activities		xxxxx

Cash flows from investing activities			
Sale of fixed assets		xxxxx	
Add: Sale of long term investments		xxxxx	
Add: Interest received		xxxxx	
Add: Dividend received		xxxxx	
		xxxxx	
Less: Purchase of fixed assets	xxxxx		
Less: Purchase of long term investments	xxxxx		
		xxxxx	
Net cash from (or used in) investment activities			xxxxx
Cash flows from financing activities			
Proceeds from issue of ordinary shares		xxxxx	
Add: Proceeds from issue of preference shares		xxxxx	
Add: Proceeds from issue of debentures or bonds		xxxxx	
Add: Proceeds from raising of term or mortgage loan		xxxxx	
		xxxxx	
Less: Payments for share buyback	xxxxx		
Less: Payments for redemption of preference shares	xxxxx		
Less: Payments for redemption of debentures or bonds	xxxxx		
Less: Repayment of mortgage or term loan	xxxxx		
Less: Payment of interest	xxxxx		
Less: Payment of dividend	xxxxx		
		xxxxx	
Net cash from (or used in) financing activities			xxxxx
Net increase (or decrease) in cash and cash equivalents			xxxxx
Cash and cash equivalents in the beginning of year			xxxxx
Cash and cash equivalents at the end of year			xxxxx

Alternatively in the above cash flow statement the cash from operating activities can be computed using indirect method as below:

Cash flow from operating activities (Indirect Method)			
Net profit before tax and extraordinary item			xxxxx
Adjustments for non cash / non operating items			
Add: Depreciation	xxxxx		
Add: Intangible assets written off	xxxxx		
Add: Loss on sale of fixed assets	xxxxx		
Add: Loss on sale of long term investments	xxxxx		
		xxxxx	
Less: Profit on sale of fixed assets	xxxxx		
Less: Profit on sale of long term investments	xxxxx		
Less: Dividend or interest income	xxxxx		
		xxxxx	
Cash operating profit before working capital changes		xxxxx	
Add: Decrease in debtors or bills receivable	xxxxx		
Add: Decrease in inventory	xxxxx		
Add: Decrease in other current assets except cash and cash equivalents	xxxxx		
Add: Increase in creditors or bills payable	xxxxx		
Add: Increase in other current liabilities	xxxxx		
		xxxxx	
Less: Increase in debtors or bills receivable	xxxxx		
Less: Increase in inventory	xxxxx		
Less: Increase in other current assets except cash and cash equivalents	xxxxx		
Less: Decrease in creditors or bills payable	xxxxx		
Less: Decrease in other current liabilities	xxxxx		
		xxxxx	
Cash generated from (or used in) operations before tax and extra ordinary items			xxxxx
Less: Income tax paid		xxxxx	

Cash flow from (or used in) operating activities before extraordinary items		xxxxx
Less / Add extraordinary item	xxxxx	
Net cash flow from (or used in) operating activities		xxxxx

2.8 SIGNIFICANCE OF CASH FLOW STATEMENT

Despite being mandatory to be prepared by companies (excluding those exempted), preparing the cash flow statement plays a significant role in the smooth conduct of the operations of every business enterprise. This statement is an important tool to do short term analysis of the financial position of the enterprise. The other uses of preparing cash flow statement are as below:

(i) It enables a firm to analyse its current cash position and thus facilitates in framing sound financial policies.

(ii) This statement enables a firm to analyse the reasons of poor cash position, if any, despite being earning huge profits. It highlights various activities which have consumed more cash of the firm during a particular accounting period.

(iii) A firm can also prepare a projected cash flow statement and through it can foresee any cash crunch or excessive cash flow in near future and can suitably plan in time for the achievement of overall goals of the organisation.

(iv) Cash flow statement is also used by the banks and other lenders to judge the firm's capacity to pay interest and to repay the principal amount of loan.

2.9 LIMITATIONS OF FINANCIAL STATEMENTS

The nature of figures which are reported and the way in which they are reported tend to give the impression to the reader that the financial statements are precise, exact and final. But this is not true as these statements have certain limitations:

(i) **Only interim report:** The profit shown by the statement of profit and loss and the financial position as depicted by the balance sheet do not present the exact position of the firm. The exact position can only be known when the business concern has lived its entire life. Thus these statements are only the interim reports and not the final reports of the performance or financial position of the firm.

(ii) **Based on accounting concepts and conventions:** Financial statements are prepared on the basis of certain accounting concepts and conventions. On account of this reason the financial position as disclosed by these statements may not be realistic. For example, following the *Going Concern Concept* and the *Cost Aspect* the fixed assets are shown in the balance sheet at their book values and hence do not reflect the realisable value at which these assets can be sold into the market. Similarly on account of convention of conservatism the income statement may not disclose the true income of the business since probable losses are considered while probable incomes are ignored.

(iii) **Qualitative facts ignored:** Financial statements do not disclose those facts which cannot be expressed in terms of money. For example, an efficient and loyal team of workers, dissatisfied labour, fraudulent management etc. are matters of great importance for the firm but nowhere exists in the firm's financial statements.

(iv) **Influence of personal judgement:** Personal judgement of accountant plays a vital role in the preparation of financial statements. Provision for depreciation, stock valuation, provision for doubtful debts etc. are based on personal judgement and hence are not free from the personal biasness. For example, in order to show a rosy picture of firm's profits inadequate provision for doubtful debts may be created.

(v) **Limited use to management:** Information provided in financial statements is historical in nature whereas the management is more concerned about decision making for future. Thus the financial statements which are based on historical facts are only of limited use to the management of the firm.

2.10 TEST YOUR UNDERSTANDING (B)

(1) What is the difference between revenue from operations and other income?

………

………

………

(2) What is the difference between net profit and cash profit?

………

…………………………………………………………………………………………………

…………………………………………………………………………………………………

(3) List various items that lead to cash inflow from financing activities.

…………………………………………………………………………………………………

…………………………………………………………………………………………………

…………………………………………………………………………………………………

(4) State which of the statements are true and which are false?

a. Dividend received on bonds is a cash flow generated from financing activities.

b. Expenses should be charges to profit and loss account of the year in which such expenses are paid.

c. Tax paid on profit on sale of plant is cash used in the investment activity.

d. Except few exceptions, preparing cash flow statement is mandatory for companies under The Companies Act, 2013.

2.11 LET US SUM UP

- The two main financial statements are Balance Sheet and Statement of Profit and Loss. Besides these two important financial statements, a firm also prepares Statement of Cash Flows and Statement of Changes in Equity.
- The assumptions made by the accountants while preparing these financial statements are disclosed in the form of notes to these financial statements.
- Financial statements must present a true and fair view of firm's financial position and activities to its stakeholders.
- There are few Generally Accepted Accounting Principles, which are worldwide recognised and accepted and provide general guidelines to the accountants for sound accounting practices.
- Balance Sheet or Statement of Assets and Liabilities provide a summarised view of the firm's assets and the various claimants against those assets.
- Balance sheet can be either prepared in the 'T' shape format, that is, *Horizontal Format* or in the *Vertical Format*. However, in case of a Joint Stock Company the balance sheet and other

financial statements must be prepared in the form provided in new schedule III of The Companies Act, 2013 as amended from time to time.

- Statement of Profit and Loss depicts the net result of firm's activities during a particular accounting period.
- The Statement of Profit and Loss can be either prepared in *T-shape format* (Horizontal Format) or the *Vertical Format*. Proforma of Statement of Profit and Loss for Joint Stock Companies has been prescribed in Part-II of Schedule III of The Companies Act, 2013.
- Statement of cash flow shows various items that have caused the inflow of cash into the firm and items that led to cash outflow from the firm during the accounting period.
- Under the AS 3 revised, in the cash flow statement of the firm, the cash flow generated (or used in) in different activities is shown by dividing all activities into three categories namely, operating activities, investment activities and the financing activities.
- A firm may either use Direct Method or Indirect Method to reveal cash generated from (or used in) operating activities.

2.12 KEY TERMS

Generally Accepted Accounting Principles (GAAP): The accounting principles which are worldwide accepted and recognised at a time by the accountants are called generally accepted accounting principles (GAAP).

Balance Sheet: It is a summarised view of the firm's assets and the various claimants against those assets.

Profit and Loss Statement: It is the summary of firm's revenues, and expenses over a particular time period.

Cash Flow Statement: It is the statement which depicts the changes in cash position of the firm over a particular accounting period.

2.13 REVIEW QUESTIONS

1. What is meant by profit and loss statement? How would you recognise revenue and expenses while preparing profit and loss statement?

2. Explain the various generally accepted accounting principles. Explain the significance of each in brief.
3. Which are the two most important financial statements? Enumerate their contents along with a brief description of items therein.
4. Give a specimen proforma of balance sheet for a Joint Stock Company which satisfies the provisions of The Companies Act, 2013.
5. What is the purpose of preparing cash flow statement? Explain procedure to prepare cash flow statement.

2.14 ANSWERS TO TEST YOUR UNDERSTANDING

Answers to test your understanding - A

4 a.	Realisation
4 b.	Shareholders' funds
4 c.	Current assets
4 d.	Cost concept

Answers to test your understanding - B

4 a.	False
4 b.	False
4 c.	True
4 d.	True

2.15 FURTHER READINGS

- I.M. PANDEY, Management accounting, Vikas Publishing House, New Delhi.
- Robert N Anthony, David F Hawkins, Kenneth A Merchant, Accounting Text and Cases, Tata McGraw Hill.
- Ravi M. Kishore, Cost and Management Accounting, Taxmann.
- The Companies Act, 2013, Bare Act, Taxmann.

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SEMESTER-I

COURSE: ACCOUNTING FOR MANAGERIAL DECISIONS

UNIT –3: TECHNIQUES OF FINANCIAL ANALYSIS

STRUCTURE

3.7.3 Activity Ratio

3.7.4 Profitability Ratio

3.7.5 Valuation Ratio

3.8 Cash Flow Analysis

3.9 Fund Flow Analysis

3.1 Financial Statements

Financial statements are summarized reports that are used to present the financial performance of a company. Financial Statements provides a glimpse of the financial position of entities. Financial Statements helps in communicating the performance of an entity to various interested stakeholders (Shareholders, Creditors, Banks, Financial Institutions, Employees and Government etc.) in that particular entity. Basically, as a layman, Financial Statements provides a picture of all the transactions happened in that organization during a particular period in precise & summarized manner, which can be understandable to a person with a little help who do not have a finance background. Further, to ensure the accuracy of these statements financial statements are audited by government agencies or auditors so that stakeholders may believe that all the information presented in financial statement is authentic.

Financial Statements includes

a) Profit & Loss/Income Statement

b) Balance Sheet/ Statement of Affairs

c) Cash Flow Statement

d) Fund Flow Statement

Entities falling under the Companies Act, 2013 have a specified format to follow for the preparation of the financial statements which is specified in the schedule III of the Companies Act 2013 while other follow a T shaped format for the preparation of the financial statements.

Further the basic objective of the financial statements is to communicate the performance of the entity during the year (which can be a financial year or calendar year), But we can summarize the objectives as following as it helps

i) To assess and communicate the performance (through Profit & Loss/ Income Statement).

ii) To assess and communicate the financial position (through Balance Sheet/ Statement of Affairs).

iii) To compute and assess the operational efficacy (through the Net Profit)

iv) To communicate solvency position, liquidity positions and many more other things (through ratios) which have a significant impact on the stakeholder's interest in the entity.

v) To communicates the growth aspects

vi) To provide the changing scenario of the business entity

vii) To help management in decision making for future perspective.

3.1.1 Parties interested in the financial Analysis

Both internal and external parties are interested in information presented in financial statements. Among, internal user's employees, management, key managerial persons, auditors etc track their own performance through financial statements. While external users like creditors, banks, other financial organizations, government, regulatory agencies, labor unions, investors and research scholars etc also evaluate financial statements for various purposes

3.1.2 Financial Analysis of the Statements

Financial analysis provides for analyzing the data presented in the financial statement and further extracting the significant information available so as to use it for decision making. Various stakeholders are interested in this information for varied reasons. Shareholders are interested in the earning available to the shareholders, employees are interested in the turnover/profit of the business because that will determine their bonus and incentives, government is interested in profits for taxation purpose, creditors and banks are interested for their dues with the companies and so on. Financial Analysis provides comprehensive view of viability, stability and profitability of the business firm.

3.1.3 Types/ Methods of Financial Analysis

Financial analysis is conducted to review the financial information so that correct business decisions are taken. Types of Financial Analysis can be determined on the basis of parties who wish to use it and purpose it is going to be used. Following are the types of the financial statements analysis:

a) Internal Analysis

There are some parties which are internal to organizations (employees, management, shareholders etc) who are interested in the performance of the organization. When these parties analyze the financial statements for decision making then it’s known as internal analysis.

b) External Analysis

When parties outside the organization uses the financial statements for decision making on the basis of information available therein the financial statements, then its known as external analysis.

c) Vertical Analysis

Vertical analysis is proportional analysis that deals with analyzing the relationship between the items of the financial statements themselves. Analyst try to establish some facts through it. For example, the Gross profitability is determined with the help of gross turnover and gross profit, operating expense are also related to gross turnover to evaluate the operating efficiency of an organization. Establish relationship between various items of financial statements in a single period is known as vertical analysis.

d) Horizontal Analysis

Here, side by side comparison of the financial results is done for number of consecutive years.

Horizontal analysis deals with the comparative analysis of the financial statements of different periods with an objective to compare the performance, to depict the positive or negative changes in the organization in the comparative years. This kind of analysis helps in determining our strength and also determine the point where business is lacking so that corrective measures can be taken.

3.2 Financial Information

Financial information is the information which throws the light on future outcomes of an organization. It tells about the future viability of the company, it tells about the liquidity and solvency levels of an organizations. With above available information, stakeholder can decide their relationship with the organization in upcoming future such as continue, enhance or to terminate.

3.2.1 Sources of Financial Information

Any interested person can avail the financial information for analysis and decision making from the following

i) Income Statement/Profit & Loss Account

ii) Statement of affairs/Balance Sheet

iii) Cash Flow Statements

iv) Fund Flow Statements

v) Notes to accounts

vi) Statement of change in equity

vii) Annual reports

viii) Some Managements reports which are made available time to time in public domain.

3.3 Techniques of the Financial Analysis

Till now, financial statements, objectives, parties interested in financial statements and types of financial analysis was discussed. This section will provide insight on how to analyze these financial statements? Financial Analysis techniques are helpful in assessing company's performance and trends in that performance. Simply, a financial analyst converts the raw data into a useful metric that aids in decision making. Hence, financial analysis study relationship among financial information presented in financial statements and interpreting them to gain insight into profitability and operational efficiency of the business to estimate the financial health. Financial statements just give a summarized view of what has happened in the organization during the year. But with a little bit more efforts these statements can be exploited to generate more meaningful information. Stakeholders may be interested in different information depending on their needs.

There are many tools, methods and techniques available which can cater the needs of many interested parties in common. Following are the techniques which can be used to extract the information in more meaningful ways: -

1. Trend Analysis
2. Comparative Analysis
3. Common Size Analysis
4. Ratio Analysis
5. Cash Flow Analysis
6. Fund Flow Analysis

3.4 Trend Analysis

Trend analysis is one of the most important and easy to understand tool in financial analysis. It gives a glimpse of past to present journey of an organization through its financial information. Basically, it throws a light on the things what the organization has achieved and at what pace over the time. Trend analysis is an important technique that studies the operational and financial results over a series of years. Using the historic data of a business firm for particular financial variable, trend analysis observes % change over a particular time period. In Trend analysis, we try to compare the performance of an organization over a specified period (usually which may cover last 5 to 10 years). In trend analysis, an analyst tries to establish a relationship between the performance of financial variable in the financial statements over a period of time (for example, analyzing the trend of the sales for a period of 5years i.e. 2017-2022). Analyst also try to compare the performance of the corresponding items as well to establish a clear fact where we are heading towards (As the comparison of the rising trend of sales with the trend of gross/net profits of the organization). Specifically, trend analysis shows the direction of the business as it has grown over the period or have faced decline thereon. Trend analysis is usually done after converting the figures of financial statement in % format, reason being it gives a good way to compare the performance individually as well as in comparison with industry and other competing firms in the industry.

Trend analysis tracks the direction of performance pattern and from that observation signs of poor or good management can be assessed. For example, if an organization has a growing trend in sale and profit at same pace, then its satisfactory to the shareholders and also to the other stakeholders as well. But if same sales are growing but with decline in profit, then it may create cruciality for the management to find the defect i.e reasons for decline in profit while sale is rising and to take necessary steps to correct it. The Investors will try to exclude these kinds of firms from their portfolios. Employees will see no growth in that organization. However, this impact will be totally reversed if the facts are pointing towards the upward trend in future.

3.4.1 Steps involved in the trend analysis are as follow: -

- Select a time period for which you want to analyze the performance of an organization
- Choose the first year of the period as the base year and value for this year as 100.
- Now calculate the value of next years for the changes in relation to the year which was taken as base year.
- It will provide you a trend, may be upward, downward or a steady one with minimum changes.
- Finally, the stakeholders can take decisions by their own from the trend after considering their interest in it.

Following example will clarify this concept:

Example 1: Conduct a trend analysis of the following information extracted from the financial statements of M/s Sohan Lal

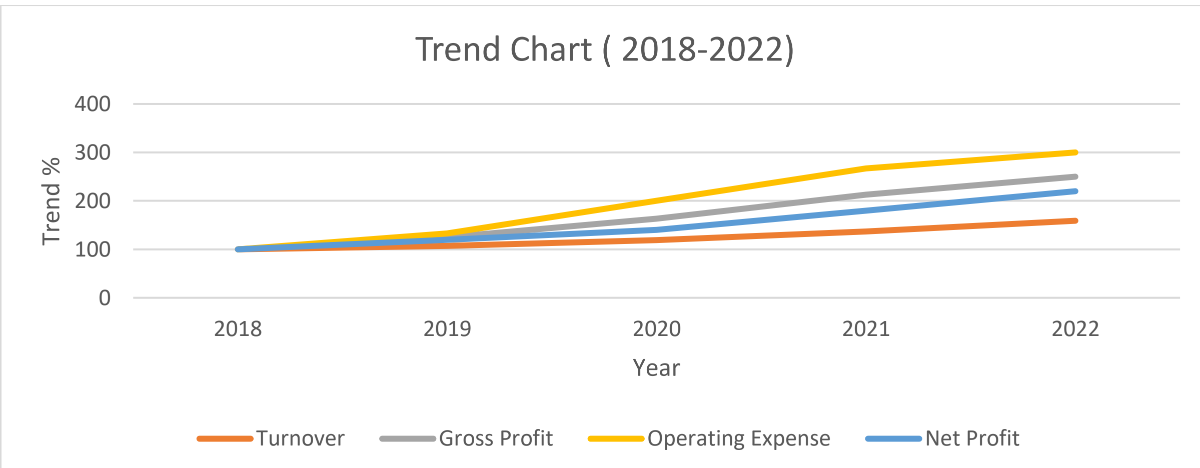
Particulars	**2018**	**2019**	**2020**	**2021**	**2022**
Turnover	75	80	89	103	119
Gross Profit	16	20	26	34	40
Operating Expense	6	8	12	16	18
Net Profit	10	12	14	18	22

(Amount in lakhs)

Solution: Following table presents you the change in % term taking 2018 as base year. Base value taken is 100.

Particulars	2018		2019		2020		2021		2022	
	Amount	**In % term**	**Amount**	**In % term**	**Amount**	**In % term**	**Amount**	**In % term**	**Amount**	**In % term**
Turnover	75	100	80	107	89	119	103	137	119	159
Gross Profit	16	100	20	125	26	163	34	213	40	250
Operating Expense	6	100	8	133	12	200	16	267	18	300
Net Profit	10	100	12	120	14	140	18	180	22	220

Following is the graph which represents the trend expressed in % term and one can easily judge the performance of the organization.



Interpretation: One can easily conclude from the data in % term as well as from the chart that company has upward trend in sale and gross profit but change in operating expenses has more pace as compared to turnover, gross profit and net profit which may have serious impact in future if not cured. If operating expenses information is ignored, company is overall performing good, even better as almost doubled in just five years.

3.5 Comparative Analysis

Comparative analysis is another tool in the hand of stakeholder which gives a picture of the financial performance of the organizations. In comparative analysis, we compare the performance of the company for two different periods. It can be performed for more than two years but usually only two years are taken by analyst for comparison purpose as comparative analysis for more than two years will be a bit complex in nature. Comparative analysis focuses on absolute change and also on % change in the items of financial statements. Absolute change means the actual change in figure expressed in numbers not in percentage term. Comparative analysis focuses on

a) Comparison of performance of two different period of same organization.
b) It also provides absolute change in the items of financial statements.
c) It also provides percentage change in the items of financial statements.
d) It also reveals the trend of the organization.

Comparative financial statement analysis involves study of financial position of a business at two different periods. These comparative statements help in determining the profitability of a business by comparing financial data for two different accounting periods. However, financial data can be considered comparative if same set of accounting principles are used to prepare the financial statements.

Comparative analysis can be done for both income statement as well as for balance sheet**.** Thus, analysts prepare comparative income statement and comparative balance sheet for an organization to understand the comparative financial performance.

3.5.1 Comparative Income Statement

Income statement contains the information for the operation of the company during the year in a summarized manner. It contains the information related to the operating efficiency of an organization. This statement shows what the management is capable of? Thus income statement provides details about results of business operation. Comparative income statement provides for progress made by business over few years. Comparative Income statement contains the actual figures from the income statement for two comparative years, absolute change in it during the current year as compared to the previous year and also presents that absolute change in the percentage. From the above information, it is easy to find where the company is heading towards. It also helps to compare the proportionate changes in the different related items in the income statement.

Steps in preparing comparative income statement:

Step 1 Mention absolute figures of all the items related to particular accounting period.

Step 2 Calculate the absolute change that has occurred in items of income statement

Step 3 Lastly, calculate the percentage change in these items of income statement in comparison to items in previous income statement.

Key points to be taken in mind while analyzing the comparative income statement.

- Always try to compare the items on the basis of matching concept. for example, always compare the sales against the cost of goods sold, operating expenses against the operating incomes and so on.
- Always try to remove the impact of extraordinary items on profit such as insurance claim, compensation granted, legal settlements etc.
- Always prefer the % figure for the analysis as they are easy to interpret and easy to understand.
- Individual comparison of items for two different periods does not gives a healthy view, thus always do a relative comparative analysis.

Example 2: Following is the income statement of the XYZ Ltd. You are required to do a comparative analysis of the income statement.

Particular	**31.03.2020**	**31.03.2021**
Income		
Revenue from Operations	40,00,000	45,00,000
Other Income	50,000	65,000
Total Revenue	**40,50,000**	**45,65,000**
Expenses		
Purchases	30,00,000	32,00,000
Change in inventories	1,00,000	1,20,000
Employee benefit expenses	70,000	75,000
Finance Cost	50,000	50,000
Depreciation	20,000	25,000
Other Expenses	25,000	30,000
Total Expenses	**32,65,000**	**35,00,000**

Profit before tax	**7,85,000**	**10,65,000**
Less Income Tax	2,35,500	3,19,500
Profit after tax	**5,49,500**	**7,45,500**

Solution: Following is the Comparative Income statement of XYZ Ltd.

Particular	**31.03.2020**	**31.03.2021**	Absolute Change	% Change
Income				
Revenue from Operations	40,00,000	45,00,000	5,00,000	13%
Other Income	50,000	65,000	15,000	30%
Total Revenue	**40,50,000**	**45,65,000**	5,15,000	13%
Expenses				
Purchases	30,00,000	32,00,000	2,00,000	7%
Change in inventories	1,00,000	1,20,000	20,000	20%
Employee benefit expenses	70,000	75,000	5,000	7%
Finance Cost	50,000	50,000	-	0%
Depreciation	20,000	25,000	5,000	25%
Other Expenses	25,000	30,000	5,000	20%
Total Expenses	**32,65,000**	**35,00,000**	2,35,000	7%
Profit before tax	**7,85,000**	**10,65,000**	2,80,000	36%
Less Income Tax	2,35,500	3,19,500	84,000	36%
Profit after tax	**5,49,500**	**7,45,500**	1,96,000	36%

3.5.2 Comparative Balance Sheet

Balance sheet is basically a positional statement, which depicts the current position of an organization where it stands. It contains the items which have impact on long term sustainability of an organization. It brings the net worth of the organization to us. A comparative balance sheet presents side-by-side information about an entity's assets, liabilities, and shareholders' equity for multiple periods of time. Through comparative balance sheet the financial position of business is compared with two or more periods to understand the trend, direction of change and take suitable actions. Comparative balance sheet brings the information about the changes taken place during the year and depicts whether change was positive or negative in absolute as well as in relative terms. A continuous increase in assets proportionate to increase in liabilities will not be considered as positive signal of growth. If our assets have a higher growth in proportion of liabilities, then it can be considered as a positive one and vice-a-versa.

3.5.2.1 Steps to prepare comparative balance sheet

A comparative balance sheet is a side-by-side comparison of the entire balance sheet report of a current accounting period with previous accounting period. Business owners use the comparative report to make strategic business decisions. Following steps are taken to prepare comparative balance sheet:

- Calculate the absolute values of assets and liabilities for current accounting period
- Calculate absolute changes in asset and liabilities of balance sheet relative to accounting period
- Calculate the percentage change in assets and liabilities by comparing current year values with previous accounting period

Key points to be taken in mind while analyzing the comparative balance sheet.

- Division of Assets to be considered as long term (fixed) assets are funded through long term resources and current assets are backed by short term financing which is known as current liabilities.
- Working capital i.e. Difference between current assets and current liabilities throws a light on liquidity position.
- It should be taken into consideration as the long-term assets should have not been financed through short term financing as it will lead to default and put our organization in solvency issues.
- Presence of fictitious assets should also be given due consideration as these assets have no value in real and raise in these is a serious issue.
- Change in equity position should also be monitored as it directly impacts the management and functioning of an organization.
- Reserves and provisions should also be checked as whether these have been adjusted accordingly or not.
- Always prefer the % figure for the analysis as they are easy to interpret and easy to understand.
- Individual comparison of items for two different periods does not gives a healthy view, thus always do a relative comparative analysis.

Example 3: From the following do a comparative analysis of the balance sheet of the ABC Pvt. Ltd.

Particulars	31.03.2021	31.03.2022
Equity & Liabilities		
Shareholder's Fund		
Share Capital	15,00,000	15,00,000
Reserve & Surplus	8,00,000	11,00,000
Non-Current Liabilities		
Secured Loans	24,00,000	23,00,000
Current Liabilities	6,50,000	8,50,000
Total	**53,50,000**	**57,50,000**
Assets		
Non-Current Assets		
Fixed Assets	38,00,000	4,00,0000
Intangible Assets	8,00,000	8,00,000
Current Assets	7,50,000	9,50,000
Total	**53,50,000**	**57,50,000**

Solution: Comparative Balance Sheet of ABC Pvt. Ltd is as follow: -

Particulars	31.03.2021	31.03.2022	Absolute Change	% Change
Equity & Liabilities				
Shareholder's Fund				
Share Capital	15,00,000	15,00,000	-	0%
Reserve & Surplus	8,00,000	11,00,000	3,00,000	38%
Non-Current Liabilities				
Secured Loans	24,00,000	23,00,000	-1,00,000	-4%
Current Liabilities	6,50,000	8,50,000	2,00,000	31%
Total	53,50,000	57,50,000	4,00,000	7%
Assets				

Non-Current Assets				
Fixed Assets	38,00,000	40,00,000	2,00,000	5%
Intangible Assets	8,00,000	8,00,000	-	0%
Current Assets	7,50,000	9,50,000	2,00,000	27%
Total	53,50,000	57,50,000	4,00,000	7%

From Above comparative sheet of balance sheet of ABC Pvt Ltd. It is easy to interpret the changes taken place between these two periods.

An Alternative representation of same balance sheet in a meaningful way through Comparative analysis can be as follow: -

Comparative Balance Sheet of ABC Pvt Ltd is as follow: -

Particulars	31.03.2021	31.03.2022	Absolute Change	% Change
Assets				
A. Non-Current Assets				
Fixed Assets	38,00,000	40,00,000	2,00,000	5%
Intangible Assets	8,00,000	8,00,000	-	0%
Current Assets	7,50,000	9,50,000	2,00,000	27%
Current Liabilities	6,50,000	8,50,000	2,00,000	31%
B. Working Capital	1,00,000	1,00,000	-	0%
Capital Employed (A+B)	47,00,000	49,00,000	2,00,000	4%
C. Secured Loans	24,00,000	23,00,000	- 1,00,000	-4%
Shareholder's Fund	23,00,000	26,00,000	3,00,000	13%
Equity & Liabilities				
D. Share Capital	15,00,000	15,00,000	-	0%
E. Reserve & Surplus	8,00,000	11,00,000	3,00,000	38%
Shareholder's Fund	23,00,000	26,00,000	3,00,000	13%

3.6 Common Size Analysis

Comparative statement analysis usually analyzes the performance of an organization with its own performance in past. If we try to use comparative analysis in comparing the two different organization, it may lead to conveying wrong information to stakeholders. Sometimes we have to analyze two firms having different capital base in the same industry i.e. one may have large capital base while another one has small capital base, at that point may be our old discussed techniques will not give us a satisfactory result. In these kind of conditions, common size analysis can be used which measure every item in % term taking some important items as base. This technique removes the error that can arise due to difference in size as measuring every item in % to a base item.

Common size financial statements play significant role in comparing a company's performance over several periods as well as against a competitor. The common size percentages can be further compared to percentages of competitors to determine how the company is performing relative to the industry. All three of the primary financial statements can be put into a common size format that include common size income statement, common size balance sheet and common size cash flow statement. For example, large cap company having turnover of 200 crores have earned 35 crores as net profit and at same time another firm in same industry having turnover of 20 crores has earned 5 crores. If we compare the operating efficiency in figures, then large stock company has more numbers but if we convert the statements in common size i.e. every item in % term taking any relative item as base. Usually Turnover/Sales and Total Assets are taken as base for measurement and conversion of figures of other items in income statement and balance sheet respectively.

3.6.1 Common Size Income Statement

Common size income statement is used to calculate net profit margins and gross margins. This analysis is helpful to investors/ finance managers to understand status of revenue generated by the company and make predictions from that calculation. Common size income statement analysis is an excellent tool to compare companies of different sizes within the same industry. In common size income statement turnover/sales is take as total base (100%) for other items of the income statement and other items are expressed in term of percentage to sale instead of expressing it in numbers. For example; advertisement expenses are expressed in 15 % of sale (taking sales as total base of 100%). Then different items of the income statements are compared relative to each other as well as with other entities.

Example 4: Following is the income statements of the company M/s X Ltd. and Y Ltd. for the year ending March 31st, 2021. You are required to prepare a comparative income statement for the year ending March 31st, 2021.

Income Statement for the year ending March 31st, 2021

Particular	**X Ltd.**	**Y Ltd.**
Income		
Revenue from Operations	40,00,000	95,00,000
Other Income	50,000	1,05,000
Total Revenue	**40,50,000**	**96,05,000**
Expenses		
Purchases	30,00,000	55,00,000
Change in inventories	1,00,000	4,20,000
Employee benefit expenses	70,000	5,25,000
Finance Cost	50,000	4,25,000
Depreciation	20,000	1,75,000
Other Expenses	25,000	65,000
Total Expenses	**32,65,000**	**71,10,000**
Profit before tax	**7,85,000**	**24,95,000**
Less Income Tax	2,35,500	7,48,500
Profit after tax	**5,49,500**	**17,46,500**

Solution: Following is the common size balance sheet for the year ending March 31st, 2021: -

Income Statement for the year ending March 31st, 2021

Particular	X Ltd.		Y Ltd.	
	Amount	**%**	**Amount**	**%**
Income				
Revenue from Operations	40,00,000	100%	95,00,000	100%
Other Income	50,000	1%	1,05,000	1%
Total Revenue	**40,50,000**	101%	**96,05,000**	101%
Expenses				
Purchases	30,00,000	75%	55,00,000	58%
Change in inventories	1,00,000	3%	4,20,000	4%
Employee benefit expenses	70,000	2%	5,25,000	6%
Finance Cost	50,000	1%	4,25,000	4%
Depreciation	20,000	1%	1,75,000	2%
Other Expenses	25,000	1%	65,000	1%
Total Expenses	**32,65,000**	82%	**71,10,000**	75%
Profit before tax	**7,85,000**	20%	**24,95,000**	26%
Less Income Tax	2,35,500	6%	7,48,500	8%
Profit after tax	**5,49,500**	14%	**17,46,500**	18%

Example 5: Prepare a common size Income statement for A ltd. and B Ltd. for the year ending March 31st, 2020 as follow: -

Particular	**A Ltd.**	**B Ltd.**
Income		
Sales	5,00,000	7,75,000

Other Income	15,000	75,000
Total	5,15,000	8,50,000
Expenses		
Cost of sales	2,75,000	3,20,000
Office expenses	25,000	28,000
Selling expenses	35,000	1,56,000
Interest	40,000	1,20,000
Net Profit	1,40,000	2,26,000
Total	5,15,000	8,50,000

Solution: Following is the common size income statement for both the firms for the year ending march 31st, 2020.

Particular	**A Ltd.**		**B Ltd.**	
Income	Amount	%	Amount	%
Sales	5,00,000	100%	7,75,000	100%
Cost of sales	2,75,000	55%	3,20,000	41%
Gross Profit	**2,25,000**	**45%**	**4,55,000**	**59%**
Expenses				
Office expenses	25,000	5%	28,000	4%
selling expenses	35,000	7%	1,56,000	20%
Total Operating Expenses	**60,000**	**12%**	**1,84,000**	**24%**
Operating Profit	**1,65,000**	**33%**	**2,71,000**	**35%**
Misc. Income	15,000	3%	75,000	10%
Total Income	**1,80,000**	**36%**	**3,46,000**	**45%**

Less: Non-Operating Expense				
Finance Cost	40,000	8%	1,20,000	15%
Net Profit	**1,40,000**	**28%**	**2,26,000**	**29%**

3.6.2 Common Size Balance Sheet

A common size balance sheet is a balance sheet that provides comparison of both the numeric value and relative percentage for balance sheet items i.e total assets, total liabilities, and equity accounts. In Common Size Balance sheet Every item will be measured in term of % to the total Assets (i.e., 100%). Total Assets will be taken as base. This type of expression of the numbers helps ij comparing the firms of two different capital base in an effective manner.

Example 6: Following is the balance sheet of M/s X Ltd. and M/s Y ltd. For the year ending March 31st. 2022

Balance Sheet for the year ending March 31st, 2022

Particulars	X Ltd.	Y Ltd.
Equity & Liabilities		
Shareholder's Fund		
Share Capital	15,00,000	80,00,000
Reserve & Surplus	8,00,000	25,00,000
Non-Current Liabilities		
Secured Loans	24,00,000	35,00,000
Current Liabilities	6,50,000	15,00,000
Total	53,50,000	1,55,00,000
Assets		
Non-Current Assets		

Fixed Assets	38,00,000	1,08,00,000
Intangible Assets	8,00,000	15,00,000
Current Assets	7,50,000	32,00,000
Total	53,50,000	1,55,00,000

Solution: Following is the common size analysis for the M/s X Ltd. And M/s Y ltd. For the year ending March 31st. 2022.

Common Size Balance Sheet for the year ending March 31st, 2022				
Particulars	X Ltd.		Y Ltd.	
	Amount	%	Amount	%
Equity & Liabilities				
Shareholder's Fund				
Share Capital	15,00,000	28%	80,00,000	52%
Reserve & Surplus	8,00,000	15%	25,00,000	16%
Non-Current Liabilities				
Secured Loans	24,00,000	45%	35,00,000	23%
Current Liabilities	6,50,000	12%	15,00,000	10%
Total	53,50,000	100%	1,55,00,000	100%
Assets				
Non-Current Assets				
Fixed Assets	38,00,000	71%	1,08,00,000	70%
Intangible Assets	8,00,000	15%	15,00,000	10%
Current Assets	7,50,000	14%	32,00,000	21%
Total	53,50,000	100%	1,55,00,000	100%

3.7 Ratio Analysis

One of the most effective and most used tool for financial analysis is ratio analysis. The reason behind the use of this tool is its easiness to calculate and is its effective results. Most of the analysts solely believes on ration analysis for decision making.

Ratio is a mathematical expression that how one number is related to another number. When we study ration in conjunction with business it results in accounting ratios. They speak too clear and too loud about the organization in a very precise and effective manner. Accounting ratios establish relationship between different items of the financial statement and present in a more meaningful way.

Types of Ratios

Every stakeholder has different kind of interest in an organization, thus accordingly they need different type of information and the accounting ratios serve that purpose very usefully. Several ratios can be measured according to the different needs of the interested parties. Accounting ratios can be classified as follow: -

3.7.1 Liquidity Ratio

Liquidity ratio throws a light on the ability of the organization to honor its short term liabilities. The better the liquid ratio, the better the organization is in settling its short term obligations. It tells us how quickly an organization can convert its assets into cash to pay the dues in current. Liquidity ratios can be classified as follow: -

Current Ratio: Current ratio is a ratio depicting the relationship between current assets and current liabilities of an organization during a period of time. It measures the ability of the organization to pay its short term debt obligations within the period of one year. It is calculated as follow: -

$$Current\ Ratio = \frac{Current\ Assets}{Current\ Liabilities}$$

Where,

Current Assets = Assets which can be converted into cash within the period of 12 month including cash and cash equivalent

Current Liabilities = All the obligation which are liable to pay within the period of 12 months.

Thumb Rule: This ratio should not be more than 2:1.

Quick Ratio: Quick ratio measure the company’s ability to meet the short term obligation with its most liquid assets. It is calculated as follow: -

$$Quick\ Ratio = \frac{Quick\ Assets}{Current\ libilities}$$

Where,

Quick Assets = Current Assets less inventories and prepaid expenses.

Acid Test Ratio: Acid test ratio measure the company's ability to meet the quickest short term liabilities with its most liquid assets. It is calculated as follow: -

$$Acid\ Test\ Ratio = \frac{Quick\ Assets}{Quick\ liabilities}$$

Where,

Quick liabilities = Current liabilities less bank overdraft and cash credit.

Example 7: Following is the Balance Sheet of Yadwindra Pvt. Ltd for the year ending March 31st, 2021.

Balance Sheet of Yadwindra Pvt. Ltd as on 31.03.2021

Liabilities	**Amount**		**Assets**	**Amount**
Sundry Creditors	5,05,000		Stock	2,50,000
B/P	1,75,000		Debtors	4,75,000
Outstanding Expenses	75,000		Cash	70,000
Bank Overdraft	1,50,000		B/R	2,50,000
Debentures	25,00,000		Prepaid Expenses	65,000
Bank Loan(Long term)	10,00,000		Land & Building	25,00,000
Share Capital	10,00,000		Machinery	15,00,000
Tax Payable	1,05,000		Goodwill	2,00,000
			Furniture	2,00,000
	55,10,000			55,10,000

You are required to calculate.

i) Current Ratio

ii) Quick Ratio

iii) Acid Test Ratio

Solution:

$$\boldsymbol{i})\ Current\ Ratio = \frac{Current\ Assets}{Current\ Liabilities}$$

Current Assets= 2,50,000+4,75,000+70,000+2,50,000+65,000= 11,10,000

Current Liabilities= 5,05,000+1,75,000+75,000+1,50,000+1,05,000=10,10,000

$$Current\ Ratio = \frac{11{,}10{,}000}{10{,}10{,}000}$$

$$Current\ Ratio = 1.10$$

$$\boldsymbol{ii})\ Quick\ Ratio = \frac{Quick\ Assets}{Current\ libilities}$$

Quick Assets= 4,75,000+70,000+2,50,000=7,95,000

$$Quick\ Ratio = \frac{7{,}95{,}000}{10{,}10{,}000}$$

$$Quick\ Ratio = 0.80$$

$$\boldsymbol{iii})\ Acid\ Test\ Ratio = \frac{Quick\ Assets}{Quick\ liabilities}$$

Quick Liabilities= 5,05,000+1,75,000+75,000+1,05,000=8,60,000

$$Acid\ Test\ Ratio = \frac{7{,}95{,}000}{8{,}60{,}000}$$

$$Acid\ Test\ Ratio = 0.92$$

3.7.2 Long Term Solvency Ratio

These ratio measures the company’s long run survival in the business. Every stakeholder expects that business is going to run forever and their interest will be taken care of. These ratios measure company’s long run performance in meeting its long term liabilities (i.e. Principal & their costs). These ratios are as follow

Debt to Equity Ratio: This ratio measures the relationship between overall debts i.e. outsider's fund and the shareholder's fund. It is calculated as follow:

$$Debt\ Equity\ Ratio = \frac{Outsider's\ Fund}{Shareholder's\ Fund}$$

Where,

Outsider's Fund= Debentures, secured and unsecured loans and any other type of borrowings.

Shareholder's Fund= Equity Share Capital + Preference share Capital+ Reserve and surplus less any fictitious assets and losses on asset side balance sheet.

Debt to Total Assets Ratio: This ratio measures the relationship between the Total debts and total assets of an organization. This ratio indicates the presents the debt per rupee of an asset in the organization. Lower it is better the organization is. This can be measured as follow:

$$Debt\ to\ Total\ Assets\ Ratio = \frac{Debt}{Total\ Assets}$$

Propriety Ratio/Net worth to total Assets Ratio: As opposite to debt equity ratio, this ratio tells the relationship between the shareholder's fund and total assets. It measures the shareholder's fund per rupee of assets of organization. Higher is better. This can be calculated as follow:

$$Propriety\ Ratio = \frac{Shareholder's\ Fund}{Total\ Assets}$$

Where,

Shareholder's Fund= Equity Share Capital + Preference share Capital+ Reserve and surplus less any fictitious assets and losses on asset side balance sheet.

Fixed Asset Ratio: This ratio gives an idea about the usage of capital employed for the purchase of fixed assets in the organization. Lesser the ratio better it is for organization. It can be calculated as follow:

$$Fixed\ Assets\ Ratio = \frac{Fixed\ Assets}{Total\ Capital\ Employed}$$

Interest Coverage Ratio: This ratio measures the ability of an organization to meet its fixed interest liabilities in a year. It shows the relationship between the EBIT and fixed interest liabilities of an organization during the year. Higher it is, better it is for organization. It can be calculated as follow:

$$Interest\ Coverage\ Ratio = \frac{EBIT}{Fixed\ Interest\ Liabilities}$$

It must be higher than 1.

Example 8: Following is the balance sheet of M/s Krishna Ltd for the year ending March 31st, 2021.

Balance Sheet of Yadwindra Pvt. Ltd as on 31.03.2021

Liabilities	**Amount**		**Assets**	**Amount**
Sundry Creditors	5,05,000		Stock	2,50,000
B/P	1,75,000		Debtors	4,75,000
Outstanding Expenses	75,000		Cash	70,000
Bank Overdraft	1,50,000		B/R	2,50,000
Debentures	20,00,000		Prepaid Expenses	65,000
Bank Loan(Long term)	10,00,000		Land & Building	25,00,000
Share Capital	11,00,000		Machinery	15,00,000
Reserve & Surplus	5,05,000		Goodwill	2,00,000
			Furniture	2,00,000
Total	55,10,000		Total	55,10,000

You are required to calculate.

i) Debt Equity Ratio

ii) Debt to Total Assets Ratio

iii) Propriety Ratio

iv) Fixed Assets Ratio

Solution:

$$i)\ Debt\ Equity\ Ratio = \frac{Outsider's\ Fund}{Shareholder's\ Fund}$$

Outsider's Fund= 20,00,000+10,00,000= 30,00,000

Shareholder's Fund= 11,00,000+5,05,000=16,05,000

$$Debt\ Equity\ Ratio = \frac{30{,}00{,}000}{16{,}05{,}000}$$

$$Debt\ Equity\ Ratio = 1.87$$

$$ii)\ Debt\ to\ Total\ Assets\ Ratio = \frac{Debt}{Total\ Assets}$$

$$Debt\ to\ Total\ Assets\ Ratio = \frac{30{,}00{,}000}{55{,}10{,}000}$$

$$Debt\ to\ Total\ Assets\ Ratio = 0.54$$

$$iii)\ Propriety\ Ratio = \frac{Shareholder's\ Fund}{Total\ Assets}$$

$$Propriety\ Ratio = \frac{16{,}05{,}000}{55{,}10{,}000}$$

$$Propriety\ Ratio = 0.29$$

$$iv)\ Fixed\ Assets\ Ratio = \frac{Fixed\ Assets}{Total\ Capital\ Employed}$$

Fixed Assets= 25,00,000+15,00,000+2,00,000=42,00,000

Total Capital Employed= Total Assets – Current Liabilities

Total Capital Employed= 55,10,000 – 9,05,000

$$Fixed\ Assets\ Ratio = \frac{42{,}00{,}000}{46{,}05{,}000}$$

$Fixed\ Assets\ Ratio = 0.91$

3.7.3 Activity Ratio

Every stakeholder invests in the business with a view to get return on its contribution. This return is dependent on the performance of the organization. Activity Ratios helps in the measurement of the performance of the organization at various ends. Activity ratios involves the followings:

Inventory turnover Ratio: It measures the number of times an inventory has completed its operating cycle i.e. from raw material to sales. Higher the ratio, better the organization is. It is calculated as follow:

$$Inventory\ Turnover\ Ratio = \frac{Cost\ of\ goods\ sold/\ Cost\ of\ Sales/Net\ Sales}{Average\ Inventory}$$

Debtor Turnover Ratio: This ratio tells about how many times debtors have been converted into cash during the year. It is calculated as follow:

$$Debtor\ turnover\ Ratio = \frac{Net\ credit\ Sales}{Average\ Recievables}$$

Creditor Turnover Ratio: This ratio tells about how many times Creditors have been converted into cash during the year. It is calculated as follow:

$$Creditor\ turnover\ Ratio = \frac{Net\ credit\ Purchases}{Average\ Payables}$$

Average Inventory Conversion/Holding Period: This ratio calculates the average time taken by the inventory to be get converted into cash. It is calculated as follow:

$$Average\ Conversion\ Period\ (In\ Days) = \frac{360\ Days}{Inventory\ Turnover\ Ratio}$$

Average Collection Period: It keeps a check on the credit policies of the organisation. It determines the average period required to collect the due amount from the debtors of the company during the year.

$$Average\ Collection\ Period\ (In\ Days) = \frac{360\ Days}{Debtor\ Turnover\ Ratio}$$

Average Payment Period: It determines the average period required to make payments for amount due to the creditors of the company during the year.

$$Average\ Payment\ Period\ (In\ Days) = \frac{360\ Days}{Creditor\ Turnover\ Ratio}$$

Fixed Assets Turnover Ratio: It measures the performance of the organization in the terms of turnover for every rupee of the fixed assets of the organization.

$$Fixed\ Assets\ Turnover\ Ratio = \frac{Net\ Sales}{Net\ Fixed\ Assets}$$

Current Assets Turnover Ratio: It measures the performance of the organization in the terms of turnover for every rupee of the current assets of the organization.

$$Current\ Assets\ Turnover\ Ratio = \frac{Net\ Sales}{Current\ Assets}$$

Total Assets Turnover Ratio: It measures the performance of the organization in the terms of turnover for every rupee of the total assets of the organization.

$$Assets\ Turnover\ Ratio = \frac{Net\ Sales}{Total\ Assets}$$

Capital Turnover Ratio: It measures the performance of the organization in the terms of turnover for every rupee of the total capital employed in the organization.

$$Capital\ Turnover\ Ratio = \frac{Net\ Sales}{Capital\ Employed}$$

Working Capital Turnover Ratio: It measures the performance of the organization in the terms of turnover for every rupee of the total capital employed in the organization.

$$Working\ Capital\ Turnover\ Ratio = \frac{Net\ Sales}{Net\ Working\ Capital}$$

Example 9: Following is the Balance Sheet of Ranjit & Co. Pvt. Ltd

Liabilities	Amount		Assets	Amount
Sundry Creditors	5,05,000		Stock	2,50,000
B/P	1,75,000		Debtors	4,75,000
Outstanding Expenses	75,000		Cash	70,000
Bank Overdraft	1,50,000		B/R	2,50,000
Debentures	20,00,000		Prepaid Expenses	65,000
Bank Loan(Long term)	10,00,000		Land & Building	25,00,000
Share Capital	11,00,000		Machinery	15,00,000
Reserve & Surplus	5,05,000		Goodwill	2,00,000
			Furniture	2,00,000
Total	55,10,000		Total	55,10,000

Additional information:

Net Sales= 25,00,000

Net Purchase= 15,00,000

Cost of Sales= 22,00,000

Cost of Goods Sold= 20,00,000

You are required to calculate as follow:

i) Debtor Turnover Ratio

ii) Creditor Turnover Ratio

iii) Inventory Turnover Ratio

iv) Average Conversion Period

v) Average Collection Period

vi) Average Payment Period

Solution:

$$i)\ Inventory\ Turnover\ Ratio = \frac{Cost\ of\ goods\ sold/\ Cost\ of\ Sales/Net\ Sales}{Average\ Inventory}$$

$$Inventory\ Turnover\ Ratio = \frac{20{,}00{,}000}{2{,}50{,}000}$$

$$Inventory\ Turnover\ Ratio = 8$$

$$ii)\ Average\ Conversion\ Period\ (In\ Days) = \frac{360\ Days}{Inventory\ Turnover\ Ratio}$$

$$Average\ Conversion\ Period\ (In\ Days) = \frac{360\ Days}{8}$$

$$Average\ Conversion\ Period\ (In\ Days) = 45\ Days$$

$$iii)\ Debtor\ turnover\ Ratio = \frac{Net\ credit\ Sales}{Average\ Recievables}$$

$$Debtor\ turnover\ Ratio = \frac{25{,}00{,}000}{7{,}25{,}000}$$

$$Debtor\ turnover\ Ratio = 3.45$$

$$iv)\ Average\ Collection\ Period\ (In\ Days) = \frac{360\ Days}{Debtor\ Turnover\ Ratio}$$

$$Average\ Collection\ Period\ (In\ Days) = \frac{360\ Days}{3.45}$$

$$Average\ Collection\ Period\ (In\ Days) = 104.35\ Days\ or\ 135\ Days$$

$$v)\ Creditor\ turnover\ Ratio = \frac{Net\ credit\ Purchases}{Average\ Payables}$$

$$Creditor\ turnover\ Ratio = \frac{15,00,000}{6,80,000}$$

$$Creditor\ turnover\ Ratio = 2.21$$

$$vi)\ Average\ Payment\ Period\ (In\ Days) = \frac{360\ Days}{Creditor\ Turnover\ Ratio}$$

$$Average\ Payment\ Period\ (In\ Days) = \frac{360\ Days}{2.21}$$

$$Average\ Payment\ Period\ (In\ Days) = 162.90\ Days\ or\ 163\ Days$$

Example 10: Continuing with above example, Also Calculate

i) Fixed Assets Turnover Ratio

ii) Current Assets Turnover Ratio

iii) Total Assets Turnover Ratio

iv) Capital Turnover Ratio

v) Working Capital Turnover Ratio

Solution:

$$i)\ Fixed\ Assets\ Turnover\ Ratio = \frac{Net\ Sales}{Net\ Fixed\ Assets}$$

$$Fixed\ Assets\ Turnover\ Ratio = \frac{25,00,000}{42,00,000}$$

$$Fixed\ Assets\ Turnover\ Ratio = 0.60$$

$$ii)\ Current\ Assets\ Turnover\ Ratio = \frac{Net\ Sales}{Current\ Assets}$$

$$Current\ Assets\ Turnover\ Ratio = \frac{25,00,000}{11,10,000}$$

$$Current\ Assets\ Turnover\ Ratio = 2.25$$

$$iii)\ Assets\ Turnover\ Ratio = \frac{Net\ Sales}{Total\ Assets}$$

$$Assets\ Turnover\ Ratio = \frac{25{,}00{,}000}{55{,}10{,}000}$$

$$Assets\ Turnover\ Ratio = 0.45$$

$$iv)\ Capital\ Turnover\ Ratio = \frac{Net\ Sales}{Capital\ Employed}$$

$$Capital\ Turnover\ Ratio = \frac{25{,}00{,}000}{46{,}05{,}000}$$

$$Capital\ Turnover\ Ratio = 0.54$$

$$v)\ Working\ Capital\ Turnover\ Ratio = \frac{Net\ Sales}{Net\ Working\ Capital}$$

$$Working\ Capital\ Turnover\ Ratio = \frac{25{,}00{,}000}{2{,}05{,}000}$$

$$Working\ Capital\ Turnover\ Ratio = 12.20$$

3.7.4 Profitability Ratio

Every organization works for profitability motive. These ratios also measure the performance of the organization but in terms of profitability. Profitability in the long run is the true measure of the performance as well as survival of the organization. These ratios include the following:

Gross Profit: Gross Profit Ratio establishes the relationship between the gross profit and sales of the organization. It is usually expressed in percentage. It is calculated as follow:

$$Gross\ Profit\ Ratio = \frac{Gross\ Profit}{Net\ Sales}\ X\ 100$$

Net Profit: Net Profit Ratio establishes the relationship between the net profit and sales of the organization. It is also expressed in percentage term. It is calculated as follow:

$$Net\ Profit\ Ratio = \frac{Net\ Profit}{Net\ Sales}\ X\ 100$$

Operating Ratio: This ratio establishes the relationship between the operating cost and sales of the organization. It is calculated as follow:

$$Operating\ Ratio = \frac{Operating\ Cost}{Net\ Sales}\ X\ 100$$

Operating Profit Ratio: This ratio establishes the relationship between the net operating profit or earnings before interest and tax and net sales of the organization. It is calculated as follow:

$$Operating\ Profit\ Ratio = \frac{EBIT}{Net\ Sales}\ X\ 100$$

Return on Capital Employed: This ratio measures the profitability of the organization in terms of profit earned per rupee of capital employed during the year. It is calculated as follow:

$$Return\ on\ Capital\ Employed = \frac{EBIT}{Capital\ Employed}\ X\ 100$$

Return on Equity: Return on equity is measured in following two ways:

$$Return\ on\ Total\ Shareholder's\ Fund = \frac{EBIT - Interest - Tax - Pref.Dividend}{Equity\ Shareholder'sFund}\ \text{X}\ 100$$

$$Return\ on\ Equity = \frac{EBIT - Interest - Tax - Pref.Dividend}{Equity\ Shareholder'sFund}$$

Return on Total Assets: It measures the return in terms of profit per rupee of total assets employed in the business.

$$Return\ on\ Total\ Assets = \frac{NOPAT}{Total\ Assets}\ \text{X}\ 100$$

Example 11: Following is the Income Statement of ABX Ltd. For the year ended March 31st, 2022.

Particular	**ABX Ltd.**
Income	
Sales	5,00,000
	5,00,000
Expenses	
Cost of sales	2,75,000
Office expenses	25,000
selling expenses	35,000
Interest	40,000
Net Profit	1,25,000
	5,00,000

Additional Information: The whole liability side of the balance sheet is as Follow: -

Liabilities	**Amount**
Share Capital	10,00,000
Reserve & Surplus	2,40,000
Debentures	15,00,000
Bank Loan	10,00,000
Bank O/D	1,50,000
Creditors	1,25,000
B/P	1,60,000
Other Current Liabilities	10,000
Total	***41,85,000***

Tax Rate: 30%

You are required to calculate: -

i) Gross Profit

ii) Net Profit

iii) Operating Ratio

iv) Operating Profit Ratio

v) Return on Capital Employed

vi) Return on Equity

vii) Return on Total Assets

Solution:

Income Statement

Particular	**Amount**
Income	
Sales	5,00,000
Cost of sales	2,75,000
Gross Profit	**2,25,000**
Expenses	
Office expenses	25,000
selling expenses	35,000
Total Operating Expenses	**60,000**
Operating Profit	**1,65,000**
Less: Non-Operating Expense	
Finance Cost	40,000
Net Profit	**1,25,000**

$$i)\ Gross\ Profit\ Ratio = \frac{Gross\ Profit}{Net\ Sales}\ X\ 100$$

$$Gross\ Profit\ Ratio = \frac{2{,}25{,}000}{5{,}00{,}000}\ X\ 100$$

$$Gross\ Profit\ Ratio = 45\%$$

$$ii)\ Net\ Profit\ Ratio = \frac{Net\ Profit}{Net\ Sales}\ X\ 100$$

$$Net\ Profit\ Ratio = \frac{1{,}25{,}000}{5{,}00{,}000}\ X\ 100$$

$$Net\ Profit\ Ratio = 25\%$$

$$iii)\ Operating\ Ratio = \frac{Operating\ Cost}{Net\ Sales}\ X\ 100$$

$$Operating\ Ratio = \frac{60{,}000}{5{,}00{,}000}\ X\ 100$$

$$Operating\ Ratio = 12\%$$

$$iv)\ Operating\ Profit\ Ratio = \frac{EBIT}{Net\ Sales}\ X\ 100$$

$$Operating\ Profit\ Ratio = \frac{1{,}65{,}000}{5{,}00{,}000}\ X\ 100$$

$$Operating\ Profit\ Ratio = 33\%$$

$$v)\ Return\ on\ Capital\ Employed = \frac{EBIT}{Capital\ Employed}\ X\ 100$$

$$Return\ on\ Capital\ Employed = \frac{1{,}65{,}000}{37{,}40{,}000}\ X\ 100$$

$Return\ on\ Capital\ Employed = 4.41\%$

$vi)\ Return\ on\ Total\ Shareholder's\ Fund = \frac{EBIT - Interest - Tax - Pref.Dividend}{Equity\ Shareholder's Fund}$ X 100

$Return\ on\ Total\ Shareholder's\ Fund = \frac{1{,}65{,}000 - 40{,}000 - 37{,}500 - 0}{10{,}00{,}000 + 2{,}40{,}000}$ X 100

$Return\ on\ Total\ Shareholder's\ Fund = 7.06\ \%$

$$vii)\ Return\ on\ Equity = \frac{EBIT - Interest - Tax - Pref.Dividend}{Equity\ Shareholder's Fund}$$

$Return\ on\ Equity = \frac{1{,}65{,}000 - 40{,}000 - 37{,}500 - 0}{10{,}00{,}000 + 2{,}40{,}000}$

$Return\ on\ Equity = 7.06$

$viii)\ Return\ on\ Total\ Assets = \frac{NOPAT}{Total\ Assets}$ X 100

$Return\ on\ Total\ Assets = \frac{87{,}500}{41{,}85{,}000}$ X 100

$Return\ on\ Total\ Assets = 2.09$

3.7.5 Valuation Ratio

Valuation ratios basically helps the investors to decide whether to invest in the organization or not. It has too much importance from the view point of investor's for making investment in the organization. These ratios are as follow:

PE Ratio: Price earnings ratio establishes the relationship between the share's market price and its earning. It helps to know that how much an investor is paying for the per rupee of earning in the organization. It is calculated as follow:

$$PE\ Ratio = \frac{Market\ Price\ of\ Share}{Earnings\ per\ Share}$$

MB Ratio: Market to Book value ratio helps to know that whether the firm is a value stock or growth stock. It helps in the taking investment decision to the investor.

Except above there are many more valuation ratios such as Price to Sale, PEG ratio which uses different financial information to conclude the investment decision.

$$MB\ Ratio = \frac{Market\ Price\ of\ Share}{Book\ Value\ of\ Share\ or\ Intrinsic\ Value\ of\ Share}$$

3.8 Cash Flow Analysis

Cash Flow analysis involves the preparation of Cash flow statement which shows the flow of cash from different activities in the organization. Cash flow statement refers to statement of changes in financial position of a firm during a particular year on cash basis. This statement shows the efficiency and effectiveness of the finance manager in the management of cash.

This section has been discussed in detail in Unit-IV

3.9 Fund Flow Analysis

Fund Flow Analysis involves the preparation of the Statement of change in working capital and statement of source and application of fund. Fund flow statement refers to statement of changes in financial position, but considers only sources and uses of working capital. It basically studies the movement of funds in the organization during the specified period. This section has been discussed in detail in Unit-IV

Self-Test Corner

1. What do you mean by Financial Analysis? Briefly mention the techniques used to do Financial Analysis.
2. Discuss in detail the Comparative Analysis with a suitable example.
3. Discuss in detail the Ratio Analysis. What are the various profitability ratios?
4. Briefly Discuss the Long-Term Solvency and Liquidity ratio.

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SEMESTER 1

COURSE: ACCOUNTING FOR MANAGERIAL DECISIONS

UNIT –4: STATEMENT OF CHANGE IN FINANCIAL POSITION

STRUCTURE

4.0 Statement of change in Financial Position

4.1 Cash Flow Statement

- **4.1.1 Cash Flow from Operating Activities**
- **4.1.2 Cash Flow from Investing Activities**
- **4.1.3 Cash Flow from Financing Activities**

4.2 Advantages of cash flow statement

4.3 Limitations of Cash flow Statement

4.4 Reporting in Cash Flow Statement

- **4.4.1 Direct Method of Cash Flow Statement**
- **4.4.2 Indirect Method of Cash Flow Statement**

4.5 Fund Flow Statement

- **4.5.1 Meaning of Fund Flow**
- **4.5.2 Importance of Fund flow Analysis**
- **4.5.3 Statement of changes**
  - **4.5.3.1 Statement of change in working capital**
  - **4.5.3.2 Fund from Operation/Adjusted P & L A/c**
  - **4.5.3.3 Fund Flow Statement**
- **4.5.4 Procedure for preparing fund flow statement**

4.6 Fund flow statement vs Cash Flow statement

4.0 Statement of Change in Financial Position

Statement of change in financial position basically deals with the changes brought in the financial position i.e., cash position during the year as compared to previous period's reported position. These statements can be classified as follow

i) Cash Flow Statement

ii) Fund Flow Statement

4.1 Cash Flow Statement

Cash flow of a firm consists of both cash inflows (also known as cash receipts) and cash outflows (also known as cash disbursements). Cash inflows refer to whatever comes in the business in the form of cash or cheques during a particular financial year whereas cash outflows refer to whatever goes out of business in the form of cash or cheques during a particular financial year. The flow of cash into the business is taken as positive cash inflow whereas flow of cash out of the business is negative cash flow. Difference between these two is net cash flow. Business needs to estimate cash inflows and outflows for short term planning. Synchronization of cash flows is required to be taken care of very diligently so that business firm may estimate deficit of cash or plan to invest surplus cash.

Change in the financial position can be measured with the help of cash flows during the year. Cash flow in an organization can be analyzed with the help of preparing cash flow statement. Cash flow statement provides a summarized view of the inflow and outflow of the cash and cash equivalent in the organization during the year. This statement provides for causes of changes in cash position during a particular financial year. Cash flow statement depicts the management of the cash flow in the organization. This statement can display the efficiency of the finance manager in managing the cash of the organization. The main objective of preparing this statement is to provide users an important basis to understand the ability of enterprise to generate cash/cash equivalent and requirement of the business organization to use that cash. Cash flow items should ignore the non-cash items while preparing the cash flow statement.

Cash flow statement is divided into three categories i.e.

a) Cash Flow from Operating Activities

b) Cash Flow from Investing Activities

c) Cash Flow from Financing Activities

Before dealing with the cash flows from different activities reported in the cash flow statement, it is important to understand the concepts of cash and cash equivalents. **Cash and cash equivalent** includes cash, balance with bank and other marketable securities which can be easily converted into cash without losing a significant value of these marketable securities. So, it refers to those current assets that can be easily and immediately converted into cash.

4.1.1 Cash Flow from Operating Activities

Operating activities are the primary activities of any business. The amount of cash from operations indicates the internal solvency of business. Cash flow from operating activities usually determine net profit or loss to the business. For example, cash flow from the sale of goods is cash inflow from operating activities whereas cash payments to supplier of raw material is cash outflow from operating activities.

Cash flow from operating activities helps in measuring the efficiency of the organization in generating the cash flow through its operating activities. It helps in knowing whether the organization is able to generate sufficient positive cash inflow for the organization or not. It involves the cash flow from the primary or main activity of the organization. Sale, Purchase, wages, and other direct and indirect expenditure of revenue nature is the example of cash flow from operating activities.

4.1.2 Cash Flow from Investing Activities

Investing activities of a business are acquisition and disposal of long-term assets. Hence purchase and sale of fixed assets are investing activities. Under financial statements, a separate disclosure is required for cash flows from investing activities so that it becomes easy to understand that how much expenditure business has incurred for resources that may generate future income. For example, cash payment to purchase new machinery will result in cash outflow whereas cash receipts from sale of machinery will result in cash inflow.

Cash flow from investing activities includes the cash used and generated from the sale and purchase of the fixed assets in the organization or in capital investment activities. Fixed assets provide the base for an organization to perform its operating activities in smooth and fair manner. These activities provide the base for flow of income for the organization in upcoming future.

4.1.3 Cash Flow from Financing Activities

Cash flow from financing activities involves the financing activities of an organization. It includes the activities such as borrowing from banks and other financial institutions, issue of share capital, debentures etc. These activities provide for the claim on future income of the organization. Cash flows from the issue of equity share, preference share, debenture and repayment of loans from banks are the example of cash flow from financing activities. A separate disclosure of cash flows from financing activities is helpful in predicting claims on future cash flows by providers of funds to the business.

4.2 Advantages of cash flow statement

Cash flow statement is useful to stakeholders in following ways:

- Helps the company to know its ability to pay various expenses
- Helps the investors to understand if company is financially sound
- Useful in preparation of cash budgets
- Helpful in planning for future commitments
- Comprehensive statement to know about cash receipts and disbursements
- Beneficial to lenders to understand the organization's ability to repay the loan
- Provides information on performance of the business and major activities taken during financial year
- Useful for management as a control device

4.3 Limitations of Cash flow Statement

However, cash flow statement has few limitations that include:

- Difficult to precisely define the term cash
- Only depicts cash position not profit and loss of the business

- It is of no use if interpreted in isolation. Hence, requires other financial statements for proper interpretation.

- Working capital being a wider concept gives better understanding of the solvency of business. Hence, fund flow statement presents a better picture than cash flow statement

4.4 Reporting in Cash Flow Statement

Cash flow can be reported with the help of preparation of cash flow statement. There are two methods to prepare the cash flow statement as following:

a. Direct Method

b. Indirect Method

The only difference between the above two methods of preparing the cash flow statement is the reporting of the cash flow from operating activities.

4.4.1 Direct Method of Cash Flow Statement

In direct method of cash flow statement, major classes of gross cash receipts and gross cah payments are disclosed. Following format is usually adopted for the preparation of the cash flow statement: -

Cash Flow Statement

Particulars	**Amount**
Cash Flow from Operating Activities	
Cash received from debtors	Xxx
Add	
Other Income received in cash during the year	Xxx
Less	
Cash paid to creditor	(xxx)
Expenses paid in cash	(xxx)
Income Tax paid during the year	(xxx)
Net Cash flow from Operating activities	*Xxx*

Cash Flow from Investing Activities	
Sale of Fixed Assets	Xxx
Purchases of Fixed Assets	(xxx)
Net Cash flow from Investing activities	*Xxx*
Cash Flow from Financing Activities	
Issue of Equity Shares/ Preference Share	Xxx
Issue of Right Shares	Xxx
Issue of Debenture	Xxx
Raising Loans from Banks and other Financial Institutions	Xxx
Payment of dividend	(xxx)
Redemption of debenture	(xxx)
Buyback of Shares	(xxx)
Re-payment of principal and interest	(xxx)
Net Cash flow from Financing activities	*Xxx*
Add	
Opening Balance of Cash & Cash Equivalent	*Xxx*
Closing Balance of Cash & Cash Equivalent	*Xxx*

4.4.2 Indirect Method of Cash Flow Statement

Calculation of the Cash flow from operating activities is little bit different as compared to direct method of cash flow statement. Here, net profit/loss is adjusted for transactions of non cash nature like depreciation, provisions etc. Following is the format which is used for the purpose of preparing cash flow statement: -

Cash Flow Statement	
Particulars	**Amount**
Cash Flow from Operating Activities	
Net profit as per profit and loss account	Xxx
Add-Expenses which are non-operating and non-cash in nature	
- Depreciation	Xxx
- Loss on sale of fixed assets	Xxx
- Provision for Taxation	Xxx
- Any kind of provision or reserve transferred in P & L A/c	Xxx
Less- Income which are non-operating and non-cash in nature	
- Interest/Dividend on investment	(xxx)
- Profit on sale of fixed assets	(xxx)
- Insurance claims received	(xxx)
Operating Profit before Working Capital Changes	Xxx
Add	
Decrease in Current Assets	Xxx
Increase in Current Liabilities	Xxx
Less	
Increase in Current Assets	(xxx)
Decrease in Current Liabilities	(xxx)
Cash generated from Operation	(xxx)
Less	
Income Tax Paid	(xxx)
Net Cash flow from Operating activities	*Xxx*

Cash Flow from Investing Activities	
Sale of Fixed Assets	Xxx
Purchases of Fixed Assets	(xxx)
Net Cash flow from Investing activities	*Xxx*
Cash Flow from Financing Activities	
Issue of Equity Shares/ Preference Share	Xxx
Issue of Right Shares	Xxx
Issue of Debenture	Xxx
Raising Loans from Banks and other Financial Institutions	Xxx
Payment of dividend	(xxx)
Redemption of debenture	(xxx)
Buyback of Shares	(xxx)
Repayment of principal and interest	(xxx)
Net Cash flow from Financing activities	*Xxx*
Add	
Opening Balance of Cash & Cash Equivalent	*Xxx*
Closing Balance of Cash & Cash Equivalent	*Xxx*

Treatment of some Special items in Cash Flow Statement

There are some items which requires the special treatment while preparing the cash flow statement. These items are as follow: -

Interest & Dividend: Interest and dividend paid on the financing of the company should be classified as the Financing Activities while receiving interest and dividend on investment should be classified as the investing activities.

Provision for Tax: Provision for taxation should be added back to the Profit and loss as per income statement and actual tax paid during the year should be deducted while calculating cash flow from operating activities. Further tax related to financing and investing activities should be treated accordingly.

Single transaction with different activities: A single transaction can involve the transaction which affects the cash flow from investing as well as financing activities too. For example, Installment payment for fixed assets on credit involves cash flow from two different activities as loan depicts the investing and interest on that loan will be classified as financing activities.

Cash flow in foreign currency: Income and expenses in foreign currency will generate the cash flow in foreign currency, but while reporting those transactions the transactions should be reported in domestic currency.

Extra-ordinary items: Extra-ordinary items should be reported separately in the cash flow statement while reporting that item as operating, investing or financing activities.

Example 1: From the information given below, calculate cash flow from Operating Activities for M/s Ram Enterprises.

Balance Sheet as on 31.03.2020 & 31.03.2021 for M/s Ram Enterprises

Liabilities	**31.03.2020**	**31.03.2021**	**Assets**	**31.03.2020**	**31.03.2021**
Share Capital	1,00,000	1,50,000	Goodwill	25,000	22,000
General Reserve	25,000	35,000	Fixed Assets	92,000	1,22,500
12% Debenture	38,000	45,000	Inventory	12,000	35,000

Profit & Loss	-	20,000	Debtor	40,000	85,000
Sundry creditor	15,000	27,500	Cash and Bank	25,000	45,000
Bills Payable	10,000	9,000	Discount on issue of debenture	8,000	
Provision for Depreciation on Fixed Assets	15,000	23,000	Profit & Loss	1,000	
Total	2,03,000	3,09,500	**Total**	2,03,000	3,09,500

Solution:

Cash Flow from Operating Activities- **Indirect Method**

Cash Flow from Operating Activities for the year ending march 31st, 2021	
Particular	**Amount**
Profit for the year (1000+20000)	21,000
Add: Non-cash and non-Operating items which have been debited to Profit & Loss	
Transfer to reserve (35,000-25,000)	10,000
Provision for depreciation (23,000-15,000)	8,000
Goodwill w/off (25,000-22,000)	3,000
Discount on issue of debenture w/off	8,000

Interest on debenture (38,000 * 12%=4,560)	4,560
Add: Decrease in Current Assets	
Increase in current Liabilities	
Sundry Creditor (27,500-15,000)	12,500
Less: Increase in Current Assets	
Stock (35000 – 12,000)	23,000
Debtor (85,000 -40,000)	45,000
Less: Decrease in current liabilities	
Bills Payable (10,000 – 9,000)	1,000
Cash Flow from Operating Activities	-1,940

Example 2: From the following extract you are required to calculate cash from operating activities.

Particular	**Amount**
Sales for the year	5,00,000
Purchases for the year	3,60,000
Debtors as on 31.03.2021	25,000
Debtors as on 31.03.2022	28,600
Creditors as on 31.03.2021	21,300
Creditors as on 31.03.2022	24,600
Operating Cost during the year	24,500
Outstanding Expenses as on 31.03.2021	1,500
Outstanding Expense as on 31.03.2022	2,000

Prepaid expenses as on 31.03.2021	1,600
Prepaid expenses as on 31.03.2022	1,390
Income Tax paid during the year	7,500

Solution:

Cash Flow from Operating Activities- **Direct Method**

Cash flow from operating activities	
Particular	**Amount**
Cash received from the debtor	4,96,400
Cash paid to the creditor	3,56,700
Operating Expenses paid during the year	23,790
Income Tax paid during the year	7,500
Cash flow from operating activities	**1,08,410**

Working Note No. 1

Cash received from the debtor during the year	
Particular	**Amount**
Debtors as on 31.03.2021	25,000
Add: Sales for the year	5,00,000
Less: Debtors as on 31.03.2022	28,600
Cash received	**4,96,400**

Working Note No. 2

Cash paid to the creditor during the year	
Particular	**Amount**
Creditors as on 31.03.2021	21,300

Purchases for the year	3,60,000
Creditors as on 31.03.2022	24,600
Cash paid	**3,56,700**

Working Note No.3

Operating Expenses paid during the year	
Particular	**Amount**
Operating Expenses during the year	24,500
Add: Outstanding Expenses as on 31.03.2021	1,500
Less: Outstanding Expense as on 31.03.2022	2,000
Less: Prepaid expenses as on 31.03.2021	1,600
Add: Prepaid expenses as on 31.03.2022	1,390
Expenses paid during the year	**23,790**

Example 3: Calculate the cash flow from investing activities.

	31.03.2021	31.03.2022
Machinery	8,00,000	11,00,000

Additional Information: -

Machinery costing Rs. 2,00,000 on which accumulated depreciation was Rs. 50,000 has been sold for Rs. 1,78,000.

Depreciation charged for the year ending 2022 was Rs. 90,000.

Solution:

Calculation of cash flow from investing activities	
Sale of Machinery	1,78,000
Purchase of Machinery	5,40,000
Net Cash flow from investing activities	**-3,62,000**

Working Note No. 1

Machinery A/c			
To Balance b/d	8,00,000	By Cash (Sale of Machinery)	1,78,000
To Profit on sale of Machinery	28,000	By Depreciation	90,000
To Cash (Purchase of Machinery)	5,40,000		
		By Balance c/d	11,00,000
	13,68,000		**13,68,000**

Example 4: Following is the information for M/s Vikram Ltd.

Liabilities	**31.03.2020**	**31.03.2021**	**Assets**	**31.03.2020**	**31.03.2021**
Share Capital	6,50,000	7,00,000	Goodwill	1,00,000	60,000
Debentures	10,00,000	5,00,000	Building	8,00,000	8,50,000
General Reserve	15,000	25,000	Stock	1,05,000	1,07,590
Trade Creditor	1,25,000	1,37,500	Debtor	1,50,000	1,75,000
Profit & Loss Account	1,05,000	1,09,840	Cash & Cash Equivalent	7,40,000	2,79,750
Total	18,95,000	14,72,340	***Total***	18,95,000	14,72,340

Additional Information:

i) Building Purchased for Rs. 90,000.

ii) Dividend paid was for Rs. 10,000.

Prepare Cash Flow Statement using Indirect method.

Solution:

Cash Flow Statement

Particular	Amount
Cash Flow From Operating Activities	
Particular	Amount
Profit & Loss Account	4,840
Add: Non Cash and Non-Operative Account debited to P & L A/c	
General Reserve	10,000
Goodwill	40,000
Dividend Paid	10,000
Depreciation (800000+90000-850000)	40,000
Adjustment of Change in Current Assets and Current Liabilities	
Add: Increase in T. Creditor	12,500
Less: Increase in Stock	(2,590)
Less: Increase in Debtor	(25,000)
Net Cash flow from operating activities	**89,750**
Cash Flow From Investing Activities	
Building purchases	(90,000)
Net Cash flow from investing activities	(90,000)
Cash Flow From Financing Activities	
Issue of Share Capital	50,000
Redemption of Debentures	(5,00,000)
Dividend Paid	(10,000)
Net Cash Flow From Financing Activities	(4,60,000)

Cash & Cash Equivalent as on31.03.2020	7,40,000
Cash & Cash Equivalent as on31.03.2021	2,79,750

Example 5: Following is the balance sheet of M/s Arvind Pvt. Ltd.

Liabilities	**31.03.2021**	**31.03.2022**	**Assets**	**31.03.2021**	**31.03.2022**
Share Capital	6,50,000	8,00,000	Goodwill	1,00,000	60,000
Debentures	10,00,000	8,00,000	Machinery	3,50,000	5,00,000
General Reserve	15,000	25,000	Land & Building	8,00,000	8,50,000
Trade Creditor	1,25,000	1,37,500	Stock	1,05,000	1,07,590
Bank Loan	5,00,000	2,50,000	Debtor	1,70,000	1,35,000
Profit & Loss Account	1,05,000	1,09,840	Bank	4,00,000	1,00,000
Provision for Taxation	17500	22500	Cash	4,87,500	3,92,250
Total	24,12,500	21,44,840	***Total***	24,12,500	21,44,840

Additional Information:

i) Dividend paid for Rs. 30,000

ii) Assets of another company were purchased for Rs. 100000 payables in shares. Assets purchased were machinery worth Rs. 80000 and Stock Worth Rs. 20000.

iii) Machinery further purchased for Rs. 1,20,000.

iv) Depreciation provided for machinery Rs. 15000.

v) Income tax provided during the year 15000.

You are required to prepare a cash flow statement for the year ended 2022.

Solution:

Cash Flow Statement	
Particular	Amount
Cash flow from operating activities	
Profit & Loss as per Balance sheet (1,09,840-1,05,000)	4,840
Add: Non Cash and Non-Operative Account debited to P & L A/c	
Transfer to General Reserve	10,000
Goodwill Written off	40,000
Dividend Paid	30,000
Depreciation	15,000
Provision for income Tax	15,000
Adjustment of Change in Current Assets and Current Liabilities	
Add: Increase in Trade Creditor	12,500
Less: Increase in Stock	-2,590
Add: Decrease in Debtor	35,000
Less: Income Tax paid during the year	-10,000
Net Cash flow from operating activities	**1,69,750**
Cash flow from investing activities	
Purchase of Machinery	-1,20,000
Sale of machinery	35,000
Purchase of land and Building	-50,000
Net Cash flow from investing activities	**-1,35,000**

Cash flow from investing activities	
Issue of Share Capital	50,000
Redemption of Debentures	-2,00,000
Repayment of Loan	-2,50,000
Dividend Paid	-30,000
Net Cash flow from investing activities	**-4,30,000**
Cash & Cash Equivalent as on 31.03.2021	
- Cash	4,87,500
- Bank	4,00,000
Cash & Cash Equivalent as on31.03.2021	
- Cash	3,92,250
- Bank	1,00,000

Working Note No. 1

Provision for Income Tax			
To Cash	10,000	By Balance b/d	17,500
To		By Income Tax	15,000
To Balance c/d	22,500		
	32,500		32,500

Working Note No. 2

Machinery			
To Balance b/d	3,50,000	By Depreciation	15,000
To Equity Shares	80,000	By Bank	35,000
To Bank	1,20,000		

		By Balance c/d	5,00,000
	5,50,000		5,50,000

Working Note No. 3

Share Capital

		By Balance b/d	6,50,000
		By Machinery	80,000
		By Stock	20,000
		By Bank	50,000
To Balance c/d	8,00,000		
	8,00,000		8,00,000

4.5 Fund Flow Statement

All business firms prepare financial statements at the end of financial year so that different stakeholders may use it to extract important information. Where balance sheet provides a picture of financial position at a given point of time, income statement provides summary of revenue and expenditure during a particular time period. They are undoubtedly important financial statements but a separate statement is required that can present changes and movement of funds between two balance sheets/ income statement. A financial statement that provides for flow and movement of funds is called fund flow statement. Cash flow statement only consider the flow generated in cash only. Fund flow statement considers the overall flow of fund in the organization.

4.5.1 Meaning of Fund Flow

Fund flow means changes in cash or in working capital. Flow of funds take place only when that flow makes the change in the working capital. Thus, flow of fund takes place only when the fund flows between current and non-current items. While investigating flow of fund in transaction, involvement of different type of accounts must be analyzed.

Transactions showing flow of fund

Transactions involving		Result
Current Assets A/c	Current Liabilities A/c	No Fund Flow
Current Assets A/c	Non-Current Assets A/c	Fund Flow
Current Liabilities A/c	Non-current Liabilities A/c	Fund Flow
Current Liabilities A/c	Current Assets A/c	No Fund Flow
Non-Current Assets A/c	Non-Current Liabilities A/c	No Fund Flow
Non-Current Liabilities A/c	Non-Current Assets A/c	No Fund Flow
Non-Current Assets A/c	Current Assets A/c	Fund Flow
Non-Current Liabilities A/c	Current Liabilities A/c	Fund Flow

Thus, in order to gain insight on whether there is a flow of fund or not in the transaction, knowledge about the current and non-current accounts is mandatory. Current Accounts are those accounts which are to be settled within the period of 12 month or an operating cycle whichever is higher. Whereas non-current accounts are those accounts which take a long time period to settle down.

4.5.2 Importance of Fund flow Analysis

Fund flow analysis is beneficial to stakeholders to understand the changes in structure of assets, liabilities and owner's equity. It is helpful to finance managers to get answers to:

- Major commitment of funds made during particular period
- Status of liquidity of the firm
- Status of working capital financing
- Reliability on sources of financing
- Funds generated from operations of business
- Distribution of dividends

- Changes in net current assets despite net loss during a particular period

4.5.3 Fund flow statement provides for changes in financial position using sources and uses of funds. Fund flow statement involves the following three statements.

(i) Statement for change in working capital

(ii) Fund from Operation/Adjusted Profit and Loss A/c

(iii) Statement of Source and Application/Fund flow statement

4.5.3.1 Statement of change in working capital

Statement of change in working capital is prepared with the help of two balance sheets. This statement is prepared by comparing current assets and current liabilities of two periods. In this statement individual change is computed and recorded and the overall change in working capital is calculated. This overall change tells us whether the fund have been flown in or flown out. If there is decrease in working capital it refers to the inflow of the fund and is recognized as source of fund and opposite to it increase in working capital depicts the application of funds in the business. However, it does not give the reasons for increase and decrease in working capital. Following format is used for the calculation of change in working capital.

Statement of change in working Capital

Particulars	**Amount**		**Change**	
	Previous year	**Current year**	**Increase/Decrease**	**Amount**
Current Assets				
Cash in hand	XXX	XXX	+/-	XXX
cash at bank	XXX	XXX	+/-	XXX
Debtors	XXX	XXX	+/-	XXX
Bills Receivable	XXX	XXX	+/-	XXX
Stock	XXX	XXX	+/-	XXX
Accrued Income	XXX	XXX	+/-	XXX
Short term investment	XXX	XXX	+/-	XXX

Advances	XXX	XXX	+/-	XXX
Prepaid expenses	XXX	XXX	+/-	XXX
Total (A)	XXX	XXX	+/-	XXX
Current Liabilities				
Creditor	XXX	XXX	+/-	XXX
Bills Payable	XXX	XXX	+/-	XXX
short term loans	XXX	XXX	+/-	XXX
Bank overdraft	XXX	XXX	+/-	XXX
Total (B)	XXX	XXX	+/-	XXX
Working Capital = (A-B)	*XXX*	*XXX*	+/-	***XXX***

↑

Net increase/decrease in working capital

4.5.3.2 Fund from Operation/Adjusted P & L A/c

Profit and Loss account does not give a true source of fund as it includes the items which are non-operating in nature. Fund from operation shows the profit after the adjustment of non-operating and non-fund items in the profit and loss account. There are two ways to calculate fund from operation. First method is statement format to determine the fund flow from operation and second one if to prepare adjusted profit and loss account.

i) Calculation of fund from operation from Statement of Fund from Operation

Fund from Operation	
Particular	**Amount**

Net profit (closing balance as per Profit & Loss A/c)	Xxx
Less: Non- Operating and Non-Fund items already credited to P & Loss A/c	
- Interest on Investment	Xxx
- Dividend on Investment	Xxx
- Profit on sale of Capital Assets	Xxx
- Insurance claim	Xxx
- Income tax refund	Xxx
Add: Non-Operating and Non-Fund items already debited to P & Loss A/c	
Non-Cash Items	
- Depreciation of Fixed Assets	Xxx
Non- operating items	
- Loss on sale of capital Assets	Xxx
- premium on redemption of debentures/preference share	Xxx
-discount on issue of share	Xxx
- Amortization of Intangible assets	Xxx
-dividend	Xxx
-Transfer to reserve	Xxx
-Provision for Tax	Xxx
Less: Opening balance in Profit & Loss A/c	
Fund from Operation/Fund lost in Operation	**Xxx**

ii) Calculation of fund from operation from Adjusted Profit & Loss Account

Adjusted Profit & Loss A/c			
Particular	**Amount**	**Particular**	**Amount**
To Non-Cash Items		By Net profit b/d	Xxx
- Depreciation of Fixed Assets	Xxx	***By non- Operating Incomes***	
To Non- operating items		- Interest on Investment	Xxx
- Loss on sale of capital Assets	Xxx	- Dividend on Investment	Xxx
- premium on redemption of debentures/preference share	Xxx	- Profit on sale of Capital Assets	Xxx
-discount on issue of share	Xxx	- Insurance claim	Xxx
- Amortization of Intangible assets	Xxx	- Income tax refund	Xxx
-dividend	Xxx		
-Transfer to reserve	Xxx		
-Provision for Tax	Xxx	***By fund from operation***	**Xxx**
To fund lost in operation	**Xxx**		
To Net Profit c/d			
Total	Xxx	Total	Xxx

4.5.3.3 Fund Flow Statement

Fund flow statement also known as statement of changes in financial position or statement of sources and applications of funds provides information on investing and financing activities of the business. Fund flow statement shows the various sources and the application from where the funds have been generated and where fund were applied during a specified period usually a period of a financial year. The activities of fund flow statement are categorized as:

A) Activities that generate funds (Sources of funds)

B) Activities that include spending of funds (Uses of funds)

When sources of funds are more than uses of funds, it results in increase in working capital. When sources of funds are less than uses of funds, it results in decrease in working capital.

This increase or decrease in working capital depicted in fund flow statement should tally with schedule of changes in working capital.

This statement can be generated in two formats:

i) Statement Format

ii) Account Format or T shape format

4.5.4 Procedure for preparing fund flow statement

A **Funds Flow Statement** is prepared to explain the changes in the Working Capital Position of a Company. Fund flow statement is prepared by comparing the two balance sheets along with additional information. Following steps are taken to prepare fund flow statement:

- Prepare statement of changes in working capital that will show increase/decrease in working capital.
- Calculate the Funds from operation generated only from the operating Activities of the business and not from the Investing/Financing activities of the business.
- Prepare fund flow statement where sources and uses of funds are disclosed.

Fund flow Statement in Statement Format

Fund Flow Statement	
Source	**Amount**
Fund from operation	Xxx
Issue of share and debentures	Xxx
Raising loans	Xxx
Sale of fixed assets	Xxx

Decrease in working capital	Xxx
Capital introduction	Xxx
Right Issue	Xxx
Non Trading Receipts	Xxx
Receipts from Partly Paid Up Shares	Xxx
Total	**Xxx**
Application	**Amount**
Funds lost in operation	Xxx
Repayment of loans	Xxx
Buyback of shares	Xxx
Redemption of debenture	Xxx
Purchase of fixed assets	Xxx
Increase in working Capital	Xxx
Capital withdrawal	Xxx
Non Trading payments	
Total	**Xxx**

In Account Format or T Format

Fund Flow Statement

Source	**Amount**	**Application**	**Amount**
Fund from operation	Xxx	Funds lost in operation	Xxx
Issue of share and debentures	Xxx	Repayment of loans	Xxx

Raising loans	Xxx	Buyback of shares	Xxx
Sale of fixed assets	Xxx	Redemption of debenture	Xxx
Decrease in working capital	Xxx	Purchase of fixed assets	Xxx
Capital introduction	Xxx	Increase in working Capital	Xxx
Right Issue	Xxx	Capital Withdrawal	Xxx
'Non Trading Receipts	Xxx	Non-Trading Payments	Xxx
Total	**Xxx**	**Total**	**Xxx**

Example 6: From the following prepare the statement of change in working capital.

Balance Sheet as on 31.03.2020 & 31.03.2021 for M/s Ram Enterprises

Liabilities	31.03.2020	31.03.2021	Assets	31.03.2020	31.03.2021
Share Capital	1,00,000	1,50,000	Goodwill	25,000	22,000
General Reserve	25,000	35,000	Fixed Assets	92,000	1,22,500
12% Debenture	38,000	45,000	Stock	12,000	35,000
Profit & Loss	-	20,000	Debtor	40,000	85,000
Sundry creditor	15,000	27,500	Cash and Bank	25,000	45,000
Bills Payable	10,000	9,000	Discount on issue of debenture	8,000	
Provision for Tax	15,000	23,000	Profit & Loss	1,000	
	2,03,000	3,09,500		2,03,000	3,09,500

Solution:

Statement of change in working capital

Current Assets	**2020**	**2021**	**Effect of change on W.Capital**	
			Increase	**Decrease**
Stock	12,000	35,000	23,000	
Debtor	40,000	85,000	45,000	
Cash and Bank	25,000	45,000	20,000	
Total (A)	**77,000**	**1,65,000**		
Current Liabilities				
Sundry creditor	15,000	27,500		12,500
Bills Payable	10,000	9,000	1,000	
Provision for Tax	15,000	23,000		8,000
Total (B)	**40,000**	**59,500**		
Net Working Capital (A-B)	**37,000**	**1,05,500**		
Net increase in Working capital	68,500			**68,500**
Total			89,000	89,000

Example 7: From the following information, calculate fund from operation.

Income Statement			
Particulars	Amount	Particulars	Amount
To Salaries	1,80,000	By Gross Profit b/f	11,25,000

To Depreciation	50,000	By Profit on sale of motor bike	3,000
To Printing & Stationary	38,000	By Interest on investment	5,000
To Office Expenses	78,000	By refund of tax	21,000
To Preliminary Expenses	1,50,000	By Profit in Sale of Furniture	4,000
To Postage expenses	15,000		
To Entertainment Expenses	85,000		
To Provision for legal damage	1,50,000		
To General reserve	10,000		
To Cost of issue of share w/off	5,000		
To Loss on Sale of Investment	15,000		
To Petrol Expenses	40,000		
To Loss on Sale of Machinery	1,50,000		
To Net Profit	1,92,000		
	11,58,000		11,58,000

Solution:

Fund From Operation

Particulars	**Amount**
Net Profit as per P & L A/c	1,92,000
Add: Non-operating and Non-fund items which already debited to P & L A/c	
Loss on Sale of Machinery	1,50,000
Loss on Sale of Investment	15,000
Cost of Issue of shares w/Off	5,000
Transfer to general reserve	10,000
Provision for legal damage	1,50,000
Preliminary expense	1,50,000
Depreciation	50,000
Less: Non-operating Non-fund Items which already credited to P & L A/c	
Profit on sale of motor bike	3,000
Interest on investment	5,000
Refund of tax	21,000
Profit in Sale of Furniture	4,000
Fund from Operation	6,89,000

Alternative Solution

Adjusted Profit & Loss Account			
Particulars	Amount	Particulars	Amount
To Depreciation	50,000	By Net Profit (Opening Balance)	--
To Preliminary Expenses	1,50,000	By Profit on sale of motor bike	3,000
To Provision for legal damage	1,50,000	By Interest on investment	5,000
To General reserve	10,000	By refund of tax	21,000
To Cost of issue of share w/off	5,000	By Profit in Sale of Furniture	4,000
To Loss on Sale of Investment	15,000		
To Loss on Sale of Machinery	1,50,000		
To Net Profit (Closing Balance)	1,92,000	By fund from Operation	6,89,000
Total	**7,22,000**	**Total**	**7,22,000**

Example 8: you are required to draw a fund flow statement from the following balance sheet and additional information given thereon.

Balance Sheet of M/s Mansi Ltd.

Liabilities	**2020**	**2021**	**Assets**	**2020**	**2021**

Equity Share Capital	3,00,000	4,00,000	Fixed Assets(Net)	4,60,000	4,95,000
10% Preference Share Capital	2,00,000	1,50,000	Long Term Investment	90,000	1,15,000
Debentures	2,00,000	2,00,000	Stock	1,25,000	1,60,000
Profit & Loss	75,000	1,15,000	Sundry debtor	75,000	60,000
General Reserve	15,000	10,000	Discount on issue of Debentures	15,000	8,500
Proposed Dividend	25,000	30,000	Cash and Bank	1,05,000	1,25,000
Sundry Creditors	35,000	28,500			
Bills Payable	10,000	18,000			
Provision for Doubtful debts	10,000	12,000			
Total	8,70,000	9,63,500	Total	8,70,000	9,63,500

Additional Information:

i) Provision for depreciation is Rs. 95000 and 115000 for the year 2020 and 2021 respectively.

ii) A fixed asset costing 80000 with accumulated depreciation of Rs. 15000 has been sold for Rs. 75000.

iii) Preference shares were redeemed at 10% premium

iv) Interim dividend was paid for Rs. 5000 and final dividend will be paid in cash.

Solution:

Statement of change in Working Capital

Particular	2020	2021	Increase	Decrease
Current Asets				
Stock	1,25,000	1,60,000	35,000	
Sundry debtor	75,000	60,000		15,000
Cash And Bank	1,05,000	1,25,000	20,000	
Total (A)	3,05,000	3,45,000		
Current Liabilities				
Sundry Creditors	35,000	28,500	6,500	
Bills Payable	10,000	18,000		8,000
Provision for Doubtful debts	10,000	12,000		2,000
Total (B)	55,000	58,500		
Net working Capital (A-B)	2,50,000	2,86,500		
Net increase in W.Capital	36,500			36,500
			61,500	61,500

Fund From Operation

Provision fpr Dep	35,000	By Bal	75,000
Discount on issue of Debentures	6,500	By general reserve	5,000

Interim Dividend	5,000	profit on sale of Fixed Assets	10,000
proposed Dividend	30,000		
Premium on redemption	5,000	By Fund from Operation	1,06,500
To Cl	1,15,000		
	1,96,500		1,96,500

Fund Flow Statement

Source	**Amount**	**Application**	**Amount**
Issue of Equity Share Capital	1,00,000	Redemption of Pref. Share	55,000
Sale of Assets	75,000	Purchase of Assets	1,35,000
Fund fro Operation	1,06,500	Investment Purchased	25,000
		Interim Dividend	5,000
		Proposed Dividend	25,000
		Increase in W.Capital	36,500
	2,81,500		2,81,500

Working Note No.1

Fixed Assets

To Bal B/d	5,55,000	By provision for depreciation	15,000
To Profit on Sale of Fixed Assets	10,000	By Cash (Sale of Fixed Assets)	75,000
To Bank(Purchase of Fixe Asset)	1,35,000	By Bal C/d	6,10,000
Total	7,00,000	Total	7,00,000

Working Note No.2

Provision for Depreciation

To Fixed Assets	15,000	By Bal B/d	95,000
To Bal C/d	1,15,000	By Depreciation	35,000
Total	1,30,000	Total	1,30,000

Working Note No.3

Proposed Dividend

To Bank	25,000	By Bal B/d	25,000
To Bal C/d	30,000	By Dividend Proposed	30,000
Total	55000	Total	55,000

4.6 Fund flow statement vs Cash Flow statement

- Fund flow statement is based on broader concept whereby total working capital is considered. Whereas cash flow statement is based on narrow concept that includes cash which is only one component of working capital. Cash Flow Statement is a statement showing changes in cash position of the firm from one period to another. It explains the inflows (receipts) and outflows (disbursements) of cash over a period of time.
- Fund flow statement provides for various uses and applications of funds whereas cash flow statement considers opening and closing balance of cash alongwith sources and uses of cash during a particular period.
- Fund flow statement is useful in long run planning but cash flow statement is useful in short term financial planning.
- In fund flow statement changes in current Assets /liabilities are presented in schedule of changes in working capital whereas in cash flow statement these changes are shown in cash flow statement itself
- Fund flow statement reveals causes of changes in working capital whereas cash flow statement reveals changes in cash.

Self-Test Corner

1. What do you mean by Cash Flow Statement? Briefly mention the contents of the Cash Flow statements.
2. Discuss in detail the Direct and Indirect method of Cash flow from Operating activities.
3. What is Fund? How we prepare the fund flow statement?
4. Briefly Discuss the Preparation of fund from Operation.
5. Describe the various items of Fund flow statements in detail.

M.COM

SEMESTER I

COURSE: ACCOUNTING FOR MANAGERIAL DECISIONS

Unit 5– Cash Flow Analysis

STRUCTURE

5.0 OBJECTIVES OR LEARNING OUTCOME

After studying the Unit, students will be able to

- Define the Meaning of Cashflow Analysis.
- Explain the Advantages and Limitations of Cashflow Analysis.
- Distinguish between Cashflow statement and fund flow statement.
- Explain the process of fund movement.
- Explain the cash from operations.
- Prepare the Cashflow statement.

5.1 MEANING OF CASHFLOW ANALYSIS

Cash flow is essentially the movement of cash into and out of a business firm. It is the cycle of cash inflow s and cash outflow s that determine the firm's solvency. Cash flow analysis is the study of the changes in the financial position of a business enterprise during a given period on the basis of cash. In other words, it studies the changes in the cash position of a business enterprise between two balance-sheet dates. For this purpose, a statement is prepared which is called the funds flow statement. Its main aim is to maintain an adequate cash flow for the business, and to provide the basis for cash flow management.

Cash flow analysis is a method of analyzing the financing, investing, and operating activities of a company. The primary goal of cash flow analysis is to identify, in a timely manner, cash flow problems as w ell as cash flow opportunities. The primary document used in cash flow analysis is the cash flow statement.

The cash flow statement is useful to managers, lenders, and investors because it translates the earnings reported on the income statement—which are subject to reporting regulations and accounting decisions— into a simple summary of how much cash the company has generated during the period in question.

Cash Flow is the life blood of a business which plays a vital role in an entire economic life. As discussed in the previous chapter, the word 'fund' is used in a narrower sense refers to 'cash'. When cash is used as 'fund' the analysis relates to movement of cash. Cash flows refer to the actual movement of cash into and out of an organization. In other words, the movement of cash inclusive of inflow of cash and out- flow of cash. When the cash flows into the organization, it represents

'Inflow of Cash.' Similarly, when the cash flows out of the business concern, it called as "Cash Outflow."

In order to ensure cash flows are adequate to meet current liabilities such as tax payments, wages, amounts due to trade creditors, it is essential to prepare a statement of changes in the financial position of a firm on cash basis is called as "Cash Flow Statement." This statement depicting movement of cash position from one period to another.

5.2 OBJECTIVES OF CASH FLOW STATEMENT

The balance sheet is a snapshot of a firm's financial resources and obligations at a single point in time, and the income statement summarizes a firm's financial transactions over an interval of time. These tw o financial statements reflect the accrual basis accounting used by firms to match revenues with the expenses associated with generating those revenues. The cash flow statement includes only inflow s and outflows of cash and cash equivalents; it excludes transactions that do not directly affect cash receipts and payments. These non-cash transactions include depreciation or write- offs on bad debts or credit losses to name a few. The cash flow statement is a cash basis report on three types of financial activities: operating activities, investing activities, and financing activities. Non-cash activities are usually reported in footnotes.

The different objectives of cash flow statement are:

1.To provide information on a firm's liquidity and solvency and its ability to change cash flow s in future circumstances

2.To provide additional information for evaluating changes in assets, liabilities and equity

3.To improve the comparability of different firms' operating performance by eliminating the effects of different accounting methods

4.To indicate the amount, timing and probability of future cash flows

The cash flow statement has been adopted as a standard financial statement because it eliminates allocations, which might be derived from different accounting methods, such as various timeframes for depreciating fixed assets.

5.3 USES/SIGNIFICANCE OF CASH FLOW STATEMENT

a) It is especially useful in preparing cash budgets.

b) It helps the new ly formed companies to know their inflow and outflow of cash.

c) It helps the investors to judge w hether the company is financially sound or not.

d) It helps the company to know w hether it will be able to cover the payroll and other expenses.

e) It helps the lenders to know the company's ability to repay.

f) A cash flow statement is provided on monthly basis or quarterly basis or six-monthly basis or yearly basis.

g) These statements help to have an accurate analysis of the firm's ability to meet its current liabilities.

h) A cash flow statement is helpful for planning and managing future financial commitments.

i) Cash flow statement summarizes the company's cash receipts and cash payments over a period of time.

j) It is useful for determining the short-term ability of the concern to meet its liabilities i.e., helps the management in taking short-term financial decisions.

k) A cash flow statement gives vital information not only about the company's performance but also about its major activities during the year

l) Cash Flow statement is also a control device for the management.

m) Since it gives a clear picture of cash inflow from operations (and not income flow of operation), it is, therefore, very useful to internal financial management such as in considering the possibility of retiring long-term debts, in planning replacement of plant facilities or in formulating dividend policies.

n) It enables the management to account for situation when business has earned huge profits yet run without money or when it has suffered a loss still has plenty of money at the bank.

5.4 DISADVANTAGES/LIMITATIONS OF CASH FLOW STATEMENT

a) By itself, it cannot provide a complete analysis of the financial position of the firm

b) It can be interpreted only when it is in confirmation with other financial statements and other analytical tools like ratio analysis.

c) It may not give accurate details about the money coming into and going out of the business. Costs may change and this could cause the business to lose money.

d) Since it shows s only cash position, it is not possible to arrive at actual profit and loss of the company by just looking at this statement alone.

e) In isolation this is of no use and it requires other financial statements like balance sheet, profit and loss etc…, and therefore limiting its use
f) It is difficult to precisely define the term ‘cash’.
g) Working capital is a w ider concept of funds. Therefore, a funds flow statement gives a clearer picture than a cash flow statement.

5.5 DIFFERENCE BETWEEN FUND FLOW STATEMENT AND CASH FLOW STATEMENT

Fund Flow Statement and Cash Flow Statement are the two useful tools of financial analysis and interpretations of financial statements. But at the same time both the statements differ from each other in the following manner:

(l) Fund Flow Statement helps to measure the causes of changes in working capital whereas cash flow statement focuses on the causes for the movement of cash during a panicular period.

(2) Fund flow statement is prepared on the basis of Fund or all financial resources while cash flow statement is based on cash basis of accounting.

(3) Cash Flow Statement guides to the management for short-term financial planning while Fund flow analysis helps to the management for intermediate and long-term financial planning.

(4) Statement of changes in working capital is required for the preparation of Fund flow statement while for cash flow statement no such statement is required.

5.6 TEST YOUR UNDERSTANDING (A)

1. Define the cashflow statement.

…………………………………………………………………………………………………

…………………………………………………………………………………………………

…………………………………………………………………………………………………

2. State significance of cashflow statement

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…………………………………………………………………………………………………

……………………………………………………………………………………………………

3. What are the objectives of cashflow statement.

……………………………………………………………………………………………………

……………………………………………………………………………………………………

……………………………………………………………………………………………………

4. Fill up the Blanks.

a. Cash flow analysis is the study of the ………. in the financial position of a business enterprise during a given period on the basis of cash

b. ………. is required for the preparation of Fund flow statement while for cash flow statement no such statement is required.

c. Cash Flow Statement guides to the management for ……... financial planning.

d. The ……… is a snapshot of a firm's financial resources and obligations at a single point in time.

5.7 PREPARATION OF CASH FLOW STATEMENT

Cash Flow Statement is prepared like Fund Flow Statement. Preparation of this statement is based on the movement of cash, may be an actual inflow of cash or outflow of cash, Profit and Loss Account and other relevant information's. While preparing a cash flow statement, it starts with an opening balance of cash in hand and cash at bank, all the sources of cash are added to an opening balance minus applications of cash is reconciled with the closing balance of cash. The balance represents cash and bank balances at the end of accounting period.

SOURCES AND APPLICATIONS OF CASH

Sources of Cash (Inflow of Cash)

The following are the main sources of cash such as:

(l) Cash From Operations or Trading Profit.

(2) Sale of Fixed Assets for Cash.

(3) Sale of Investments for Cash.

(4) Raising Long-Term Loans from Banks and Financial Institutions.

(S) Issue of Shares and Debentures for Cash.

Application of Cash (Outflow of Cash)

Application of cash can be involved in the following forms:

(l) Cash Lost in Operations or Trading Losses.

(2) Redemption of Shares and Debentures by Cash.

(3) Purchase of Fixed Assets.

(4) Repayment of Long-Term Loans.

Computation of Cash Flow Statement

A comprehensive Cash Flow Statement is ascertained in two stages:

(I) Cash From Operations, i.e., internal sources of cash calculated by preparing combined statements of adjusted profit and loss account.

(II) External Sources and Applications of Cash, i.e., Flow of Cash involves in non-current items ascertained by the Statement of Sources and Applications of Cash.

The summary of sources and applications of cash is presented in the chart given below :

Sources of Cash (Inflow of Cash)	*Applications of Cash (Outflow of Cash)*
Cash From Operations	Cash Lost in Operations
Sale of Fixed Assets	Purchase of Fixed Assets
Sale of Investments	Purchase of Investment
Issue of Shares	Redemption of Preference Shares
Issue of Debentures	Redemption of Debentures
Raising Long-Term Loans	
Increase in any Liabilities	Decrease in any Liability
Decrease in any Assets	Decrease in any Assets

5.8 CASH FROM OPERATIONS

Cash from operations is the main source of inflow of cash. The Net Profit or Net Loss is the net effect of business transactions shown by the profit and loss account. In order to find out the actual movement of cash from trading operations, it is essential to ascertaining cash from operations. It can be calculated under the following situations:

(a) When all Transactions are Cash Transactions.

(b) When all Transactions are not Cash Transactions.

(a) WHEN ALL TRANSACTIONS ARE CASH TRANSACTIONS: It assumes that where all the expenses and losses. incomes and gains are paid or received in cash during the particular period. The Net Profit or Net Loss shown by the profit and loss account is taken as the amount of cash from operations. Thus, Net Profit or Net Loss is equal to cash from operations. When Net Profit made by a firm represents Cash Inflow or Cash Profit from Operations. Similarly, the Net Loss shown by the profit and loss account refers to Cash Outflow from Operations.

(b) WHEN ALL TRANSACTIONS ARE NOT CASH TRANSACTIONS: In actual practice, in business transactions are made either on cash basis or credit basis. For example, goods purchased or sold on cash as well as on credit. Certain expenses are always outstanding and some of the incomes are not immediately realized under such circumstances, the net profit made by a firm cannot generate equivalent amount of cash. Therefore, the charging of non-fund or non-cash items such as outstanding expenses, incomes received in advances, prepaid expenses and outstanding incomes etc. to profit and loss account should be readjusted. In such circumstances the actual cash from operations can be calculated by preparing adjusted profit and loss account.

CALCULATION OF CASH FROM OPERATIONS

Cash From Operations can be calculated by either of the following methods:

(A) Cash From Operations calculated with the help of Adjusted Profit and Loss Account. Under this method, all non-fund or non-operations items should be readjusted to cash profit from operations. The specimen form of cash from operations is given below:

Cash from Operations
(Adjusted Profit and Loss Account)

Particulars	*Rs.*	*Particulars*	*Rs.*
To Depreciation on Fixed Assets		By Balance b/d	
To Transfer to General Reserve		(Opening Balance of P & L A/c)	
To Loss on Sale of Fixed Assets		By Profit on Sale of Fixed Assets	
To Increase in Outstanding Expenses		By Profit on Sale of Investments	
To Decrease in Prepaid Expenses		By Decrease in Outstanding Expenses	
To Preliminary Expenses written off		By Increase in Prepaid Expenses	
To Balance c/d		By Cash From Operations	
(Closing Balance of P & L A/c)		(Balancing figure)	

(B) Cash From Operations can also be calculated on the basis of current assets and current liabilities. Under this method, the amount of changes in the various items of current assets and current liabilities other than cash and bank balances should be adjusted with the help of Adjusted Profit and Loss Account. It may be noted that, as compared to above this method may increase or decrease in items of creditors, stocks, debtors, bills receivable and bills payable are not adjusted while calculating cash profit from operations and they may be directly taken as Sources (inflow) of Cash or Application (outflow) of Cash. This method is generally adopted in practice.

While applying this method, the following general principles may be taken for measuring cash from operations :

Increase in Current Assets → Decrease in Cash

Decrease in Current Assets → Increase in Cash

Increase in Current Liability → Increase in Cash

Decrease in Current Liability → Decrease in Cash

Specimen

The specimen for computation of cash from operations is given below:

Calculation of Cash from Operations:

(Combining Current Assets & Current Liabilities & Non-Cash & Non-Operating Items)

Particulars	*Rs.*	*Rs.*
Net Profit (Closing Balance of Profit **& Loss A/c)**		* * *
Add:		
Depreciation on Fixed AssetsTransfer to General Reserve Loss	* * *	

on Sale of Fixed Assets Loss on Sale of Investments Goodwill Written off Increase in Outstanding Expenses Decrease in Prepaid Expenses Decrease in Current Assets (Other than Cash and Bank) Increase in Current Liabilities		***
Preliminary **Expenses** Written off *Less :* Profit on Sale of Fixed Assets Profit on Sale of Investments Decrease in Outstanding Expenses Increase in Prepaid Expenses Increase in Current Assets (Other than Cash and Bank) Increase in Current Liabilities Opening Balance of Profit & Loss A/c **Cash From Operations**		***

5.9 PROBLEM/SOLUTION ON CASHFLOW STATEMENT

Illustration: 1

From the following Balance Sheet of ABC Ltd., you are required to calculate Cash From Operations:

Particulars	*2002* *Rs.*	*2003* *Rs.*
Capital and Liabilities :		
Share Capital	20,000	20,000
Profit made during the year	14,100	17,300
Provision for Depreciation	1,000	1,400
Long-Term Loans	2,000	3,000
Trade Creditors	6,450	5,300
Outstanding Expenses	850	150
	44,400	47,150
Assets :		
Plant and Machinery	28,500	30,000
Stocks	9,800	11,300
Trade Debtors	3,950	2,850
Cash Balances	2,150	3,000
	44,400	47,150

Solution :

Calculation of Cash from Operations

Particulars	*2002* *Rs.*	*2003* *Rs.*
Profit made during the year (Closing Balance of P & L A/c)		17,300
Add :		
Provision for Depreciation	400	
Decrease in Debtors	1,100	1,500
		18,800
Less :		
Decrease in Creditors	1,150	
Decrease in Outstanding Expenses	700	
Increase in Stock	1,500	
Net Profit (Opening Balance of P & L A/c)	14,100	17,450
Cash From Operations		1,350

Illustration: 2

From the following balance you are required to calculate cash from operations

Particulars	*2002 Rs.*	*2003 Rs.*
Trade Debtors	1,00,000	94,000
Bills Receivable	20,000	25,000
Trade Creditors	40,000	50,000
Bills Payable	16,000	12,000
Outstanding Expenses	2,000	2,400
Prepaid Expenses	1,600	1,400
Accrued Income	1,200	1,500
Income Received in Advance	600	500
Profit made during the year	–	2,60,000

Solution:

Calculation of Cash from Operations

Particulars	*Rs.*	*Rs.*
Net Profit (Closing Balance)		2,60,000
Add :		
Decrease in Debtors	6,000	
Increase in Creditors	10,000	
Increase in Outstanding Expenses	400	
Decrease in Prepaid Expenses	200	16,600
		2,76,600
Less :		
Increase in Bills Receivable	5,000	
Decrease in Bills Payable	4,000	
Increase in Accrued Income	300	
Decrease in Income Received in Advance	100	9,400
Cash From Operations		2,67,200

Illustration: 3

From the following information given by RR Ltd., you are required to prepare Cash From Operations:

Particulars	*2002* *Rs.*	*2003* *Rs.*
Bills Payable	10,000	16,000
Trade Creditors	24,000	32,000
Outstanding Expenses	4,000	2,000
Bills Receivable	40,000	36,000
Trade Debtors	80,000	1,20,000
Prepaid Expenses	4,000	6,000
Accrued Incomes	10,000	16,000
Incomes Received in Advance	4,000	2,000

Additional Information

RR Ltd., earned profit of Rs. 4,00,000 after charging or crediting the following items to its profit and loss account during the year 2003:

(1) Profit on Sale of Investments Rs. 8,000

(2) Loss on Sale of Building Rs. 18,000

(3) Depreciation on Fixed Assets Rs. 14,000

(4) Good Will Written off Rs. 4,000

Solution:

Calculation of Cash from Operations

Particulars	*Rs.*	*Rs.*
Net Profit during the year		4,00,000
Add :		
Loss on Sale of Building	18,000	
Depreciation on Fixed Assets	14,000	
Good will Written off	4,000	
Increase in Bills Payable	6,000	
Increase in Trade Creditors	8,000	
Decrease in Bills Receivable	4,000	54,000
		4,54,000
Less :		
Profit on Sale of Investments	8,000	
Decrease in Outstanding Expenses	2,000	
Decrease in Income Received in Advance	2,000	
Increase in Trade Debtors	40,000	
Increase in Prepaid Expenses	2,000	
Increase in Accrued Income	6,000	60,000
Cash From Operations		3,94,000

5.10 EXTERNAL SOURCES AND APPLICATIONS OF CASH

EXTERNAL SOURCES OF CASH

The following are the external sources of cash such as:

(1) FRESH ISSUE OF SHARES: Cash is received by issue of fresh shares to the public, after deducting necessary expenses and discount on issue of shares will be treated as sources of cash.

(2) ISSUE OF DEBENTURES: The Net Cash is received by the issue of debentures is source of cash.

(3) RAISING LONG-TERM BORROWINGS: Long-term loans received from banks and financial institutions refer to inflow of cash.

(4) SALE OF FIXED ASSETS AND INVESTMENTS: Net cash received from the sale of permanent assets and investments are treated as sources of cash.

APPLICATIONS OF CASH

Applications of cash or cash outflows or uses of cash may take any of the following forms:

(1) REDEMPTION OF SHARES AND DEBENTURES: When redeemable preference shares and debentures are redeemed by paid in cash. It refers to as application or outflow of cash.

(2) PURCHASE OF FIXED ASSETS: Cash used for purchase of plant and machinery. land and building, furniture and fixtures etc., or renewals and replacement of fixed asseti are to be treated as outflow of cash.

(3) PAYMENT OF LONG-TERM LOANS: The repayment or discharge of long-term loans received from banks and financial institutions results in outflow of cash.

5.11 FORMAT OF CASHFLOW STATEMENT

Specimen From of Cash Flow of Statement

Cash Flow Statement is prepared in any one of the following two ways:

(1) Account Form.

(2) Report Form.

There can be many errors is maintenance of books of accounts. Similarly, there can be some frauds in the business also. Accounting helps us in detection of these errors and frauds.

(1) Account Form

Cash Flow Statement

Sources or Inflow of Cash	*Rs.*	*Applications or Outflow of Cash*	*Rs.*
Opening Balances:		Cash Lost in Operations	
Cash		Redemption of Preference Shares	
Bank		Redemption of Debentures	
Fresh Issue of Shares		Repayment of Long-Term Loans	
Issue of Debentures		Purchase of Fixed Assets	
Raising Long-Term Loans		Purchase of Investments	
Sale of Fixed Assets		Tax Paid	
Sale of Investment		Dividend Paid	
Dividends Received		Closing Balance:	
Cash From Operations		Cash	
	* * *		* * *

(2) Report Form

Cash Flow Statement

Paniculars	*Rs.*	*Rs.*
Opening Balances :		* *
Cash		* *
Bank		* *
Add : **Sources of**		

Cash : Fresh		
Issue of Shares		
Issue of		
Debentures		
Long-Term Loans from Bank and Financial		
Institutions Sale of Fixed Assets	* *	
Sale of	*	
Investments		
Dividends		
Received Cash		
From Operations		
Total Inflow of Cash (A)		
Less : Applications of Cash :		
Redemption of Preference		
Shares Redemption of		
Debentures Repayment of		
Long-Term Loans		
Purchase of Fixed Assets		* * *
Payment of Dividends		
Payment of Tax		* * *
Cash Lost of in		
Operations **Total**		
Outflow of Cash (B)		
Closing Balance of Cash and Bank		

5.12 ILLUSTRATIONS ON CASHFLOW STATEMENT

Illustration: 4

From the following Balance sheets of ABC Ltd., you are required to prepare a Cash Flow Statement:

Balance Sheet

Liabilities	*2002 Rs.*	*2003 Rs.*	*Assets*	*2002 Rs.*	*2003 Rs.*
Share Capital	20,000	30,000	Fixed Assets	20,000	30,000
Profit & Loss A/c	10,000	16,000	Good Will	10,000	8,000
General Reserve	6,000	8,000	Stock	10,000	16,000
Debenture	10,000	12,000	Trade Debtors	10,000	16,000
Trade Creditors	6,000	8,000	Bills Receivable	2,000	4,000
Outstanding Expenses	2,000	3,000	Bank Balance	2,000	3,000
	54,000	77,000		54,000	77,000

Solution:

Calculation of Cash from Operations

Particulars	*Rs.*	*Rs.*
Net Profit during the year		
(Closing Balance of Profit & Loss A/c)		16,000
Add :		
General Reserve (6000 – 8000)	2,000	
Good Will Written off (10,000 – 8000)	2,000	
Increase in Outstanding Expenses	1,000	
Increase in Trade Creditors	2,000	7,000
		23,000
Less :		
Increase in Stock (10000 – 16000)	6,000	
Increase in Debtors (10000 – 16000)	6,000	
Increase in Bills Receivable	2,000	
Opening Balance of P & L A/c	10,000	24,000
Cash Lost in Operations		1,000

Cash Flow Statement

Sources of Cash	*Rs.*	*Applications of Cash*	*Rs.*
Opening Balances :		Purchase of Fixed Assets	10,000
Cash at Bank	2,000	Cash lost in Operations	1,000
Add :		Closing Balance :	
Issue of Shares	10,000	Cash at Bank	3,000
Issue of Debenture	2,000		
	14,000		14,000

Illustration: 5

From the following informations, Prepare Cash From Operations and Cash Flow Statement :

Particulars	*Rs.*	*Rs.*
Assets :		
Cash Balances	5,000	3,500
Trade Debtors	15,000	25,000
Stock	17,500	12,500
Machinery	40,000	27,500
Land	20,000	25,000
Building	17,500	30,000
	1,15,000	1,23,500
Capital and Liabilities :		
Capital	62,500	76,500
Long-Term Loans	20,000	25,000
Mortgage Loans	12,500	—
Trade Creditors	20,000	22,000
	1,15,000	1,23,500

Additional Information

(1) During the year a machine costing Rs. 5,000 (accumulated depreciation Rs. 1,500) was sold for Rs. 2,500.

(2) The provision for depreciation against machinery during the year 2002 was Rs. 12,500 and Rs. 20,000 in 2003.

(3) Net Profit earned during the year 2003 was Rs. 22,500.

Solution:

Cash Flow Statement

Sources of Cash	*Rs.*	*Applications of Cash*	*Rs.*
Opening Balances :		Purchase of Land	5,000
Cash at Bank	5,000	Purchase of Building	12,500
Add :		Mortgage Loan repaid	12,500
Long-Term Loans	5,000	Drawings	8,500
Sale of Machinery	2,500	Closing Balances :	
Cash From Operations	29,500	Cash at Bank	3,500
	42,000		42,000

Working Note:

(1) Calculation of Cash from Operations

Particulars	*Rs.*	*Rs.*
Net Profit during the year		22,500
Add :		
Depreciation on Machinery	9,000	
Loss on Sale of Machinery	1,000	
Decrease in Stock	5,000	
Increase in Creditors	2,000	17,000
		39,500
Less :		
Decrease in Creditors	10,000	10,000
Cash From Operations		29,500

(2) Machinery Account

Particulars	*Rs.*	*Particulars*	*Rs.*
To Balance b/d	52,500	By Bank	2,500
		By Loss on Sale of Machinery	1,000
		By Provision for Depreciation	1,500
		By Balance c/d (40,000 + 5000 + 2500)	47,500
	52,500		52,500

Illustration: 6

The summarized balance sheet of William & Co. Ltd., you are required to prepare a Cash Flow Statement.

Balance Sheet

Liabilities	*2002 Rs.*	*2003 Rs.*	*Assets*	*2002 Rs.*	*2003 Rs.*
Share Capital	90,000	90,000	Fixed Assets	80,000	64,000
General Reserve	60,000	62,000	Investments	10,000	12,000
Profit & Loss A/c	11,200	13,600	Stock	48,000	42,000
Creditors	33,600	26,800	Debtors	42,000	91,000
Provision for Tax	15,000	2,000	Bank	29,800	39,400
Mortgage Loan	—	54,000			
	2,09,800	2,48,400		2,09,800	2,48,400

Additional Information

(1) Investments costing Rs. 1,600 were sold during the year 2003 for Rs. 1,700.

(2) Provision for tax made during the year was Rs. 1,800.

(3) During the year part of the fixed assets costing Rs. 2,000 was sold for Rs. 2,400 and the profit was included in profit and loss account.

(4) Dividend paid during the year amounted to Rs. 800.

Solution:

Calculation of Cash from Operations

Particulars	*Rs.*	*Rs.*
Net Profit during the year (13600 – 11200)		2,400
Add :		
Transfer to General Reserve	2,000	
Provision for Tax	1,800	
Dividend	8,000	
Depreciation	14,000	
Decrease in Stock	6,000	31,800
		34,200
Less :		
Profit on Sale of Investments	100	
Profit on Sale of Fixed Assets	400	
Increase in Debtors	49,000	
Decrease in Creditors	6,800	56,300
Fund Lost in Operations		22,100

Cash Flow Statement

Sources of Cash	*Rs.*	*Applications of Cash*	*Rs.*
Opening Balances :		Cash Lost in Operations	22,100
Cash at Bank	29,800	Payment of Tax	14,800
Add :		Payment of Dividend	8,000
Sale of Investments	1,700	Purchase of Investment	3,600
Sale of Fixed Assets	2,400	Closing Balances :	
Mortgage Loan	54,000	Cash at Bank	39,400
	87,900		87,900

Working Notes:

Provision for Tax Account

To Bank (Balancing Figure)	14,800	By Balance b/d (Opening Balance)	15,000
To Balance c/d (Closing Balance)	2,000	By P & L A/c (Provision for 2003)	1,800
	16,800		16,800

Investment Account

To Balance b/d	10,000	By Cash A/c (Sold during the year)	1,600
To Bank (Purchased of Investments — Balancing Figure)	3,600	By Balance c/d	12,000
	13,600		13,600

Illustration: 7

From the following information, prepare

(a) Cash From Operations (b) Cash Flow Statement

(c) Statement of Changes in Working Capital and (d) Fund Flow Statement

Balance Sheet

Particulars	*2002 Rs.*	*2003 Rs.*
Assets :		
Furniture and Fittings	1,17,000	1,30,000
Motor Vans	1,54,000	80,000
Long-Term Investments	3,00,000	2,60,000
Stock	8,29,000	8,00,000
Trade Debtors	90,000	1,09,000
Cash at Bank	1,43,000	1,40,000
Preliminary Expenses	10,000	15,000
	16,43,000	15,34,000
Capital and Liabilities :		
Equity Share Capital	9,00,000	6,00,000
Preference Share Capital	—	2,00,000
Profit & Loss Account	1,10,000	75,000
Debentures	2,50,000	3,00,000
Bank Loan	75,000	1,00,000
Bills Payable	45,000	40,000
Trade Creditors	1,50,000	1,15,000
Outstanding Expenses	18,000	19,000
Provision for Taxation	95,000	85,000
	16,43,000	15,34,000

5.13 TEST YOUR UNDERSTANDING (B)

(a) TRUE-FALSE STATEMENTS

1. The statement of cash flows is a required statement that must be prepared along with an income statement, statement of financial position, and retained earnings statement.
2. For external reporting, a company must prepare either an income statement or a statement of cash flows, but not both.
3. A primary objective of the statement of cash flows is to show the income or loss on investing and financing transactions.
4. A statement of cash flows indicates the sources and uses of cash during a period.
5. A statement of cash flows should help investors and creditors assess the entity’s ability to generate future income.
6. The information in a statement of cash flows helps investors and creditors assess the company’s ability to pay dividends and meet obligations.
7. Financial statement readers can determine future investing and financing transactions by examining a company’s statement of cash flows.
8. In preparing a statement of cash flows, the issuance of debt should be reported separately from the retirement of debt.
9. Non-cash investing and financing activities must be reported in the body of a statement of cash flows.
10. The statement of cash flows classifies cash receipts and payments as operating, nonoperating, and financial activities.
11. The sale of land for cash would be classified as a cash inflow from an investing activity.
12. Cash flow from investing activities is considered the most important category on the statement of cash flows because it is considered the best measure of expected income.
13. The receipt of dividends from non-current investments is classified as a cash inflow from investing activities.

14. The payment of interest on bonds payable is classified as a cash outflow from operating activities.
15. Any item that appears on the income statement would be considered as either a cash inflow or cash outflow from operating activities.
16. The acquisition of a building by issuing bonds would be considered an investing and financing activity that did not affect cash.
17. All major financing and investing activities affect cash.
18. Cash provided by operations is generally equal to operating income.
19. Using the indirect method, an increase in accounts receivable during a period is deducted from net income in calculating cash provided by operations.
20. Using the indirect method, an increase in accounts payable during a period is deducted from net income in calculating cash provided by operations.
21. A loss on sale of equipment is added to net income in determining cash provided by operations under the indirect method.
22. In preparing a statement of cash flows, an increase in the Share Capital and Treasury Shares accounts during a period would be an investing activity.
23. Cash provided by operating activities fails to take into account that a company must invest in new fixed assets just to maintain its current level of operations.
24. Free cash flow equals cash provided by operations less capital expenditures and cash dividends.
25. Operating expenses + an increase in prepaid expenses – a decrease in accrued expenses payable = cash payments for operating expenses.
26. During the year, Income Tax Expense amounted to $30,000 and Income Taxes Payable increased by $4,000; therefore, the cash paid for income taxes was $26,000.
27. During a period, cost of goods sold + an increase in inventory + an increase in accounts payable = cash paid to suppliers.
28. The change in cash is equal to the change in liabilities less the change in equity plus the change in non-cash assets.

29. Analysis of the changes in all of the non-cash statement of financial position accounts will explain the change in the cash account.

30. The use of a worksheet to prepare a statement of cash flows is optional.

31. The statement of cash flows classifies cash receipts and cash payments into two categories: operating activities and nonoperating activities.

32. Financing activities include the obtaining of cash from issuing debt and repaying the amounts borrowed.

33. The adjusted trial balance is the only item needed to prepare the statement of cash flows.

34. Under the indirect method, retained earnings is adjusted for items that affected reported net income but did not affect cash.

35. Under the direct method, the formula for computing cash collections from customers is sales revenues plus the increase in accounts receivable or minus the decrease in accounts receivable.

36. The reconciling entry for depreciation expense in a worksheet is a credit to Accumulated depreciation and a debit to Operating Activities-Depreciation expense.

MULTIPLE CHOICE QUESTIONS

37. The statement of cash flows should help investors and creditors assess each of the following except the
    a. entity's ability to generate future income.
    b. entity's ability to pay dividends.
    c. reasons for the difference between net income and net cash provided by operating activities.
    d. cash investing and financing transactions during the period.

38. The statement of cash flows
    a. must be prepared on a daily basis.
    b. summarizes the operating, financing, and investing activities of an entity.

c. is another name for the income statement.

d. is a special section of the income statement.

39. Which one of the following items is **not** generally used in preparing a statement of cash flows?

a. Adjusted trial balance

b. Comparative statements of financial position

c. Current income statement

d. Additional information

40.The primary purpose of the statement of cash flows is to

a. provide information about the investing and financing activities during a period.

b. prove that revenues exceed expenses if there is a net income.

c. provide information about the cash receipts and cash payments during a period.

d. facilitate banking relationships.

41. By examining the statement of cash flows, investors can make predictions of the

a. amounts of future cash flows.

b. timing of future cash flows.

c. uncertainty of future cash flows.

d. All of these answer choices are correct.

42. In addition to the three basic financial statements, which of the following is also a required financial statement?

a. the "Cash Budget"

b. the Statement of Cash Flows

c. the Statement of Cash Inflows and Outflows

d. the "Cash Reconciliation"

43. The statement of cash flows will **not** report the

a. amount of checks outstanding at the end of the period.

b. sources of cash in the current period.

c. uses of cash in the current period.

d. change in the cash balance for the current period.

44. The statement of cash flows reports each of the following except

a. cash receipts from operating activities.

b. cash payments from investing activities.

c. the net change in cash.

d. cash sales.

45. Each of the following are particularly interested in the statement of cash flows except

a. creditors.

b. employees.

c. shareholders.

d. government agencies.

46. Lending money and collecting the loans are

a. operating activities.

b. investing activities.

c. financing activities.

d. Non-cash investing and financing activities.

47.The best measure of a company's ability to generate sufficient cash to continue as a going concern is net cash provided by

a. financing activities.

b. investing activities.

c. operating activities.

d. processing activities.

48. The acquisition of land by issuing ordinary shares is

a. a non-cash transaction which is not reported in the body of a statement of cash flows.

b. a cash transaction and would be reported in the body of a statement of cash flows.

c. a non-cash transaction and would be reported in the body of a statement of cash flows.

d. only reported if the statement of cash flows is prepared using the direct method.

49. The order of presentation of activities on the statement of cash flows is

a. operating, investing, and financing.

b. operating, financing, and investing.

c. financing, operating, and investing.

d. financing, investing, and operating.

50. Financing activities include

a. lending money.

b. acquiring investments.

c. issuing debt.

d. acquiring non-current assets.

51. Investing activities include

a. collecting cash on loans made.

b. obtaining cash from creditors.

c. obtaining capital from owners.

d. repaying money previously borrowed.

52. Generally, the most important category on the statement of cash flows is cash flows from

a. operating activities.

b. investing activities.

c. financing activities.

d. significant non-cash activities.

53. The category that is generally considered to be the best measure of a company's ability to continue as a going concern is

a. cash flows from operating activities.

b. cash flows from investing activities.

c. cash flows from financing activities.

d. usually different from year to year.

54.Cash receipts from interest and dividends are classified as

a. financing activities.

b. investing activities.

c. operating activities.

d. either financing or investing activities

55. Each of the following is an example of a significant non-cash activity except

a. conversion of bonds into ordinary shares.

b. exchanges of plant assets.

c. issuance of debt to purchase assets.

d. share dividends.

56. If a company has both an inflow and outflow of cash related to property, plant, and equipment, the

a. two cash effects can be netted and presented as one item in the investing activities section.

b. cash inflow and cash outflow should be reported separately in the investing activities section.

c. two cash effects can be netted and presented as one item in the financing activities section.

d. cash inflow and cash outflow should be reported separately in the financing activities section.

57. Of the items below, the one that appears first on the statement of cash flows is

a. non-cash investing and financing activities.

b. net increase (decrease) in cash.

c. cash at the end of the period.

d. cash at the beginning of the period.

58. Which of the following transactions does **not** affect cash during a period?

a. Write-off of an uncollectible account

b. Collection of an accounts receivable

c. Sale of treasury shares

d. Exercise of the call option on bonds payable

59. Significant non-cash transactions would **not** include

a. conversion of bonds into ordinary shares.

b. asset acquisition through bond issuance.

c. treasury share acquisition.

d. exchange of plant assets.

60.In preparing a statement of cash flows, a conversion of bonds into ordinary shares will be reported in

a. the financing section.

b. the operating section.

c. a separate note or supplementary schedule to the financial statements.

d. the equity section

61. Indicate where the transaction of paying income taxes would appear, if at all, on the statement of cash flows.

a. Operating activities section

b. Investing activities section

c. Financing activities section

d. Does not represent a cash flow

62. Indicate where the transaction of issuing ordinary shares for cash would appear, if at all, on the indirect statement of cash flows.

a. Operating activities section

b. Investing activities section

c. Financing activities section

d. Does not represent a cash flow

63. Indicate where the transaction of purchasing land for cash would appear, if at all, on the indirect statement of cash flows.

a. Operating activities section

b. Investing activities section

c. Financing activities section

d. Does not represent a cash flow

64. Indicate where the transaction of purchasing land and a building with a mortgage would appear, if at all, on the indirect statement of cash flows.

    a. Operating activities section

    b. Investing activities section

    c. Financing activities section

    d. Does not represent a cash flow

5.14 LET US SUM UP

- A cash flow statement summarizes the amount of cash and cash equivalents entering and leaving a company.
- The CFS highlights a company's cash management, including how well it generates cash.
- This financial statement complements the balance sheet and the income statement.
- Cash From Operations could be calculated with the help of Adjusted Profit and Loss Account. Under this method, all non-fund or non-operations items should be readjusted to cash profit from operations.
- Cash From Operations can also be calculated on the basis of current assets and current liabilities. Under this method, the amount of changes in the various items of current assets and current liabilities other than cash and bank balances should be adjusted with the help of Adjusted Profit and Loss Account.

5.15 KEY TERMS

- **CREDIT TERMS:** Credit terms are the rules, agreed between a business and their customer, which dictate when payment must be made. They are also commonly referred to as ‘payment terms. Typical credit terms include payment being due 30, 60, or 90 days after goods or services have been delivered (however, as long as the business and customer both agree on them, any period could be used).

- **CASH FLOW POSITION (OR CASH POSITION):** A cash flow position, also referred to as a cash position, is a measure of how much money a business has at a specific point in time. It may measure more than just cash in the bank, sometimes including other highly liquid assets. Like cash flow, having a positive cash flow position is a good sign, however a very high cash flow position could indicate a business isn't investing enough in its own growth.
- **CREDIT CONTROL:** Credit control is act of ensuring a customer pays the money they owe. It is often used interchangeably with 'accounts receivable', 'debtor management', and 'debtor tracking'. Typical ways of ensuring a customer pays the money they owe are giving them reminders via email or phone call, both before the money is due and after.
- **CASH FLOW FORECAST:** A cash flow forecast is an estimation of a business' cash flow in a given future time period (typically 12 months). It informs the business' financial planning and highlights potential problems before they happen, allowing it to take pre-emptive action. There are several different methods that can be used to forecast cash flow, and businesses can benefit from forecasting various hypothetical scenarios, to be ready for what actually happens. Specialised software exists to help businesses forecast their cash flow with ease and accuracy.
- **CASH FLOW:** Cash flow is a measure of the amount of funds coming into a business in a given time period (typically a month). Cash flow may be either positive or negative, depending on whether the business is bringing in more or less money than it spends in that period. While positive cash flow is a good sign, having a very high cash flow could indicate a business isn't investing enough in its own growth.
- **ACCOUNTS PAYABLE (AP):** Accounts payable is the money that a business owes its suppliers. This owed payment stems from the common behaviour of businesses supplying goods or services before being paid, under the agreement they will be paid shortly after they deliver what they promised. It is effectively the opposite of accounts receivable.
- **ACCOUNTS RECEIVABLE (AR):** Accounts receivable is the money that a business is owed by its customers. This owed payment stems from the common behaviour of businesses supplying goods or services before being paid, under the agreement they will be paid shortly after they deliver what they promised. It is effectively the opposite of accounts payable.

- **CURRENT LIABILITIES:** A company's debts or obligations that are due within one year. Current liabilities appear on the company's balance sheet and include short term debt, accounts payable, accrued liabilities and other debts.
- **CURRENT ASSETS:** A balance sheet account that represents the value of all assets that are reasonably expected to be converted into cash within one year in the normal course of business. Current assets include cash, accounts receivable, inventory, marketable securities, prepaid expenses and other liquid assets that can be readily converted to cash.
- **DEPRECIATION:** Income tax deduction that allows a taxpayer to recover the cost or other basis of certain property; annual allowance for the wear and tear, deterioration, or obsolescence of the property.

5.16 REVIEW QUESTIONS

1. What is a Cash flow statement?
2. State the objectives of cash flow statement.
3. Give various features of Book-Keeping.
4. Prepare a format of cash flow statement.
5. Explain the major Cash Inflows and outflows in cashflow statement.
6. Explain in detail various advantages and limitations of accounting.
7. Explain the major Cash Inflows and outflows from financing activities.
8. Explain various Branches of Accounting.
9. Explain various qualitative characteristics of accounting.
10. Who are the various users that are interested in accounting information?
11. Explain the cash and Accrual system of accounting.
12. What is Accounting Information System. Giver various types of Accounting Information System.

5.17 ANSWERS TO TEST YOUR UNDERSTANDING.

Test your Understanding 1.6 (A)

4 (a) Changes

4 (b) Statement of Changes in working capital.

4 (c) Short-Term.

4 (d) Balance Sheet

Test your Understanding 1.13 (B)

Answers to True-False Statements

Item	Ans.	Item	Ans.	Item	Ans.	Item	Ans.	Item	Ans.	Item	Ans.
1.	T	7.	F	13.	F	19.	T	25.	F	31.	F
2.	F	8.	T	14.	T	20.	F	26.	T	32.	T
3.	F	9.	F	15.	F	21.	T	27.	F	33.	F
4.	T	10.	F	16.	T	22.	F	28.	F	34.	F
5.	F	11.	T	17.	F	23.	T	29.	T	35.	F
6.	T	12.	F	18.	F	24.	T	30.	T	36.	T

Answers to Multiple Choice Questions

Item	Ans.	Item	Ans.
37.	a	55.	d
38.	b	56.	b
39.	a	57.	b
40.	c	58.	a
41.	d	59.	c
42.	b	60.	c
43.	a	61.	a
44.	d	62.	c
45.	d	63.	b
46.	b	64.	d
47.	c		
48.	a		
49.	a		
50.	c		
51.	a		
52.	a		
53.	a		
54.	c		

5.18 FURTHER READINGS

1. M N Arora, Cost *Accounting and Principles*. Vikas Publication, 12th Ed.
2. Saxena and Vashist, *Advanced Cost & Management Accounting*, Sultan Chand and Sons.
3. Ravi M Kishore, *Cost & Management Accounting*. Taxman Allied Service, New Delhi.
4. Khan & Jain. *Management Accounting: Text, Problems & Cases*. Tata McGraw Hill, New Delhi.
5. Horngren, C. T, Sundem, G. L, and Stratton, W. O. *Introduction to Management Accounting by Horngren*. PHI Learning.
6. Ghosh, T.P. *Financial Accounting for Managers*, Taxman Allied Service.

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SEMESTER I

COURSE: ACCOUNTING FOR MANAGERIAL DECISIONS

UNIT 6 – BUDGETARY CONTROL

STRUCTURE

6.0 OBJECTIVES

After studying the Unit, students will be able to

- Define the Budget and budgetary control
- Set objectives and goal.
- Explain the Advantages of Budgeting.
- Distinguish between fixed and flexible budgeting.
- Explain the process of Budget Development.
- Prepare the different types of budgets.

6.1 CONCEPT OF BUDGETING

We are all familiar with budgets in at least an Informal manner. We often see them at work or are impacted by them when something can't be done because it is "not in the budget." The budget is developed in advance of the period that it covers, and it is based on forecasts and assumptions. But the budget is not something that is primarily for the purpose of restricting what can be done. It is intended as a planning tool and a guideline to follow in order to achieve the company's planned goals and objectives. The budgeting process is inseparably linked to the planning process in an organization. Major planning decisions by management are required before the budget can be developed for the coming period, furthermore, the development of the budget may cause previously developed short-term plans by management to require adjustment. As the projected quantitative results of the plans become clear in the developing budget, management may need to revise its plans. And after the plans and the budget have been adopted, as the period unfolds, the budget provides control and feedback.

Budgeting has come to be accepted as an efficient method of short-term planning and control. It is employed, no doubt, in large business houses, but even the small businesses are using it at least in some informal manner. Through the budgets, a business wants to know clearly as to what it proposes to do during an accounting period or a part thereof. The technique of budgeting is an important application of Management Accounting. Probably, the greatest aid to good management that has ever been devised is the use of budgets and budgetary control. It is a versatile tool and has helped managers cope with many problems including inflation.

6.2 PLANNING IN ORDER TO ACHIEVE SUPERIOR PERFORMANCE

All business endeavors must have objectives and goals. For most companies, if not all, the ultimate objective is to achieve superior performance in comparison with the performance of their competitors. When superior performance is achieved, company profitability will increase. When profits are growing, shareholder value will grow. A publicly-owned for-profit company must have maximized shareholder value as its ultimate goal. The shareholders are the owners. They have provided risk capital with the expectation that the managers will pursue strategies that will give them a good return on their investment. Thus, managers have an obligation to invest company profits in such a way that shareholder value will be maximized.

Shareholders want to see profitable growth: high profitability and also sustainable profit growth. A company with profits but whose profits are not growing will not be valued as highly by shareholders as a company with profitability and profit growth. Attaining and maintaining both profitability and profit growth is one of the greatest challenges facing managers.

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➢ ***The Role of Management in Attaining Profitable Growth***

There are two opposing philosophies with respect to the role of management.

• The market theory gives management a passive role and views its function basically as making reactive decisions to respond to environmental events as they occur.

• The planning and control theory views the role of management as an active one that emphasizes the planning function of management and its ability to control the activities of the business.

Most companies' managements operate somewhere between these two extremes. At times, events will occur that are outside the control of management and may even be important enough to determine the firm's destiny. But in almost all of these situations, when non-controllable variables become dominant, competent management can manipulate the situation to move the company to environments where the variables are controllable again.

When management operates more closely to the planning and control theory, it has more ability to reduce the randomness of events and to deal productively with those that do occur.

6.3 SETTING OBJECTIVES AND GOALS

One of the most basic and Important outcomes of the planning process Is the development of the company's objectives and goals. The Identlllcatlon of the company's objectives Is the first step in the planning process. Even If the plan relates to a small business project, all of the project participants must be aware of and understand what Is supposed to be accomplished by this project - the goal of the project - before it can be developed. Unfortunately, a company may have a number of different objectives, and in a worst-case scenario, some of these may be contradictory to each other. It Is up to management to prioritize the company's objectives and then communicate these priorities to the people within the organization. Without the communication of the plan and Its objectives, planning Is a useless process for the company.

The objectives that are developed must be clearly stated in specific terms. This prevents 'Interpretation' of the objectives by employees.

Additionally, objectives must be communicated to all Individuals that they will Impact. A Formal way of communicating the organization's objectives is through its mission statement. In many companies, the mission statement is very prominently displayed and constitutes a large part of the corporate culture. In any case, the goals and objectives of the company, department, or project need to be communicated to the people impacted by them.

Finally, for any objective to be effective, individuals within the organization must accept the objectives. Though it is not possible for everyone in the organization to agree with every objective, it is essential that the objectives are clearly understood and communicated, allowing people to address whatever concerns they have about the goals. However, after this is done, all oF the employees need to work toward the goals of the company.

A goal is similar to an objective but different in that goals are developed and implemented at the unit or department level while objectives are at the organizational, or enterprise, level. In a sense, it is through the accomplishment of the goals of the division that the objectives of the organization are met.

Planning is the process that enables a company to achieve its goals and objectives. As stated before, a company may have many objectives throughout the organization. It is the responsibility of management to make sure that all of the smaller goals and objectives work toward the ultimate achievement of the company's main objectives. Management must make certain that this harmonization of goals is done as efficiently and effectively as possible.

Note; Because people in each department are most closely connected with the goals of their own department, there is the risk that the employees will develop tunnel vision. Tunnel vision occurs when employees become so concerned with their own goals, they fail to notice or care about the larger objectives of the company. If in doing your job you prevent others from doing their jobs, the company not only does not benefit but can actually be hurt.

Two terms that are related to the accomplishments of goals and objectives are efficiency and effectiveness. Efficiency is the attempt to fulfill the objectives of the company while using the least amount of inputs. On the other hand, effectiveness has to do with the actual accomplishment of goals. Though both of these are important, in reality, it is obvious that effectiveness is of ultimate importance. If a company is efficient but does not accomplish what is needed, then the efforts and resources used were wasted.

When the objectives of one level of the company dovetail (are in agreement with each other) with the objectives of the next highest level, the company has achieved a means-end relationship. This results when the achievement of the objectives of one level enables the next highest level to achieve its objectives as well.

Note; No matter how important planning is to an organization or how developed its methodology is, the planning process will never replace the control process. Both are necessary.

6.4 ADVANTAGES OF BUDGETS

1) COORDINATION AND COMMUNICATION: Coordination means balancing the activities of all the individual units of the company in the best way so that the company will meet its goals and the individual units of the company will meet their goals. For example, when the sales manager shares sales projections with the production manager, the production manager can plan and budget to have the needed inventory ready to sell. And the sales manager can make better Forecasts of Future sales by coordinating and communicating with branch managers, who may be closer to the customers and know what they want.

2) MEASURING PERFORMANCE: Budgets make it possible for managers to measure actual performance against planned performance. The current year's budget is a better benchmark to measure current performance against than last year's results. Last year's results may have been negatively impacted by poor performance and the causes have now been corrected. Using last year's results would set the bar too low. Furthermore, the past is never a good predictor of the future, and the budget should reflect the conditions anticipated for the coming period, not the conditions that existed in the past period or periods.

Performance should not be compared only against a budget, though, because that can result in lower-level managers setting budgets that are too easy to achieve. It is also important to measure performance relative to the performance of the industry and even relative to prior years' performance.

3) MOTIVATING MANAGERS AND EMPLOYEES: Challenging budgets improve employee performance, because no one wants to fail, and falling short of the budgeted numbers is perceived as failure. Goals should be demanding but achievable. If they are so high that they are impossible to achieve, however, they are de-motivating.

4) EFFICIENT ALLOCATION OF ORGANIZATIONAL RESOURCES: The process of developing the operating budgets for the individual units in the organization includes identifying the resources that each unit will need to carry out the planned activities. For example, the process of developing the production budget requires projections for direct materials and direct labor that will be required to produce the planned output. The process of budgeting for administrative salaries requires Forecasts of administrative employees that will be needed by each department. If Funds will be available for only a certain number of administrative employees in the organization, some units' projections may have to be adjusted. This leads to an efficient allocation of organizational resources.

5) CONTROL: Control is necessary to ensure that plans and objectives are being achieved. Control follows planning and coordination. No control performance is possible without predetermined standards. Thus, budgetary control makes control possible by continuous measures against predetermined targets. If there is any variation between the budgeted performance and the actual performance, the same is subject to analysis and corrective action.

6.5 THE BUDGET DEVELOPMENT PROCESS

The process for developing each budget is as follows:

1) BUDGET GUIDELINES ARE SET AND COMMUNICATED: This may be done by a budget committee or by senior management. The Initial budget guidelines govern the preparation of the budget. Information considered In the development of the budget guidelines Includes the general outlook for the economy and the markets the company serves, strategic objectives and long-term plans, and expected operating results for the current period (since a budget for the coming period Is developed toward the end of the current period but not after the current period has been completed), specific corporate decisions far the coming period such as corporate downsizing, response to environmental requirements, and short-term objectives.

2) INITIAL BUDGET PROPOSALS ARE PREPARED BY RESPONSIBILITY CENTERS: Each responsibility center manager prepares an initial budget proposal, using the budget guidelines as well as their own knowledge about their own areas, such as the introduction of new products or changes to be made in product design or manufacturing processes.

3) NEGOTIATION, REVIEW, AND APPROVAL: The responsibility center managers submit their Initial budget proposals to the next level up for review. The Initial proposals are reviewed for their adherence to the budget guidelines and to determine whether the budget goals Eire reasonable and in line with the goals of the next higher unit and with those of other budget units. Any changes that are needed are negotiated between the responsibility center managers and their superiors. The budgets go through successive levels of management and at each point may be re-negotiated. These negotiations are the most important part of the budget preparation process and also the most time-consuming part. Eventually, all of the individual unit budgets are combined into a consolidated master budget (first draft). That consolidated master budget is reviewed at the topmost level to determine whether it meets the requirements without being unachievable, and negotiations begin again for revisions. Finally, when the consolidated master budget meets the approval of the budget committee or senior management, the CEO approves the entire budget and submits it to the board of directors for final approval.

4) REVISIONS: Even after the budget has finally been adopted, it should be able to be changed if the assumptions upon which it was built change significantly. New information about internal or external factors may make a revision of the budget necessary. In addition, periodic review of the approved budget for possible changes or use of a continuous budget which is continually being updated might be advisable. Although updating the budget provides better operating guidelines, too-frequent, and too-easy budget revisions might encourage responsibility centers to not take the budgeting process seriously enough. Therefore, the budget should be revised only when circumstances have changed significantly and the changes are beyond the control of the responsibility center manager or the organization.

5) REPORTING ON VARIANCES: A budget is meaningless unless actual results are compared to the planned results for the same period. The budget needs to be used to monitor and control operations to meet the company's strategic objectives. The comparison between actual and plan is called va¬riance reporting, and it should take place at every budget unit level. Responsibility center managers should report on variances within their responsibility centers at the end of each reporting period (monthly or quarterly) to their superiors, who then compile the reports they receive into a variance report that is sent to the next level up, and so on. Variance reporting should include not only the amounts of the variances but also the causes of the variances that can be identified.

6) USE OF THE VARIANCE REPORTS: The variance reports should be used at every level to identify problem areas and to make adjustments to operations, if necessary. For example, a production variance report might reveal that direct materials usage during the past month was greater than planned for the actual output that was produced. The production manager should be the one to investigate that and determine the cause. The variance may have been caused by inferior materials that included too much defective material. If that is the case, then the purchasing manager may need to get involved in the variance reporting, since the purchasing manager is responsible for the materials purchased. If a change in supplier is needed to correct the situation, that change should be made immediately.

6.6 TEST YOUR UNDERSTANDING (A)

1. Define the budgeting process.

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………………………………………………………………………………………………………

2. State three advantages of budgets.

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………………………………………………………………………………………………

3. Discuss the budget development process.

………………………………………………………………………………………………

………………………………………………………………………………………………

4. Fill up the Blanks.

e. Budgeting is the …………………. of Business.

f. A budget is meaningless unless …………………. results are compared to the planned results for the same period.

g. ………………….. is necessary to ensure that plans and objectives are being achieved.

h. Budgets make it possible for managers to measure actual performance against…………………. performance.

i. …………………. is the process that enables a company to achieve its goals and objectives.

6.7 TYPES OF BUDGETS

Within the budgeting process are a number of different budgets. We will take a look here at some of the Individual budgets and what they are prepared for, as well as the order in which they are prepared.

CLASSIFICATION OF BUDGETS

ACCORDING TO TIME	ACCORDING TO FUNCTION	ACCORDING TO FLEXIBILITY
1. Long term budget	1. Sales budget	1. Fixed budget
2. Short term budget	2. Production budget	2. Flexible budget
3. Current budget	3. Cost of Production budget	
4. Rolling budget	4. Purchase budget	
	5. Personnel budget	
	6. R & D budget	
	7. Capital Expenditure budget	
	8. Cash budget	
	9. Master budget	

1.7.1 ACCORDING TO TIME

1) LONG-TERM BUDGET: The Budgets are prepared to depict the long-term planning of the business. The period of long-term Budgets varies between three to ten years. These budgets are useful for those industries where the gestation period is long i.e., machinery, electricity, etc.

2) SHORT-TERM BUDGET: These budgets are generally for one or two years and are in the form of monetary terms. The consumer's good industries like Sugar, Cotton, and textile use short-term budgets.

3) CURRENT BUDGET: The period of the current budget is generally of months and weeks. These budgets relate to the current activities of the business. According to CIMA London "Current budget is a budget which is created which is established for use over a short period of time and is related to current conditions".

4) ROLLING BUDGET: A rolling budget, also known as a continuous budget or rolling forecast, changes constantly throughout the year. When one month ends, add another month at the end of the budget. For example, your budget covers January-December of 2018. When January 2018 finishes, you can add January 2019. A rolling budget adds a future accounting period's budget to replace a budget for an accounting period that has passed. For example, a company's 2022 annual budget will become a rolling budget if in February 2022 it adds the budget for January 2023 to replace the January 2022 budget. A rolling budget helps in planning and controlling more accurately. Therefore, it helps in reducing the uncertainty of budgeting. Rolling budget plans for the near-term future instead of the long-term. It helps management know where the company is moving in terms of sales and profitability.

6.7.2 ACCORDING TO FUNCTION

1) SALES BUDGET :

The sales budget shows the expected sales in units of each product and each product's expected selling price. The sales budget is based upon the firm's forecasted sales level, its short- and long-term objectives, and its production capacity.

The first budget to be prepared is always the sales budget because the production budget and all the other budgets for the company are derived from the sales budget. If sales are expected to be low, the company does not need as much Inventory, as many sales people, and so on. On the other hand, if sales are expected to be high, more of each of these items will be required.

The sales budgets should be developed for each department Individually or possibly for each sales person, depending upon the nature of the business. Additionally, the sales budget needs to be based on realistic estimates of sales, since this budget will be the driver behind all of the remaining budgets. If the sales budget Is too optimistic, production will be too high, inventory will be too high, and problems such as cash shortfall will result. If the sales budget Is too low, production and Inventory will be too low, and sales will be lost because of a lack of products to sell. The sales budget is probably the most difficult to produce because it relies entirely on Information and estimations that are outside of the direct control of the company. The company has no direct control over the economy as a whole or over competitors and technological advances that may make the company's product obsolete.

Example of Sales Budget

ABC COMPANY

Sales Budget for the year ending March 2022

	Units	***Selling price* per unit (Rs.)**	***Total* (Rs.)**
Product A	5,000	75	3,75,000
Product B	10,000	80	8,00,000
			11,75,000

2) PRODUCTION BUDGET:

After determining the sales budget, the production budget matches the company's sales budget with Its capacity and Inventory objectives. If the company would like to Increase Its Inventory, It will need to Include this In Its production plans. Similarly, if the company wants to decrease inventory, it will produce fewer units than it plans to sell. The final determination of how many units to produce is done in the production budget.

The production budget also includes when these units will be produced. The units must be produced prior to the time when they will be sold. If sales are expected in the early part of the year, production needs to be done early. If sales are expected to be later in the year, production needs to take place later in the year or the company will need to pay significant storage costs.

Note: If the prices of the inputs to the product are expected to change significantly in the future, this must also be taken into account in determining when and how many to produce.

As you can already see, the different budgets are all interrelated to each other, and a change in one will have an impact on at least one other budget.

The production budget provides the foundation for the development of the following budgets:

- Direct materials budget, including the purchases budget for raw materials, which is created in much the same way as the production budget, taking into account the desired change in inventory of raw materials;
- Direct labor budget; and
- Factory overhead budget, including bottle variable costs (such as utilities) and fixed costs (such as supervisory salaries that fall within the relevant range and do not change as production levels change).

All of these budgets are interrelated because a change in one budget may require a change in another budget. As production changes, the amount of labor and material will change. As the amount of labor changes, there may need to be a change in indirect materials and indirect labor. Indirect materials are materials used in the manufacturing process but their costs are not directly traceable to any particular product. Indirect labor would be the same thing. An example of indirect labor would be the wages of a janitor who cleans up the plant since his wages cannot be traced to any one product. As these items change, there may also be a change required in the overhead budget, caused by, for example, changes in the amount of electricity the company expects to use or changes in the required amount of equipment maintenance. Because of the way that individual budgets are connected to each other, a change in one budget will almost always affect at least one other budget.

Example of Production Budget

ABC COMPANY

Production budget in units for the year ending March 31, 2022

	Products	
	A	***B***
Budgeted sales	5,000	10,000
Add: Desired closing stock	500	1,000
Total quantity required	5,500	11,000
Less: Opening stock	1,500	2,000
Units to be produced	4,000	9,000

3) COST OF PRODUCTION BUDGET:

This budget is an estimate of cost of output planned for a budget period and may be classified into

a. Material Cost Budget
b. Labour Cost Budget
c. Overhead Cost Budget

a) Material Cost Budget

The steps involved in the compilation of direct materials usage budget are as under:

1.The quality standards for each item of material have to be specified. In this connection, standardisation of size, quality, colour, etc., may be considered.

2.Standard requirement of each item of materials required should also be set. While setting the standard quality consideration should be given to normal loss in process. The standard allowance for normal loss may be given on the basis of past performance, test runs, technical estimates etc.

3.Standard prices for each item of materials should be set after giving consideration to stock and contracts entered into.

After setting standards for quality, quantity and prices, the direct materials budget can be prepared by multiplying each item of material required for the production by the standard price.

Example of Sales Budget

ABC COMPANY

Direct material usage in units and in amount

for the year ending March 31, 2022

Type of material	**Product A**	**Product B**	**Total direct material usage (Units)**	**Material Cost Per Unit (Rs.)**	**Total Cost Per Unit (Rs.)**
X (12 units per finished product)	48,000	1,08,000	1,56,000	1.50	2,34,000
Y (4 units per product A & 2 units per product B)	16,000	18,000	34,000	2.50	85,000
				Total	3,19,000

b) Labour Cost Budget

The direct labor budget is also influenced by outside parties, especially labor unions. As labor contracts are completed and new contracts signed, this may cause an immediate change in the cost of direct labor. Additionally, any changes in the level of skill that is required of the labor force as a result of changing production technologies will also impact the direct labor budget.

The direct labor budget will also include all other employee costs, in addition to salaries. These other costs include employer contributions to Social Security (F1CA) and Medicare, workers' compensation insurance for workers who are hurt on the job, federal and state unemployment taxes paid by the employer, health and life insurance premiums if they are provided, pension plan contributions paid by the company and any other employee benefits. These may all be presented in an Employee Benefit Statement.

Many employees related costs vary directly with salary costs, though some are fixed amounts. Variable amounts include the employer's portion of the social security contribution (up to a certain salary cap, at which point the social security contribution is no longer paid), the employer's portion of Medicare, workers'compensa¬tion insurance, and unemployment compensation taxes. Pension plan contributions may be a simple percentage if the plan is a defined contribution plan; or they may be a much more complex calculation if the plan is a defined benefit plan. But either way, they will be variable. Usually medical, dental and vision insurance premiums are fixed. Life Insurance premiums may be fixed or variable, depending upon the terms of the policy and whether the amount of coverage Is fixed ur based on the employee's salary.

Most companies do not try to project employee-related costs exactly. Instead, they develop a factor which Is a weighted average cost, and apply that factor to the total budgeted salaries and wages for a given employee group to calculate the budgeted employee: related costs for that group. Even though some components of employee-related costs are fixed, enough of them are variable to make this a valid way to budget for them. However, to develop that factor, companies do need to do some analysis of historical employee-related costs as a percentage of salaries and wages.

The company usually prepares several direct labor budgets, one for each type of labor used for production.

Example of Labour Cost Budget

ABC COMPANY

Direct-labour cost budget

for the year ending March 31, 2022

	Units to be produced	***Direct labour hour, per unit***	***Total hours***	***Total budget cost (Rs.)@ Rs.2 per hour***
Product A	4,000	7	28,000	56,000
Product B	9,000	10	90,000	1,80,000
			1,18,000	2,36,000

c) Overhead Cost Budget:

• Production overheads consist of all items such as indirect materials, indirect labour and indirect expenses. Indirect expenses include power, fuel, fringe benefits, depreciation etc. These estimated factory overhead costs necessary for production make up the factory overhead cost budget.

• This budget usually includes the total estimated cost for each item of factory overhead.

• The production overhead budget is useful for working out the pre- determined overhead recovery rates.

• A business may prepare supporting departmental schedules, in which the factory overhead costs are separated into their fixed and variable cost elements. Such schedules enable department managers to direct their attention to those costs for which they are responsible and to evaluate performance

• A careful study and determination of the behaviour of different types of costs will be essential in preparation of overhead budget.

• A few examples are given below to show how the expenses are estimated.

1. Fixed expenses are policy cost and hence they are based on policy matters.

2. For estimating indirect labour, work study is resorted to and a flexible estimate of number of indirect workers required for each level of direct workers employed is made—for example, one supervisor for every twenty direct workers.

3. In regard to the estimate of consumption of indirect materials, the age and condition of the plant and machinery are taken into consideration.

4) PURCHASE BUDGET:

The production budget is the starting point for determining the estimated quantities of direct materials to be purchased. Multiplying these quantities by the expected unit purchase price determines the total cost of direct materials to be purchased.

Two important considerations that govern purchase budgets are as follows:

(i) Economic order quantity.

(ii) Re-order point with safety stocks to cover fluctuations in demand.

The direct material purchases budget helps management maintain inventory levels within reasonable limits, for this purpose, the timing of the direct materials purchases should be coordinated between the purchasing and production departments.

Example of Purchase Budget

XYZ Company

Direct material purchase budget for the year ending March 31, 2022

	Material X	***Material Y***	***Total***
Desired closing stock (units)	3,000	500	
Units required for production	1,56,000	34,000	
Add:			
Total needs	1,59,000	34,500	
Less: Opening stock (units)	4,000	300	
Units to be purchased	1,55,000	34,200	
Unit price (Rs.)	1.50	2.50	
Purchase cost (Rs.)	2,32,500	85,500	3,18,000

Illustration 1:

A single product company estimated its sales for the next year quarter-wise as under:

Quarter	***Sales (Units)***
I	*30,000*
II	*37,500*
III	*41,250*
IV	*45,000*

The opening stock of finished goods is 10,000 units and the company expects to maintain the closing stock of finished goods at 16,250 units at the end of the year. The production pattern in each quarter is based on 80% of the sales of the current quarter and 20% of the sales of the next quarter. The opening stock of raw materials at the beginning of the year is 10,000 kg. and the closing stock at the end of the year is required to be maintained at 5,000 kg. Each unit of finished output requires 2 kg. of raw materials. The company proposes to purchase the entire annual requirement of raw materials in the first three quarters in the proportion and at the prices given below:

Quarter	*Purchase of raw materials % to total annual requirement in quantity*	*Price per kg. (Rs.)*
I	*30%*	*2*
II	*50%*	*3*
III	*20%*	*4*

The value of the opening stock of raw materials at the beginning of the year is Rs.20,000. You are required to PREPARE the following for the next year, quarter-wise:

(i) Production budget (in units).

(ii) Raw material consumption budget (in quantity).

(iii) Raw material purchase budget (in quantity and value).

(iv) Priced stores ledger card of the raw material using the First in First out method.

Solution 1:

Working Note:	Total Annual Production (in units)
Sales in 4 quarters	1,53,750 units
Add: Closing balance	16,250 units
	1,70,000 units
Less: Opening balance	10,000 units
Total number of units to be produced in the next year	1,60,000

(i) Production Budget (in units)

Quarters	***I***	***II***	***III***	***IV***	***Total***
	Units	***Units***	***Units***	***Units***	***Units***

Sales	30,000	37,500	41,250	45,000	1,53,750
Production in current quarter	24,000	30,000	33,000	36,000	
(80% of the sale of current quarter)					
Production for next quarter	7,500	8,250	9,000	12,250	
(20% of the sale of next quarter)					
Total production	31,500	38,250	42,000	48,250	1,60,000

(ii) Raw material consumption budget in quantity

Quarters	**I**	**II**	**III**	**IV**	**Total**
Units to be produced in each quarter: (A)	31,500	38,250	42,000	48,250	1,60,000
Raw material consumption p.u. (kg.): (B)	2	2	2	2	
Total raw material consumption (Kg.): (A ×B)	63,000	76,500	84,000	96,500	3,20,000

(iii) **Raw material purchase budget (in quantity)**

Raw material purchase budget (in quantity)

Raw material required for production (kg.)	3,20,000
Add: Closing balance of raw material (kg.)	5,000
	3,25,000
Less: Opening balance (kg.)	10,000
Material to be purchased (kg.)	3,15,000

Raw material purchase budget (in quantity)

Quarters (1)	% of annual require- ment (Qty.) for purchasing raw material (kg.) (2)	Quantity of raw material to be purchased (3)	Rate per kg (Rs.) (4)	Amount (Rs.) (5) = (3) × (4)
I	30	94,500 (3,15,000 kg. × 30%)	2	1,89,000
II	50	1,57,500 (3,15,000 kg. × 50%)	3	4,72,500
III	20	63,000 (3,15,000 kg. × 20%)	4	2,52,000
Total		3,15,000		9,13,500

5) PERSONNEL BUDGET:

This budget gives an estimate of the requirements of direct labour essential to meet the production target.

This budget may be classified into –

a. Labour requirement budget

b. Labour recruitment budget

6) RESEARCH AND DEVELOPMENT BUDGET:

This budget provides an estimate of expenditure to be incurred on R & D during the budget period. A R&D budget is prepared taking into consideration the research projects in hand and new R & D projects to be taken up.

Research is required in order to develop and/or improve products and methods. When research results in definite benefit to the company, development function begins. After development, formal production can commence on commercial scale and then production function starts. Since the areas of research and development cannot be precisely defined, the costs incurred under both the functions are clubbed together as research and development costs. Research and Development (R

& D) plays a vital role in maintaining the business. For example, automobile manufacturers, and those who produce drugs, spend considerable sums on R & D to improve the products.

Research may be either pure research or applied research. Pure research increases knowledge whereas applied research aims at producing definite results like improved methods of production, etc.

Research and development expenses should be controlled carefully and hence a limit on the spending is placed, i.e., the amount to be spent is carefully determined or allocated.

The following are the methods of allocation of R & D expenses.

1. A percentage based on total sales value. This method is good if sales value is steady from year to year.

2. A percentage based on net profit.

3. A total sum is estimated on the basis of past experience and future R & D plans and policies.

4. A sum is fixed on the basis of cash resources available with the company.

All factors which affect the importance of R & D are considered. For example, factors like demand for existing products, competition, economic conditions, etc., are considered carefully and a sum is set as R& D budget.

7) CAPITAL EXPENDITURE BUDGET:

The capital expenditures budget is the budget in which all capital expenditures (these are expenditures for property, plant, and equipment) are planned. If capital expenditures for the coming year will affect the balance sheet, Income statement, and cash flows, these capital expenditures must be reflected in the budgeted balance sheet, income statement and cash How statement. This budget is often prepared years in advance so that the company is able to obtain the necessary financing or accumulate the necessary cash to carry out Its capital expansion plans, and it covers multiple planning periods.

Capital expenditures are generally budgeted as separate projects covering several years each. Each project is analyzed separately to determine whether it is acceptable. The capital expenditures budget consists of a list of each major project that has been approved and the amount to be funded for the coming year. The annual amount for each project is then broken down according to the quarter(s) or possibly month(s) when the expenditures for each project are expected to occur. The quarterly or monthly totals of cash funding requirements for all projects will be used in preparing the cash budget as well as the budgeted balance sheet. Any anticipated financing must also be included in the cash budget and the budgeted balance sheet. The budgeted balance sheet must reflect the investments and the financing, and the budgeted income and cash flow statements must reflect any net income planned for the corning period.

The depreciable life for each asset to be purchased is also shown on the capital expenditures budget, because that will be needed in calculating the budgeted depreciation expense for the budgeted income statement as well as accumulated depreciation amounts for the budgeted balance sheet.

The capital expenditure budget represents the planned outlay on fixed assets like land, building, plant and machinery, etc. during the budget period. This budget is subject to strict management control because it entails large amount of expenditure. The budget is prepared to cover a long period of years and it projects the capital costs over the period in which the expenditure is to be incurred and the expected earnings.

The preparation of this budget is based on the following considerations:

1. Overhead on production facilities of certain departments as indicated by the plant utilisation budget.
2. Future development plans to increase output by expansion of plant facilities.
3. Replacement requests from the concerned departments.
4. Factors like sales potential to absorb the increased output, possibility of price reductions, increased costs of advertising and sales promotion to absorb increased output, etc.

Merits/Advantages

1. It outlines the capital development programme and estimated capital expenditure during the budget period.
2. It enables the company to establish a system of priorities. When there is a shortage of funds, capital rationing becomes necessary.
3. It serves as a tool for controlling expenditure.

4. It provides the amount of expenditure to be incorporated in the future budget summaries for calculation of estimated return on capital employed.

5. This enables the cash budget to be completed. With other cash commitments capital expenditure commitment should also be considered for the completion of the budget.

6. It facilitates cost reduction programme, particularly when modernisation and renovation is covered by this budget.

8) CASH BUDGET:

The cash budget" (or cash management and working capital budget) is the last budget created because it draws upon information from all other budgets. It is also one of the most important budgets developed. The cash budget tracks the inflows and outflows of cash on a month-by-month (possibly even week-by-week or day-by-day) basis.

Because cash flows depend on all of the other budgets, the budgeted statement of cash flows is the last budgeted financial statement prepared. If this budget is accurate it will allow the company to plan for any cash shortfalls that may occur during the year and also enable the company to plan for any excess cash that may accumulate during the year. Any excess cash should be Invested for the time period that it will not be needed.

One advantage of predicting cash shortfalls is that it will be easier (and less expensive) for the company to obtain a loan if it is aware of its need before the shortfall arrives and if it is able to present cash inflow and outflow projections to the bank. The company also would have more time to obtain permanent capital from equity sources by selling shares if that is the best alternative. Although all companies should prepare a cash budget, it is particularly important for those that operate as seasonal businesses. In addition, for a seasonal business, production, sales, and ending inventory are also critical budgets.

This budget represents the anticipated receipts and payment of cash during the budget period. The cash budget is also called as Functional Budget. The cash budget is the most important of all the functional budgets because cash is required for the purpose of meeting its current cash obligations. If at any time, a concern fails to meet its obligations, it will be technically insolvent. Therefore, this budget is prepared on the basis of detailed cash receipts and cash payments.

The estimated Cash Receipts include:

(1) Cash Sales

(2) Credit Sales

(3) Collection from Sundry Debtors

(4) Bills Receivable

(5) Interest Received

(6) Income from Sale of Investment

(7) Commission Received

(8) Dividend Received

(9) Income from Non-Trading Operations etc.

The estimated Cash Payments include the following:

(1) Cash Purchase

(2) Payment to Creditors

(3) Payment of Wages

(4) Payments relate to Production Expenses

(5) Payments relate to Office and Administrative Expenses

(6) Payments relate to Selling and Distribution Expenses

(7) Any other payments relate to Revenue and Capital Expenditure

(8) Income Tax Payable, Dividend Payable etc.

Illustration 2: From the information below, prepare a cash budget for a company for April, May, and June 2022 in columnar form.

Month	Sales (Rs.)	Purchases (Rs.)	Wages (Rs.)	Exp. (Rs.)
Jan. (actual)	80,000	45,000	20,000	5,000
Feb. (actual)	80,000	40,000	18,000	6,000
Mar. (actual)	75,000	42,000	22,000	6,000

Apr. Budget	90,000	50,000	24,000	6,000
May Budget	85,000	45,000	20,000	6,000
Jun. Budget	80,000	35,000	18,000	5,000

You are further informed that:

- 10% of purchases and 20% of sales are for cash.
- The average collection period of the company is half a month and credit purchases are paid off regularly after one month.
- Wages are paid half monthly and the rent of Rs.500, excluded in expense, is paid monthly.
- Cash and bank balance on April 1 was Rs.15,000, and the company aims to keep it below this figure at the end of every month. The excess cash is placed in fixed deposits.

Solution 2:

Cash Budget for 2022

	April (Rs.)	**May (Rs.)**	**June (Rs.)**
Cash & bank balance	15,000	11,700	12,700
Add:			
Cash sale (20%)	18,000	17,000	16,000
Cash collections from Drs.	66,000	70,000	66,000
	99,000	98,700	94,700
Less:			
Cash outflow			
Cash flow (10%)	5,000	4,500	3,500
Payment of Crs.	37,800	45,000	40,500
Wages	23,000	22,000	19,000
Rent	500	500	500
Exp.	6,000	6,000	6,000

Fixed deposits	15,000	8,000	13,000
Cash balance (closing)	21,700	12,700	13,200
	99,000	**98,700**	**94,700**

Illustration 3: From the following information, prepare a monthly cash budget for the three months ending 31st December 2019.

Month	Sales ($)	Materials ($)	Wages ($)	Production ($)	Admin. Selling, etc ($)
Jun.	3,000	1,800	650	225	160
Jul.	3,250	2,000	750	225	160
Aug.	3,500	2,400	750	250	175
Sep.	3,750	2,250	750	300	175
Oct.	4,000	2,300	800	300	200
Nov.	4,250	2,500	900	350	200
Dec.	4,500	2,600	1,000	350	225

a) The credit terms are as follows:

- Sales -3 months to debtors. 10% of sales are in cash. On average, 50% of credit sales are paid on the due dates, while the other 50% are paid in the next month.
- Creditors for material -2 months.

b) The lag in payment for wages is 1/4 month and 1/2 month for overheads.

c) The cash and bank balance on 1st October is expected to be $1,500.

d) Other information is given as follows:

- Plant and machinery are to be installed in August at a cost of $24,000. This sum will be paid in monthly installments of $500 each from 1st October.
- Preference share dividends @ 5% on $50,000 are to be paid on 1st December.
- Calls on 250 equity shares @ $2 per share are expected on 1st November.
- Dividends from investments amounting to $250 are expected on 31st December.

- Income tax (advance) is to be paid in December $500

Solution 3:

Cash Budget for Three Months Ending 31 Dec. 2019

Details:	Oct. ($)	Nov. ($)	Dec. ($)
Balance b/d	1,500.00	537.50	350.00
Receipts (estimated):			
Sales	3,212.50	3,462.50	3,712.50
Capital	–	500.00	–
Dividends	–	–	250.00
Total (A)	**4,712.50**	**4,500**	**4,312.50**
Payments:			
Creditors	2,400.00	2,250.00	2,300.00
Wages	787.50	875.00	975.00
Overheads:			
Production	300.00	325.00	350.00
Adm. S. & D.	187.50	200.00	212.50
Pref. Dividend	–	–	2,500.00
Income tax	–	–	500.00
Plant and Machinery (500 each)	5,00.00	5,00.00	5,00.00
Total (B) Year	**4,175.00**	**4,150.00**	**7,337.50**
Balance c/d (A – B)	**537.50**	**350**	**(-3,025)**

Calculation of Amount of Sales

Month	**Sale ($)**	**Oct. ($)**	**Nov. ($)**	**December ($)**
Jun.	3,000	1,350.00	–	–
Jul.	3,250	1,462.50	1,462.50	–
Aug.	3,500	–	1,575.00	1,575.00

Sep.	3,750	–	–	1,687.50
Oct.	4,000	400.00	–	–
Nov.	4,250	–	4,250	–
Dec.	4,500	–	–	450.00
Total	**–**	**3,212.50**	**3,462.50**	**3,712.50**

Calculation of Wages

1/4 wages for September and 3/4 wages for October. Therefore, the calculation is:

(1/4 x 750) = 187.50

3/4 x 800 = 600

Total = 787.50

The wages for the other months can be calculated using the same approach.

9) MASTER BUDGET:

CIMA defines this budget as "The summary budget incorporating its component functional budget and which is finally approved, adopted and employed".Thus master budget is a summary of all functional budgets in capsule form available in one report.

• When all the necessary functional budgets have been prepared, the budget officer will prepare the master budget which may consist of a budgeted profit and loss account and budgeted balance sheet. These are in fact the budget summaries.

• When the master budget is approved by the board of directors, it represents a standard for the achievement of which all the departments will work.

• On the basis of the various budgets (schedules) prepared earlier in this study, we prepare the below-budgeted income statement and budgeted balance sheet.

6.7.3 ACCORDING TO FLEXIBILITY

1) FIXED BUDGET: This is defined as a budget which is designed to remain unchanged irrespective of the volume of output or turnover attained. This budget will, therefore, be useful only when the actual level of activity corresponds to the budgeted level of activity.

2) FLEXIBLE BUDGET: CIMA defines this budget as one "which, by recognising the difference in behaviour between fixed and variable costs in relation to fluctuations in output, turnover or other variable factors such as number of employees, is designed to change appropriately with such fluctuations". Flexible Budget is also called Variable or Sliding Scale budget, "takes both the fixed and manufacturing costs into account. The flexible budget is the opposite of a static budget showing the expected cost at a single level of activity. According to ICMA, England defined Flexible Budget as a budget which is designed to change in accordance with the level of activity actually attained." According to the principles that guide the preparation of the flexible budget a series of fixed budgets are drawn for different levels of activity. A flexible budget often shows the budgeted expenses against each item of cost corresponding to the different levels of activity. This budget has come into use for solving the problems caused by the application of the fixed budget.

- **Advantages of Flexible Budget:**

(1) In flexible budget, all possible volume of output or level of activity can be covered.

(2) Overhead costs are analysed into fixed variable and semi-variable costs.

(3) Expenditure can be forecasted at different levels of activity.

(4) It facilitates at all times related factor can be compared. which are essential for intelligent decision-making.

(5) A flexible budget can be prepared with standard costing or without standard costing depending upon What the Company opts for.

(6) Flexible budget facilitates ascertainment of costs at different levels of activity, price fixation, placing tenders, and Quotations.

(7) It helps in assessing the performance of all departmental heads as the same can be judged by terms of the level of activity attained by the business.

- **Method of Preparing Flexible Budget**

The following methods are used in preparing a flexible budget:

(1) Multi-Activity Method.

(2) Ratio Method.

(3) Charting Method.

(1) MULTI-ACTIVITY METHOD: This method involves preparing a budget in response to a different level of activity. The different levels of activity or capacity levels are shown in the Horizontal Columns, and the budgeted figures against such levels are placed in the Vertical Columns. The expenses involved in production as per budget are grouped as fixed, variable, and semi-variable.

(2) RATIO METHOD: According to this method, the budget is prepared first showing the expected normal level of activity and the estimated variable cost per unit at the side expected level of activity in addition to the fixed cost as estimated. Therefore, the expenses as per budget, allowed for a particular level of activity attained, will be calculated on the basis of the following formula: Budgeted fixed cost + (Variable cost per unit of activity x Actual unit of activity)

(3) CHARTING METHOD: Under this method total expenses required for any level of activity, are estimated having classified into three categories, viz., Variable. Semi Variable and Fixed. These figures are plotted on a graph. The expenses are plotted on the Y-axis and the level of activity is plotted on X-axis. The graph will thus, help in ascertaining the quantum of budgeted expenses corresponding to the level of activity attained with the help of this chart.

Illustration 4: Using the following information, prepare a flexible budget for the production of 80% and 100% activity.

Production at 50% Capacity	5,000 Units
Raw Materials	\$80 per unit
Direct Labor	\$50 per unit
Direct Expenses	\$15 per unit
Factory Expenses	\$50,000 (50) (Fixed)
Administration Expenses	\$60,000 (Variable)

Solution 4:

Flexible Budget at a Capacity of			
Capacity of **Output Units**	**50%** **5,000**	**80%** **8,000**	**100%** **10,000**
	$	**$**	**$**
Raw Materials	4,00,000	6,40,000	8,00,000
Labor	2,50,000	40,000	50,000
Direct Expenses	75,000	1,20,000	1,50,000
Prime Cost	7,25,000	11,60,000	14,50,000
Factory Expenses 50% Fixed (50,000)	25,000	40,000	50,000
Factory Cost	7,75,000	12,25,000	15,25,000
Admin Expenses 40% Fixed (60,000)	24,000	24,000	24,000
Variable 60%	36,000	57,600	72,000
Total Cost	**8,35,000**	**13,06,000**	**16,21,000**

Illustration 5:

The following data is available in a manufacturing company for a yearly period.

	$
Fixed Expenses	
Wages and Salaries	9,50,000
Rent/Rates and Taxes	6,60,000
Depreciation	7,40,000
Sundry Admin Expenses	6,50,000
Semi-variable Expenses at 50% Capacity	
Maintenance and Repairs	3,50,000

Indirect Labor	7,90,000
Sales Department Salaries, etc.	3,80,000
Sundry Admin Salaries	2,80,000
Variable Expenses	
Materials	21,70,000
Labor	20,40,000
Other Expenses	7,90,000
Total	**98,00,000**

You should assume that the fixed expenses remain constant for all levels of production. Semi-variable expenses remain constant between 45% and 65% capacity, increasing by 10% between 65% and 80% capacity, and by 20% between 80% and 100% capacity.

The sales at various levels of capacity are the following:

50%	Capacity	100
60%	Capacity	120
75%	Capacity	150
90%	Capacity	180
100%	Capacity	200

For this task, prepare a flexible budget for the year and forecast the profit at 60%, 75%, 90%, and 100% capacity.

Solution 5:

Flexible Budget					
	50% ($)	**60% ($)**	**75% ($)**	**90% ($)**	**100% ($)**
(A)					
Variable Expenses					
Material	21,70,000	26,04,000	32,55,000	39,06,000	43,40,000
Labor	20,40,000	24,48,000	50,60,000	36,72,000	40,80,000

Other Expenses	7,90,000	9,48,000	11,85,000	14,22,000	15,80,000
Semi-variable Expenses					
Maintenance and Repairs	3,50,000	3,50,000	3,85,000	4,20,000	4,20,000
Indirect labor	7,90,000	7,90,000	8,69,000	9,48,000	9,48,000
Sales Department Salaries	3,80,000	3,80,000	4,18,000	4,56,000	4,56,000
Sundry Expenses	2,80,000	2,80,000	3,08,000	3,36,000	3,36,000
Fixed Expenses					
Wages and Salaries	9,50,000	9,50,000	9,50,000	9,50,000	9,50,000
Rent/Rates and Taxes	6,60,000	6,60,000	6,60,000	6,60,000	6,60,000
Depreciation	7,40,000	7,40,000	7,40,000	7,40,000	7,40,000
Sundry Admin	6,50,000	6,50,000	6,50,000	6,50,000	6,50,000
Total Cost (A)	**98,00,000**	**108,00,000**	**124,00,000**	**141,60,000**	**152,60,000**
Sales (B)	**100,00,000**	**120,00,000**	**150,00,000**	**180,00,000**	**200,00,000**
Profit (A – B)	**2,00,000**	**12,00,000**	**25,20,000**	**38,40,000**	**47,40,000**

6.8 TEST YOUR UNDERSTANDING (B)

1. Briefly Explain various methods for preparing the flexible budget.

……………………………………………………………………………………………

……………………………………………………………………………………………

……………………………………………………………………………………………

2. Discuss the advantages of Capital Expenditure budget.

…………………………………………………………………………..……………..

………………………………………………………………………………………………

3. Tick the correct answer:

1.If a company wishes to establish a factory overhead budget system in which estimated costs can be derived directly from estimates of activity levels, it should prepare a

(a) Master budget

(b) Cash budget

(c) Flexible budget

(d) Fixed budget

2. The classification of fixed and variable cost is useful for the preparation of

(a) Master budget

(b) Flexible budget

(c) Cash budget

(d) Capital budget

3.Purchases budget and materials budget are same

(a) Purchases budget is a budget which includes only the details of all materials purchased.

(b) Purchases budget is a wider concept and thus includes not only purchases of materials but also other item's as well.

(c) Purchases budget is different from materials budget; it includes purchases of other items only

(d) None of the above

4. Which of the following is usually a short-term budget.

(a) Capital expenditure budget

(b) Research and development budget

(c) Cash budget

(d) Sales budget

5. Which one of the following items should be done first when developing a comprehensive budget for a manufacturing company?

a) Determination of the advertising budget.

b) Development of a sales budget.

c) Development of the capital budget.

d) Preparation of a pro forma income statement.

6. Butteco has the following costs for 100,000 units of product:

Raw materials $200,000

Direct labor $100,000

Manufacturing overhead $200,000

Selling/administrative expense $150,000

All costs are variable except for $100,000 of manufacturing overhead and $100,000 of selling/administrative expenses. The total costs to produce and sell 110,000 units are;

a) $650,000

b) $715,000

c) $695,000

d) $540,000

6.9 LET US SUM UP

- Budgeting is a means of coordinating the combined intelligence of an entire organisation into a plan of action based on past performance and governed by rational judgment of factors that will influence the course of business in the future.
- Budgetary control is the establishment of budgets relating to the responsibilities of executives of a policy and the continuous comparison of the actual with the budgeted results.
- A fixed budget is designed to remain unchanged irrespective of the level of activity actually attained.
- A flexible budget is a budget which is designed to change in accordance with the various level of activity actually attained.
- Sales budget is primarily concerned with forecasting of what products will be sold in what quantities and at what prices during the budget period.

- The production budget determines the level of activity of the produce business and facilities planning of production so as to maximum efficiency.
- Production Cost Budgets show the cost of the production determined in the production.
- Material Purchase Budget is concerned with purchase and requirement of direct materials to be made during the budget period.
- Cash budget represent the anticipated receipts and payment of cash during the budget period.
- Master budget is the summary budget incorporating its functional budgets, which is finally approved, adopted and employed.

6.10 KEY TERMS

- **Budget:** It is statement of an estimated performance to be achieved in given time, expressed in currency value or quantity or both.
- **Budget Centre:** A section of an organization for which separate budget can beprepared and control exercised.
- **Budgetary Control:** Guiding and regulating activities with a view to attaining predetermined objectives, effectively and efficiently.
- **Budget Manual:** The Budget manual is a schedule, document or booklet whichshows, in written forms the budgeting organisation and procedures.
- **Budget Period:** The period of time for which a budget is prepared and used. Itmay be a year, quarter or a month.
- Classification of Budgets:

Nature based - Fixed and Flexible Content

based - Monetary and Physical

Functional based - Purchase, Sale, Production Cost, Administrative, Selling & Distribution, Research & Development, Plant Capital Expenditure, Cash, Plant Utilization.

- **Fixed Budget:** a fixed budget, is a budget designed to remain unchanged irrespective of the level of activity actually attained
- **Flexible Budget:** a flexible budget is defined as a budget which, by recognizing the difference between fixed, semi-variable and variable costs is designed to change in relation

to the level of activity attained.

- **Zero-based Budgeting (ZBB):** Zero- based Budgeting (ZBB) is defined as ‘a method of budgeting which requires each cost element to be specifically justified, although the activities to which the budget relates are being undertaken for the first time, without approval, the budget allowance is zero.
- **Performance Budgeting (PB):** A performance budget is one which presents the purposes and objectives for which funds are required, the costs of the programmes proposed for achieving those objectives, and quantities data measuring the accomplishments and work performed under each programme. Thus, PB is a technique of presenting budgets for costs and revenues in terms of functions.
- **Budget Ratios:** These ratios provide information about the performance level, i.e., the extent of deviation of actual performance from the budgeted performance and whether the actual performance is favourable or unfavorable.

6.11 REVIEW QUESTIONS

1. Thomas Engineering Co. Ltd. Manufactures two articles X and Y. Its sales department has three divisions: West, South, and East. Preliminary sales budgets for the year ending 31st December 2021. Based on the assessments of the divisional executives:

Product X: West 40,000 units: South 1,00,000 units and East 20,000 units

Product Y: West 60,000 units: South 8,00,000 units and East Nil

Sales Price X Rs. 2 and Y Rs. 3 in all areas.

Arrangements are made for the extensive advertising of products X and Y and it is estimated that West division sales will increase by 20,000 units. Arrangements are also made to advertise and distribute product Y in the Eastern area in the second half of 2021 when sales are expected to be 1,00,000 units.

Since the estimated sales of the South division represented an unsatisfactory target, it is agreed to increase both the estimates by 10 %. Prepare a sales budget for the year to 31" December 2021.

2. Draw up a material purchase budget from the following information:

Estimated sales of a product is 30,000 units. Two kinds of raw materials A and B are required for manufacturing the product. Each unit of the product requires 3 units of A and 4 units of B.

The estimated opening balance in the beginning of the next year: finished goods 5,000 units; A, 6,000 units; B, 10,000 units. The desirable closing balance at the end of the next year: finished product, 8,000 units; A, 10,000 units; B 12,000 units.

3. Distinguish between Fixed and flexible budget.

4. When Should Cash Budgets Be Prepared?

5. State the considerations on which capital expenditure budget is prepared.

6. Describe the steps involved in the budgetary control technique.

6.12 ANSWERS TO TEST YOUR UNDERSTANDING AND REVIEW QUESTIONS

Test your Understanding A

4 (a) Planning.

4(b) Actual.

4 (c) Control.

4 (d) Planned.

4 (e) Planning.

Test your Understanding B

3 (1) c

3 (2) b

3 (3) b

3 (4) c

3 (5) b

3 (6) c

ANSWERS TO REVIEW QUESTIONS

1.

Division	*Product X*			*Product Y*			
	Qty.	*Price Rs.*	*Value Rs.*	*Qty. Rs.*	*Price Rs.*	*Value Rs.*	*Total* Rs.
West	60,000	2	1,20,000	80,000	3	2,40,000	3,60,000
South	1,10,000	2	2,20,000	88,000	3	2,64,000	4,84,000
East	20,000	2	40,000	1,00,000	3	3,00,000	3,40,000
Total	1,90,000		3,80,000	2,68,000		8,04,000	11,84,000

2.

Estimated Production	=	Expected Sales + Desired Closing Stock of Finished Goods – Estimated Opening Stock of Finished Goods
	=	30,000 + 8,000 – 5,000
	=	33,000 units

Material Purchase Budget for the year

Particulars	*Material A Units*	*Material B Units*
Material Required to meet Production Target		
Material A – 33,000 x 3	99,000	1,32,000
Material B – 33,000 x 4		
Add : Desired closing stock at the end of next year	10,000	12,000
	1,09,000	1,44,000
Less : Expected stock at the commencement of next year (opening balance)	6,000	10,000
Quantity of Materials to be purchased	1,03,000	1,34,000

6.13 FURTHER READINGS

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M.COM

SEMESTER I

COURSE: ACCOUNTING FOR MANAGERIAL DECISIONS

UNIT -7 STANDARD COSTING: VARIANCE ANALYSIS -I

STRUCTURE

7.0 INTRODUCTION

The word standard simply means some norm, specification, or target. It gives a reference point, benchmark, and mode yardstick for comparison.

Standard costs are part of a cost accounting system whereby standard cost is incorporated directly and formally into the manufacturing accounts. It is divided into two major parts (1) Historical Costs and (2) Pre-determined Costs. Historical cost means the actual cost or past cost and historical costing is a system in which actual costs incurred in the past are determined.

Historical costs have some limitations:

(1) Such costs are obtained too late and cannot be used for price quotations.

(2) Historical costs do not serve the object of cost control, for the cost has already been incurred before cost records are available for management control.

(3) Historical costs do not provide any benchmark against which efficiency can be measured.

Standard costing is a technique that uses a standard for costs and revenues for control through variance analysis. Here, standards are performance expectations. Standard costing aims at eliminating waste and increasing efficiency in operation through setting up standards for production costs and production performance. In short, standard costing is a control device and not a separate method of product costing. It can be used with any method of product costing, job costing or process costing.

The objective of this chapter is to underscore the need for standard costing by highlighting its utility. Standard costing requires the historical costing for a comparative analysis which helps set the goals of standard costs. Standard costing is one of the most important tools to control costs.

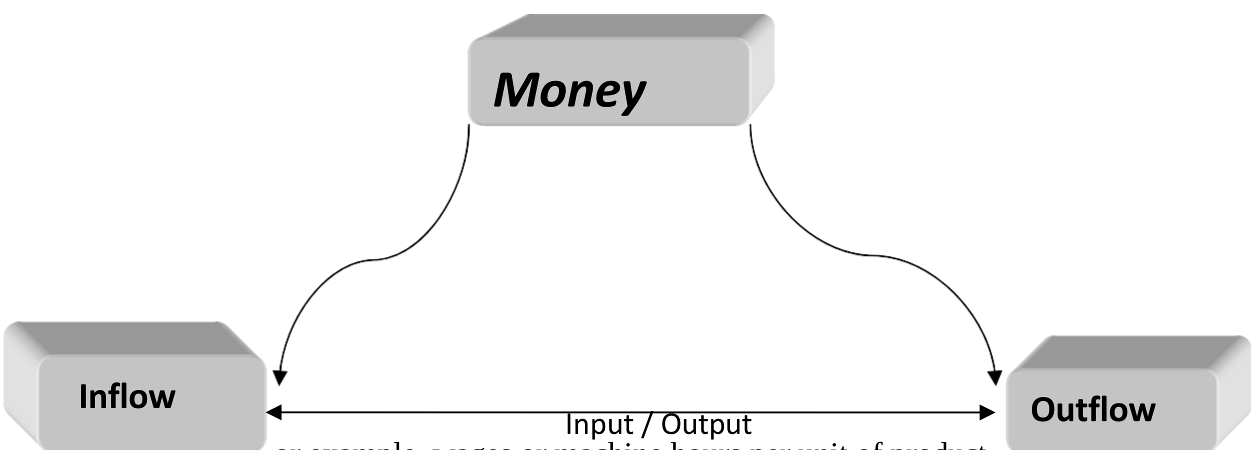
In this method, all costs are predetermined. Such predetermined costs are then compared with the actual costs and the difference between these costs is known as variances.

Meaning:

The word standard means a 'norm' or a 'criterion'. Standard cost is thus a criterion cost that may be used as a yardstick to measure the efficiency with which actual cost has been incurred. There is a constant process of development effected in business through the help of the standard costing method since the standard costs set in are sensible, capable of being attained, and are revised from time to time in accord with the needs of the business enterprise.

1) *Standard cost:*

- Standard cost is a figure which represents an amount that can be taken as a type of the cost of an article or other cost factor. It is established based and preplanned, on efficiency levels, and expected capacity utilization.
- Standard cost is a predetermined calculation of the presumed cost under the specified conditions. It is built up from an assessment of the value of cost elements. It correlates the technical specification of material labor and another cost to the price or wage rate which have occurred during the period in which the standard cost is to be determined.



or example, wages or machine hours per unit of product

- The standard cost is a predetermined cost that determines what each product or service should cost under given circumstances.

- Brown and Howard

2) *Standard Costing:*

- A standard costing system is a method of cost accounting in which standard costs are used in recording certain transactions and the actual costs are compared with the standard cost to learn the amount and reason for variations from the standard.

  - W.B. Lawrence

- Standard costing involves the preparation of costs based on pre-determined standards and continuous comparison of actual with them for guidance and control.

  -D.

Joseph

3) *Historical Costing:*

- The term 'Historical Cost' is also known as Actual Cost. The meaning of this cost suggests the actual costs of products that have been incurred in their production.
- The experts maintain that the production of products, the expenses like material, labor overheads, etc should be paid first and then they should be recorded in books. So these total expenses are called historical costs or past costs.
- The figures relating to costs obtained at the end of the production process may have some definite value in rectifying past practices if they are properly analyzed.

Concepts of Standard Cost and Standard Costing:

1) *Standard Cost:*

Standard costs are called pre-determined costs. The different standards regarding all the elements of costs, i.e., material, labor, and overheads, are determined based on historical cost and many other factors. These factors are cautiously studied before determining the standards. The standard committee will generally consist of a produce action manager, purchase manager, personal manager, and other functional heads. It is possible that the standard cost decided by the manager could be idle, normal, or expected. The idle standard cost may refer to an estimate of the cost under perfect competition. Standard Costs are not simple average, but they are set with due care after careful study and observation of production activity in the past and the present.

2) *Standard Costing:*

Standard costing is a perfect system of controlling the costs and measuring efficiency and its development. It is a technique of cost reduction and cost control. It helps to provide valuable guidance in several management functions such as formulating policies, determining price levels, etc. The essence of standard costing is to set objectives and targets to achieve them and to compare the actual costs with these targets.

Standard Costing is used to ascertain the standard cost under each element of cost, i.e., materials, labor, and overhead. It can eliminate all kinds of waste. Through the application of this costing it can be ascertained whether or not the activities of production are going on Accordingly trading as the pre-determined plan.

Advantages of Standard Costing:

1. **Proper Planning:** It helps to apply the principle of "Management by exception". That is, the management need not worry over those activities which proceed in tandem with plans. It is only on the issues of exceptions that they must concentrate.

2. **Efficient Cost Control:** Standard Costing is a tool for the management to gain reduction in the cost and control over it. Under this technique, differences are analyzed and responsibilities are determined.

3. **Motivational Factor:** Labor efficiency is promoted, and they are destined to be cost-conscious. Standards provide incentives and motivation to work with greater effort. This increases efficiency and productivity.

4. **Comparison of Forecasting and Outcome:** A target of efficiency is set for the employees and cost-consciousness is stimulated. Since the process of standard costing allow an appraisal to be made of personnel, machines, and method of working, current inefficiencies come to the notice and get eliminated.

5. **Inventory Control:** Standard costing facilitates inventory control and simplifies inventory valuations. This ensures uniform pricing of stocks in the form of raw materials, work-in-

progress and finished goods.

6. **Economical System:** Standard costing system is an economical system from the viewpoint that it does not require detailed records. It addresses not require a big staff. It results in the reduction paper work in accounting and needs very few records. Thus, there a is saving of time as well as money.
7. **Helpful in Budgeting:** Budgets are prepared based on standard costing. Standards which are set up in respect of materials, labor and overheads help. For example, flexible budget, sales budget, etc.
8. **Helps Formulate Policies:** This technique is a valuable aid to the management in determining prices and formulating production policies. Standard costing equips cost estimates while planning the production of new products.
9. **Helps Distinguish Activities:** Standard costing helps in distinguishing between skilled and unskilled activities. So the skilled worker only gives pays attention to improving the activities of the unskilled workers.
10. **Eliminates Wastage:** Through fixing standards, certain waste such as material wastage, idle time, lost machine-hours, etc. are reduced.

Limitations of Standard Costing:

1. **Costly System:** Because the Standard Costing requires highly skillful and competent personnel, it becomes a costly system too. For the same experts are paid high remuneration.
2. **Difficulties in Fixation of Standard:** It is always difficult to determine precise standard costs in each situation that will coincide with actual costs when operations are over. Standard costs are determined partly by patience and by the construction on advanced statistical techniques. Thus, uncertainties revolve around standards.
3. **Constraint for Service Industry:** Standard costing is applied for planning and controlling manufacturing costs. Thus, it cannot be applied in the service industry.
4. **Consistency of Standard:** because the standards of marginal costing fluctuate and vary from time to time, it is difficult to always sustain and continue the same standards.

5. **Unsuitable for Non-standardized Products:** Standard costing is expensive and unsuitable for job manufacturing industries as they manufacture non standardized products such as catering, tailoring, printing, etc.

6. **Relatively Fixed Standards:** A business may not be able to keep standards up-to-date. In other words, a business may not revise standards to keep pace with the frequent changes in manufacturing conditions. Firms may avoid revising standards as it is a costly affair.

7. **Difficulties for Small Industries:** Establishment of standards and their implementation involve initial high costs. Standards must be revised and new standards are fixed involving larger costs. Thus, small firms find it expensive to operate a standard costing system. This system is not fit for each type of industry

8. **Discouragement for Workers:** Sometimes the employees and workers are discouraged when the standards are fixed at a high level. The unreal high standards may adverselyrse by aftereffect the morale of workers rather than working as an incentive for better efficiency.

9. **Inaccurate Diverse Results:** Inaccurate and unreliable standards cause misleading results and thus may not enjoy the confidence of the users of this system.

Objectives of Standard Costing:

1. To institute a control mechanism on all the elements of costs that affect production and sales
2. To measure different operational efficiencies and check the wastages
3. To improve the delegation of authority and generate a sense of responsibility among the employees
4. To develop a cost-consciousness in the employees
5. To presume the production costs, sales, and profit
6. To avail of the benefits of 'Management by exception.'
7. To bring about a vivid progressive vision and sagacious decision-making at each managerial level.

Preliminaries of Establishment of Standard **Cost System:**

The following four points are usually considered for setting up a standard cost system in a business:

1) Setting up a cost center
2) Classification of Accounts
3) Types of Standards
4) Settings the Standards.

1) **Setting up Cost Center:** Introducing a Standard Cost System requires first of all establishing cost centers with their well-designed ambit of work. In the process, there should be no ambiguity about the responsibility of each cost center so that their responsibility may be identified.

A cost center is a location; people or items of equipment for the cost may be ascertained and used for cost control.

- I.C.M.A. London

2) **Classification of Accounts:** Accounts are classified to assist in collection n and analysis. To use the system of standard costing effectively, all accounts have to be classified based onion the function seems of revenue nature, assets,s, and liabilities, etc. Codes are given for each item and each account along with elements of cost with this end in view, codes may be used. A code is a symbolic representation of any particular item of information.

For example,

Direct Material	01-19
Direct Labour	20-29
Direct Expense	30-39
Indirect Expense	40-49
Indirect Labour	50-59
Indirect Expense	60-69

3) **Types of Standards:** Basically, there are two types of standards:

(a) Current Standard

(b) Basic Standard

(a) Current Standard: It is established for use over a diminutive per period is related to current circumstances. Such a standard remains in operation for a limited period and belongs to the current conditions. These standards are revised at regular intervals. Current standards are standards types like (1 standard (2) Expected standards, and (3) Normal standards.

1. **Ideal standards:** This is a hypothetical standard that is rather not practicable to attain. This ideal is unrealistic and unattainable. It pre- support-supposes the performance of men, materials, and machines are perfect and thus makes no allowance for the loss of time, accident, wastage of materials, and any other type of way of materials and any other type of waste or loss. Such standards have the advantage of establishing a goal that, however, is not always attainable in practice. As such it is having little practical value. The standard can be attained under the most favorable possible. - I.C.M.A.
2. **Expected or practical standards:** Such standards are likely to be expected or utilized in the future period. Such standards are based on expected performance after making a reasonable allowance for unavoidable losses and other inevitable lapses from perfect efficiency. So it is most generally used standard and is best suited for cost control.

   This standard can be anticipated as well as attained in the future in NC with the specified budget. - I.C.M.A.

3. **Normal standards:** It is also known as 'Past Performance Standard' because it is based on the average performance in the past. It should be attainable, and it provides a challenge to the staff. Such a standard aims to eliminate the variations in the cost which arise out of trade the le.

The average standard can be anticipated as well as attained in a future period. Preferably, it should be long enough to cover the trade cycle.- I.C.M.A.

(B) Basic standards: This is a standard that is established for use unaltered for an indefinite time. It is similar to an index number against which all results are measured. Variances from basic standards show trends of deviations from the actual cost. However, basic standards are of no practical utility from the point of view of cost control and cost ascertainment. This standard is set on a long-term basis and seldom revised.

It is an underlying standard from which the current standards can be developed.

-I.C.M.A.

4. **Setting the Standard:** The process of setting standards is a valuable activity in itself. The success of a standard costing system depends on the reliability,

ccuracy and acceptance of the standards. If standards have been properly set and maintained, they are a sound basis for determining the costs for various purposes. While setting the standards, the following points should be taken into consideration: duration of the standard, reasonable standard of and remanence, levant of activity. For the given units standard sets for the following items are (i) direct material cost, (ii) direct wage cost,(iii) direct expense,(iv) factory variable overhead cost,(v) selling and distribution variable cost,(vi) selling price and sales margin.

- **Standards for Material:** It includes (1) Determination of the standard quantity of material required and (2) Determination of the standard price per unit of material.
- **Material Quantities:** After establishing the standard quality of material, it is more important and necessary to establish the standard regarding the quantity of each material. Generally, quantities are expressed in terms of kilograms, feet, units, and so forth.
- **Standards for Labor:** This standard is determined by the current rate of pay and any anticipated variations. It should be fixed for each grade of labor. The standard hours are fixed for all categories of labor i.e., full-flavored unskilled labor standards, a number several and workers are established.
- **Material Prices:** This is a forecast of the average prices of materials during the future period. This standard is quite difficult to establish because prices are regulated more by external factors than by the company management. While setting standard prices, past experiences, existing prices, and, anticipations should be closely examined. Price materials in the past, current pri,ces an,d fluctuating trends are the base for determining

the standard of price.

- **Setting for Overheads:** Setting standard for overheads is more complex than developing material and labor standards. It is estimated for variable overheads and fixed overheads.
    - **Variable Overheads:** It may be recalled that variable overhead has been defined as a cost that tends to vary directly with the volume of output. It is assumed that the overhead rate per unit is invariable, irrespective of the quantity produced, so it is necessary to calculate only a standard cost per unit or pour.
    - **Fixed Overheads:** Fixed overhead tends to be unaffected by variations in the volume of output. Therefore it is required to determine the total fixed overhead for the period and budgeted production in units.
- **Standard Hour:** Production is usually articulated in physical units such as tons, pounds, gallons, numbers, kilograms, liters, etc. When a company is manufacturing different types of products, it is almost impossible to increase production, which cannot be expressed in the same unit.

  A standard hour means a hypothetical hour, which represents the amount of work that should be performed in one hour under standard conditions.

- I.C.M.A.

Distinguish:

(1) Standard cost v/s. Historical cost:

No.	Historical Cost	Standard Cost
1.	Historical costs are the actual cost	Standard costs are the pre-determining cost.
2.	It only informs the total cost of a product or service	Its function is to evaluate managerial performance and Deficiency
3.	Historical costs are ascertained after they have been incurred, and therefore are experienced costs of decisions previously	Standard costs are anticipated costs that tend to state what the cost of production

	Made	should be
4.	It is related to past	It is related to future
5.	It cannot do the role of Planning and Budgeting	Budgets are prepared on the basis of Standard costs

(2) Standard Cost v/s. Estimated cost:

No.	Standard Cost	Estimated Cost
1.	Standard cost aims at what the cost should be	The estimated cost is an assessment of will be
2.	Standard costs are planned cost which is determined on a scientific basis after taking into account certain level efficiency	It is based on the average of past figures, taking into consideration anticipated charges in future
3.	It emphasizes cost control, setting the target against which actual performance is measured and, f need be, corrective measures are sought	Estimated costs are used by the undertakings for fixing the selling price of the product

(3) Standard Cost v/s. Budgetary Cost:

No.	Standard Cost	Budgetary Cost
1.	Standard costing is intensive in the application as it calls for any of analysis variance	Budgetary control is extensive, and the intensity of analysis tends to match less than that in standard costing
2.	Standard cost represents realistic yardsticks and, therefore, is more useful for controlling and reducing cost	Budgets usually represent an upper limit on spending without considering the effectiveness of the expenditure in terms of output

3.	Standard cost is a projection of cost account	A budget is a projection of financial Accounts
4.	Standard costs are developed mainly for the manufacturing function and sometimes also for marketing and administration	Budgets comply with different functions of the business such as sales, purchase, cash, production, etc.
5.	Standard costs are usually established after considering such vital matters as production capacity, methods employed and other factors which require attention when determining an acceptable level of efficiency	Budgets may be based on the previous year's costs without any attention being paid to efficiency

4. Cost Centre v/s. Profit Centre:

No.	Cost Centre	Profit Centre
1.	A cost center may be a location, person, or item of equipment for which a cost center may be ascertained and used for the purpose of cost control	The profit center is the cost cenotaphic shot he was profit
2.	Cost center is necessary for fixing responsibilities for unfavorable variances	The profit center does not for fixing responsibilities for unfavorable variance

Standard cost card / Standard Cost Sheet:

The standards established for each element of cost (such as material, labor d overhead) for a product are recorded in a statement form known as "Sa tan standard card or sheet". It shows the time and rate of each category of labor, the overhead rate an, and the cost per unit. This information, however, is speciosity number of productions, Quiddity, and price of each type of material required. Such a card is maintained for all kinds of products or services. The build-up of the standard cost of each order cost card.

The cost shown on the card should be approved by the person who will be responsible for the operation concerned. A sample of a much standard cost card is given below:

Sample of Standard Cost Card / Sheet Format

Standard cost card/Sheet

No…………… Date of setting standard………… Product…………..

Elements of Cost	Quantity	Amount Rs.	Standard Cost
1)Direct material:			
Material X	10 units	5.00	50.00
Material Y	20 units	10.00	200.00
	30 units		250.00
Less: Normal wastage @10%	5 units	Scrap unit	50.00
Normal Output	**25 units**		**200.00**
2) Direct Labour	10 hours	2.00	20.00
3) Overheads			
- Variable	10 hours	1.00	10.00
- Fixed	10 hours	2.00	20.00
Total Cost			**250.00**
Add: Profit 10% on the cost			**25.00**
Sales price			**275.00**

Meaning of Analysis of Variance:

Variance means the deviation of the actual cost or actual sales from the standard cost or profit or sales. Calculation of variances is the main object of standard costing. This calculation shows whether costs are under control. A variance may be favorable or unfavorable.

The process of computing the amount of variance and isolating the causes of variances between actual and standard. - C.I.M.A.

London When actual cost is less than standard cost or profit is better than the standard profit, it is known as ‘Favorable Variance’. On the other hand, where the actual cost is more than the standard cost or profit is better than the standard profit, it is known as 'Unfavorable Variance' or 'Adverse knowledge of the variances is not sufficient and useful to the management; the causes responsible for these variances should also be brought to the knowledge of the management of the business. The process of finding out the causes of the variances and evaluating their effect is regarded as ‘Analysis of Variance.’

A controllable variance is when a variance is treated as the responsibility of a person with the result that his or her degree of efficiency can be reflected in size. When a variance arises due to some unforeseen factors, it is known as an uncontrollable variance. The management should look more carefully at controllable variance, for it is these variances that require examination and possible corrective measures. The uncontrollable variances may be ignored.

Importance of Variance:

There is a lot of importance in the analysis of variance. There are many objects fulfilled with their analysis. Without analysis of variance, there is no use of standard costing. The important points of variances are as under:

1) Check and control wastage is accessible.
2) It improves the efficiency of the organization by the use of standard costing.
3) It exercises control over all cost centers including departments, individuals, s and so on.
4) Responsibility of a particular person or department can be fixed.
5) In the prediction of production cost, sales and profit, variance analysis is very useful.
6) Based on variance analysis, de delegation authority could be made effective.
7) Variance analysis is easy to introduce, apply, and orient results.
8) Various operational efficiencies can be measured.

Features of Variance:

1) *In terms of money:* For the post office, all variances since are calculated and expressed in

terms of money. They are always monetary values in as much as the physical variations are the concern of industrial engineers.

2) ***Standard item:*** The minuend should always be the standard item and subtrahend the actual figure. The remainder between the minuend and the subtrahend is multiplied by the standard index. In minuends figure from which something is subtracted, and subtrahend is that something is subtracted from the minuend. In other words, if the romance has, overall, been costlier, it is unfavorable it is cheaper than it was envisaged, it is favorable ***verbalized figure – the Minuend:*** Where the prefix 'budget' is used before the variance, the minuend is the budgeted figure based on the normal production. The fixed overhead budget variance is the difference between the budgeted fixed overhead and the actual overhead.

Types of Variances:

Initially, standards for all elements of costs should be set and then the actual cost should be compared with the standard costs to obtain the variances. Some deviations are found when actual performances are recorded and compared with the standard set. These deviations are known as variances.

" A variance is the difference between a standard cost and the comparable actual cost incurred during a period"

- C.I.M.A. London

Variances are classified based on:

1) Based on the control
2) Based on profitability
3) Based on elements of cost

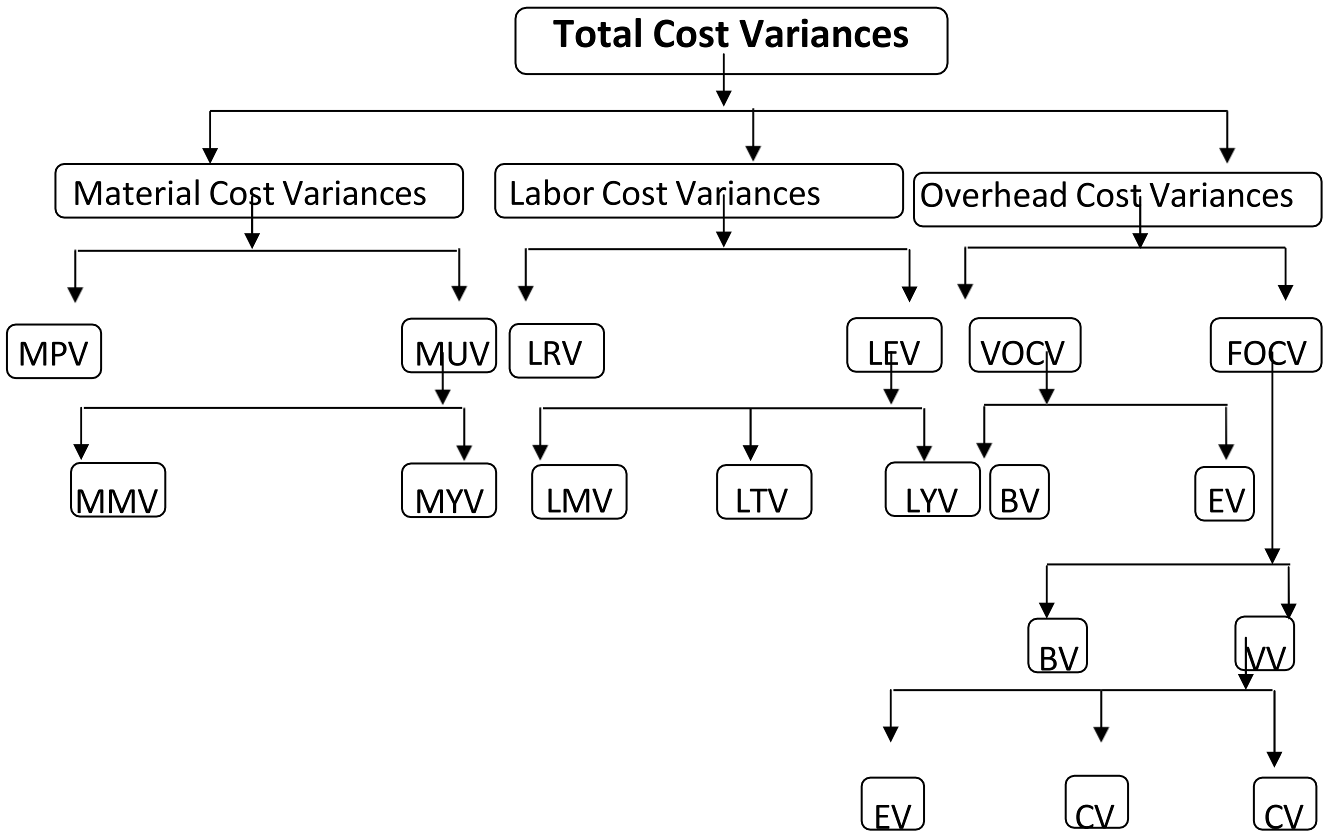
(1) Based on control: Based on control, variance e may be classified as controllable variance and uncontrollable variance.

(2) Based on profitability: Profitability or effect, the variance may be classified in two parts: (i) favorable and (ii) unfavorable

These are also known as credit and debit variances or negative and positive variances.

(3) Based on elements of cost: Though different types of costs can be calculated; their use may not be much useful. Variance calculated based on different elements of cost. They are as follows:

Total Cost Variance is a difference between the standard cost value of the output achieved in a period and the total cost incurred.



Material Variances (MV): These variances include Material Cost Variances, Material Price Variances, Material Usage Variances, Material Mix Variances, and Material Yield Variances.

(1) Material Cost Variances (MCV): It is the difference between the standard cost of the material specified for the output achieved and the actual cost of direct materials used.

MCV = (Std. Quantity x Std. Price) - (Actual Quantity x Actual Price)

(SQ x SP) - (AQ x AP)

(2) Material Price Variances (MPV): It is that portion of the material cost variance which is due to the difference between the standard price specified and the actual price paid.

MPV = Actual Quantity (Std. Price - Actual Price)

AQ (SP x AP)

Where Price = Rate

(3) Material Usage Variances (MUV): Material usage variance is a part of Direct Material Cost Variance. MUV is determined by the difference found between the standard quantity and the use of actual quantity. Later, the difference found is multiplied by the standard price.

MUV = Standard Price (Std. Quantity - Actual Quantity)

SP (SQ - AQ)

(4) Material Mix Variances (MMV): It is that portion of direct material usage variance which is the difference between the actual quantities of elements used in a mixture at a standard price and the total quantity of elements used at the weighted average price per unit of the element as shown by the standard cost sheet.

MMV = Standard Price (Std. Mix - Actual Mix)

SP (SM - AM)

SM = Total weight of actual quantity Std. Quantity Total weight of standard quantity

Note: When the actual weight of quantity and the standard weight of quantity differ from each other, this formula is used to find a new quantity.

(5) Material Yield Variances (MYV): This is "that portion of the direct materials usage variances which is due to the difference between standard yield specified and the actual yield obtained.

MYV = Standard Yield Price (Std. Yield - Actual Yield)

SYP (SY - AY)

SYP = Total standard Cost Net Standard Output

Note: When the actual weight of quantity and the standard weight of quantity differ from each other, this formula is used to find a new quantity.

Labour Variances (LV): Labour variances occur because of the difference in actual rates and standard rates of labor and the variation in actual time taken by labor and the standard time allotted to them for doing a job. These variances include Labour Cost Variances, Labour Rate Variances, Labour Time or Efficiency Variances, Labour Idle Time Variances, and Labour Mix Variances.

(1) **Labour Cost Variances (LCV):** This is the difference between the standard direct labor cost and the actual direct labor cost incurred for the production achieved.

LCV = (Std. Time x Std. Rate) - (Actual Time x Actual Rate)

(ST X SR) - (AT x AR)

(2) **Labour Rate Variances (LRV):** This is that portion of the labor cost variance which is due to the difference between the standard rate specified and the actual rate paid.

LRV = Actual Time (Std. Rate - Actual Rate)

AT (SR - AR)

Note: Actual Time = Actual Hours, Std. Rate = Std. Wage Rate

(3) **Labour Time (Efficiency) Variances: (LTV/LEV):** It is defined as the difference between the standard hours (Time) for the actual production achieved and the hours worked, valued at the standard labor rate.

LTV = Standard Rate (Std. Time - Actual Time)

SR (ST - AT)

(4) **Idle Time Variance (ITV):** ITV comes up because of the idle time of workers on account of abnormal causes. The wages paid for the time during which the workers remained idle due to causes like strikes, breakdown of the plants, etc. are treated as idle time variances.

ITV = Idle Time x Standard Rate

IT x SR

(5) **Labour Mix Variance / Gang Composition Variance (LMV):** It occurs only when more than one grade of workers is employed and the composition of the actual grade of workers differs from those specified.

Std. Time x (Revised Std. Time - Actual Time)

ST x (RST - AT)

Overhead Variances (OV): Overhead is the aggregate of indirect materials, indirect labor, and indirect expenses. Analysis of overhead variances is different from that of direct material and direct labor variances for two reasons.

(1) It is difficult to establish a Standard overhead rate for fixed overhead because changes in the volume of output will affect the standard overhead rate even if there is no change in the amount of fixed overhead cost.

(2) For computing overhead variances, there are quite a few terminological options and methods.

The overhead variances include fixed overhead variances and variable overhead variances. Moreover, further analysis of overhead variances is also possible according to the available source information. It is significant to know at the beginning that the overhead variance is not anything but under or over- absorption of the overhead.

(a) **Variable Overhead Cost Variance (VCOV):** VCOV is the difference between the standard variable overhead cost for production and the actual variable cost incurred during the period.

VCOV = (Std. hours for actual Output **x** Std. variable overhead rate) -

Actual overhead cost

Absorbed V. O. - Actual V. O.

(1) **Variable Overhead Expenditure Variance (VOEV):** VOEV is known as

spending variance or 'Budget Variance'. This variance arises due to the difference between standard variable overhead allowed and actual variable overhead incurred.

VCOV = (Std. Variable Overhead Rate **x** Actual Hours) - Actual overhead cost

Standard V. O. - Actual V. O.

(2) **Variable Overhead Efficiency Variance (VOEV):** VOEV can occur due to the difference between standard hours allowed for actual output and actual hours.

VIEW = (Std. Variable for actual output - Actual hours) x Std. Variable overhead rate

Absorbed V. O. - Standard V. O.

Check V. O. Expenditure Variance + V. O. Efficiency Variance

(b) **Fixed Overhead Cost Variances (FOCV):** FOCV is the difference between the standard fixed overhead cost for actual output and actual fixed overhead.

FOCV = (Std. hours for actual output x Std. F. O. Rate) - Actual F. O.

(Absorbed Overhead - Actual Overhead)

(1) **Fixed Overhead Expenditure Variances (FOEV):** This is known as spending variance or Budget Variance. It arises due to the difference between budgeted fixed overhead and actual fixed overhead.

FREE = Budgeted Fixed Overhead - Actual Fixed Overhead

(2) **Fixed Overhead Volume Variances (FOVV):** It is known as that portion of overhead variance which arises due to the difference between the standard cost of overhead absorbed by actual production and the standard allowance for that output.

FOVV = (Std. Time for Actual Output - Budgeted Time) x Std. Rate

Absorbed Overhead - Budgeted Overhead

(i) **Efficiency Variances (EV):** It classifies that portion of volume variance that reflects the increased or reduced output arising from efficiency above or below the standard which is expected.

EV = (Std. Time for Actual Output - Actual Time) x Std. Rate

Absorbed Fixed Overhead - Standard Fixed Overhead

Capacity Variances (CV): It classifies that portion of the volume variance which is caused by functioning at higher or lower capacity usage than the standard. It is affected by the factors like strikes, power failure, demand, etc.

CV = (Actual Time Worked - Budgeted Time) x Std. Rate

Std. Fixed Overhead - Budgeted Overhead

Note: **Actual Time = Actual Hours**

(ii) **Calendar Variances (CV):** It classifies that portion of the volume variance that is caused by the difference between the number of working days in the budget period and the number of actual working days in the period to which the budget is applied.

This variance arises only in exceptional circumstances because normal holidays are taken into account while laying down the standard.

CV = Actual No. of Working Days - Std. No. of Working Days) x Std. Rate per Day

(Revised Budgeted Time - Budgeted Time) x Std. Rate per Time

Reporting of Variances:

So that a standard costing system may be of maximum value to the management, it reports exhibiting variances from standards for each element of cost of each department and operation mustickly and efficiently presented to the management. Moreover, the management must act speedily to investigate variances and where possible make decisions to prevent the recurrence of adverse variances.

Essentials of Effective Variance Report:

The following points for effective reporting under standard costing should be considered:

- ✓ The report should be simple, clear, and quick. If reports fail to inform the management lucidly and ambiguously of what has taken place and what action may be taken, they should not fully serve their purpose.
- ✓ The report should present the result of the given period and evaluate the level of efficiency achieved.
- ✓ The report should put forth a comparison of results obtained with those planned.
- ✓ Special care should be taken of significant variances and thereby ensuring the 'principle of exception' rule.
- ✓ Variances reports should profusely make use of the charts and graphs wherever possible.

Presentation of variance:

The benefits of standard costing will depend on how quickly and in what form the variances are presented to the management. Although no standard firm can be laid down fall purposes, the details of standard and actual cost figures along with variances must be presented to the appropriate management. Sometimes, a Reconciliation Statement is prepared to show the standard cost or profit, variances, and actual cost or profit.

Control Ratio:

In addition to variances, certain control ratios are commonly used by the management for the use in controlling operations. These ratios are generally expressed in terms of percentage. If the ratio is 100% or above, it indicates a favorable position and vice versa. Three important ratios are given below:

(a) **Efficiency Ratio**: It is defined as the standard hour equivalent to the work produced expressed as a percentage of actual hours spent in production. Thus this ratio shows whether the actual time taken in production is more or lesser than the time allowed by the standard. Its formulae are as follows:

$$\text{Efficiency Ratio} = \frac{\text{Standard hours for actual output}}{\text{Actual hours worked}} \times 100$$

(b) **Activity Ratio:** It is defined as the standard hour equivalent to the work produced expressed as a percentage of budgeted standard hours. This ratio shows the extent to which the production facilities have been utilized as compared with that contemplated in budgets. Its formula is:

$$\text{Activity Ratio} = \frac{\text{Standard hours for actual output}}{\text{Budgetary hours}} \times 100$$

(c) **Capacity Ratio**: It shows the relation, between actual hours worked and the budgeted hours. Its formula is:

$$\text{Capacity Ratio} = \frac{\text{Actual hours worked}}{\text{Budgetary hours}} \times 100$$

Is position (Disposal) OF Variance:

There are differing opinions among the accountants as regards the disposal of cost variances. Variances are disposed of in accounts by the following methods:

- All types of variances are transferred to the Costing Profit and Loss Account.
- If inventories are valued at standard cost rather than at actual cost, different operational statements can be made available at an earlier date.
- The amount of variances is equitably distributed over the cost of sales and stock of finished and semi-finished goods. By doing so, the cost of sales and stock is shown as the actual cost in the financial statement.
- Each variance is carefully analyzed in accord with the causes of its occurrence. The profit or loss caused by the variances as were results of controllable factors would be transferred to the Costing Profit & Loss Account. On the other hand, the variances born of uncontrollable causes should be given to the cost of sales and stock. However, when the variances are prorated or set up as reserves, they may not draw similar attention of executives.

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SEMESTER-I

COURSE: ACCOUNTING FOR MANAGERIAL DECISIONS

UNIT 8: VARIANCE ANALYSIS – II, RESPONSIBILITY ACCOUNTING

STRUCTURE

8.0 OBJECTIVES

After studying this unit, you should be able to:

know how cost and management accounting will be used for managerial planning and control.

appreciate the structure and process in designing responsibility accounting system.

understand the concept of responsibility center's;

familiar with different methods of evaluating the performance of different segments of an organization; and

identify the benefits, and essentials of success of measuring and reporting of costs by managerial levels of responsibility.

8.1 INTRODUCTION

Responsibility accounting has been very much a part of cost and management accounting for a while now. It has emerged as a widely accepted practice within budgeting. But mind that responsibility accounting is not a separate system of management accounting. It does not involve any significant change in accounting theory or generally accepted accounting principles. Else, it represents one of the three sets of management accounting information. The two other sets are full cost information and differential cost information. In this unit you will study about the concept of responsibility accounting, design of the system and uses of responsibility accounting. In addition to this you will also learn performance evaluation of different segments besides transfer pricing.

8.2 THE CONCEPT OF RESPONSIBILITY ACCOUNTING

The framework of responsibility accounting was developed by Professor A.J.E. Sorgdrager titled "Particularisation of Indirect Costs". As the title suggests, responsibility accounting is a cost accounting system established on a responsibility basis. A basis is said to be responsible where actual results are as close to planned results as possible. As such, the variances are minimal. Planned results could be stated in budgets and standards. Properly speaking, responsibility accounting is a method of budgeting and performance reporting created around the structure of the organization. Individual managers are hold accountable for the costs within their jurisdiction. The purpose, obviously, is to exercise control over the operations. Hence, in simple words, it could be described as a system of collecting and reporting accounting data on the basis of managerial level.

It may be defined as the approach to accountability- identification of cost, with the persons responsible for their incurrence. Performance is evaluated by assigned responsibilities. Reporting on performance is on the lines of organizational structure. There is a separate report for each box of the organization chart.

The concept emphasizes "personalization of costs" by putting questions as to where the cost was incurred and who were responsible for it. The technique seeks to control costs at the starting point. Broadly speaking, responsibility accounting is designing the accounting system according to answerability of the manager. The accumulation classification, measurement and reporting of financial data is so arranged that it promotes the fixing of precise responsibility on the concerned manager. Horngreen rightly says, "Responsibility accounting focuses on people and not on things. It is designed to present managers with information relating to their individual fields of responsibility''. The message is that since all items of income, operating costs, other expenses and capital expenditure are the responsibility of some manager, none should be left unassigned.

Responsibility accounting considers both historical and future costs. For some purposes, the activity of responsibility centers is expressed in historical amounts. For others, these are expressed in estimated future amounts.

8.3 PROFIT PLANNING AND CONTROL (PPC)

As mentioned earlier responsibility accounting is an important piece of the budgetary system. It provides for the reporting of operating data and budget comparisons to the individuals and groups who have organizational responsibility. Responsibility accounting, measures plans by budgets, and actions by actual results of each responsibility centre. If fully developed, it has a built-in budgetary system which perfectly fits the organizational chart. Budgeting provides the measuring stick by which the actual performance can be judged. Budgets, along with responsibility accounting provides systematic help to the managers if they interpret the feedback carefully.

When an integrated and comprehensive view is taken of budgeting, it becomes Profit Planning and Control (PPC). Desired or target profit figures are planned and controlled through a set of budgets. Here, responsibility accounting is the dominant concept as control is its crux. Performance is measured by using actual results. Traditional cost accounting had been focused on determinining the cost of products and services. In responsibility accounting, this is reversed. Costs are no longer associated with products and services. Else, the focus is on planning and control needs of management. Costs initially accumulated for control purposes are then recast for product costing purposes. The control aspect is emphasized by summarizing and reporting costs on the basis of individual responsibility before those costs are merged for product cost purposes.

8.4 DESIGN OF THE SYSTEM

In designing a system, one has to decide upon its structure and the process. So is the responsibility accounting. Its structure rests on the responsibility centres. The process consists of bifurcating costs into controllable and non-controllable groups, flexible budgeting, and performance reporting. These three dimensions of the process and, then, the structural reorganization could be called the principles or fundamentals of responsibility accounting. These are being discussed below:

1) Establishing Responsibility Centers: A responsibility centre (RC) is an organizational unit. It exists because of some functional activity for which each specific manager is made responsible. Setting up of responsibility centres, therefore, becomes the first step. A large decentralized organization has to be restructured in terms of areas of influence. In ascending (i.e., rising) order of autonomy, these are cost centres, revenue centres, profit centres, and investment centres. The depth of use of responsibility accounting in the enterprise depends on the delegation of authority and assignment of responsibility. In a cost centre the manager is responsible only for the costs (expenses) incurred in his sub-unit. When actual costs of his sub-unit differ from budgeted costs then the manager must explain the significant variances. In a revenue centre, the manager is responsible for generating revenues too upto the budgeted levels. In a profit centre, the manager goes beyond, and is responsible also for-profit performance. For instance, the manager of a furniture department of a departmental store is responsible for earning a profit on the furniture sold. He is expected to earn the budgeted amount of profit during the period. In an investment centre, the manager has the responsibility and control over the assets that are used to carry on its activities. For example, individual departments of a departmental store, and individual branches of a chain stores are investment centres. The manager of the concerned department is expected to achieve some target rate of return on investment. It should be noted that investment centre differs from a profit centre as investment centre is evaluated on the basis of the rate of return earned on the assets invested in the sub-unit or segment while a profit centre is evaluated on the basis of

excess of revenue over the revenue for the period. Control can be exercised only though managers who are responsible for what the organization does. It is based on the principle that a manager's performance, should be assessed only on the factors that are within his span of control. Each managers's budget contains costs and revenues within his span of control. Generally costs are accumulated by departments.

Subsidiary revenue and expense accounts are created for each centre. These enable accounting transactions to be recorded not only by revenue and expense category, but also by the responsibility centre incurring the transaction. The accounting system can then summarize transactions by descriptive category for public reporting purposes, and by responsibility centre for purposes of performance evaluation. These accounts indicate how, at the lowest reporting level in an organization, performance reports show costs incurred in a division by descriptive category. At higher reporting levels, summaries reflect total costs incurred in subordinate responsibility centres.

2) Limits to Controllable Costs: Once the responsibility centres have been established in a company, costs and revenues under the control of each therein need be indicated. In responsibility accounting, the basis of classifying

costs is controllability--- the capability of the manager of a responsibility centre to influence (i.e., increase or decrease) them. As such, costs are accumulated and reported in the two groups of controllable and non- controllable costs. The former are those which can be changed by the head of the responsibility centre. He has the ability to regulate the quantity or price or both of an item by his managerial action.

Uncontrollable costs, obviously, are the costs which cannot be increased or decreased within a given time span at the discreation of the manager. But these can be changed at higher levels of management authority.

Generally, costs of raw materials, direct labour and operating supplies are controllable. Fixed costs are non-controllable such as rentals, depreciation, and insurance on equipment. In this setup, no allocation of common or joint costs takes place, which by their very nature are quite indirect.

Allocation is always an arbitrary process.

3) Flexibile Budgeting: Responsibility accounting starts with the assumption that budgets are flexible. They have to be prepared for several levels of activity, instead of one static level. When actual output has been obtained, a fresh budget is prepared threof. Comparison of actual results is made against the budget targets freshly prepared for that level. It would be a weak analysis to use a budget based on a level of activity that differs from the actual level of activity. A performance budget is the flexible budget adjusted to the actual level attained. Flexible budgeting permits comparison of actual costs with budgeted costs that have been recast to changes in production volume. It would be recalled that flexible budgets are prepared either by the mathematical function or formula method, or the multi-activity method.

4) Performance Reporting: Each responsibility centre has to periodically report about its performance, the feedback. A report has both financial and statistical parts. It shows income, expenses and capital expenditures. Statistics such as volume of production, cost per unit, and manpower data are also provided. Typically, performance reports will disclose the actual costs incurred, the budgeted costs, and a variance, which is the difference between the actual and budgeted amounts. Normally these amounts will be summarized by the responsibility centre for the month being reported and also for the current year-to-date. The purpose is to take timely and corrective action. Performance reports could be monthly, weekly, or even daily depending on the size of the organization and significance of the item. In addition, the report must be given to the manager while the information is still useful. Reports received weeks after the period are of little value. Further, once the performance reports are prepared, management need only to consider the significant variances from the budget. This is what is being referred to as management by exception.

Difficulties

Responsibility accounting is a conceptually appealing tool for motivation and control. But many organizations in practice do not achieve these objectives. Two major difficulties in implementing a successful responsibility accounting system are: Accumulation of mass of dats, and Development of appropriate performance measures. However, cost accumulation at such a detailed level throughout an organization is made practicable by the use of computer-based cost accounting systems. Computer programs can quickly summarize costs for each descriptive category for purposes of product costing and producing a traditional income statement. Similar programs can summarize costs by responsibility centres and generate the associated performance reports. Thus, the problem of data accumulation, although a substantial one can now be overcome through the use of computer technology. As a result, the problem of developing appropriate performance measures has become the more difficult one to resolve.

For a budgetary system to serve as an effective means of control, cost and revenues goals must be adopted by each manager and accepted as individual objectives. This is most likely to occur when budgeted goals are reasonable and realistically attainable and yet challenging. The cost accountant is in a position to identify these performance measure and to isolate the costs incurred in each responsibility centre. These costs must then be categorized as controllable and uncontrollable before the reporting structure is developed. These decisions will have a sound impact on the effectiveness of the system. Generally, responsibility accounting systems are used in conjunction with standard costs. A major task then of the cost accountant is of the development and then interpretation.

8.5 USES OF RESPONSIBILITY ACCOUNTING

Responsibility accounting which focuses on managerial levels is an important aid in the management control process. It has several uses and confers many benefits. These are listed below:

i) Performance Evaluation : This is perhaps the biggest benefit. With responsibility localized, it is possible to rate individual managers on a cost basis. When a manager is held responsible for whatever he does, he become extra- vigilant. Responsibility accounting system provides the manager with information that helps controlling operations and evaluating the performance of subordinates.

ii) Delegating Authority : Large business firms can hardly survive without proper delegation of authority. By its very nature, responsibility accounting makes it happen. Decentralisation of power is its keypoint and, hence, delegation of authority follows.

iii) Motivation : Responsibility accounting is the use of accounting information for planning and control. When the managers know that they are being evaluated, they are prompted to put their heart and soul in meeting the targets set for them. It acts as a great stimulus. As a matter of fact, responsibility accounting is based on the motivating individual managers to maximum performance. The targets provide goals for achievement and serve to motivate managers to increase revenues or decrease costs.

iv) Corrective Action : If performance is unsatisfactory, the person responsible must be identified. It is only after identification of the erring subordinate that the corrective action can be taken. Under responsibility accounting, as areas of authority are clearly laid down, such corrective action becomes easier. The control action to be effective must occur immediately after identification of the causes of the problem. The longer control action is deferred, the greater the unfavourable financial effect.

v) Management by Objectives : The heads of divisions and departments are assigned definite objectives before the commencement of the period. They are held answerable for the attainment of these targets. Shortfalls are punished and excesses rewarded. Such a system helps in establishing the principle of management by objectives (MBO)

vi) Management by Exception : Performance reporting here, is on exceptions or deviations from the plan. The idea runs throughout the responsibility accounting. It helps managers by spending their time on major variances with greatest potential improvements. The concentration of managerial attention on exceptional or unusual items of deviation rather than on all is the key to success of the system.

vii) High Morale and Efficiency: Once it is clear that rewards are linked to the performance, it acts as a great morale booster. Great disappointment will be caused if an operating foreman is evaluated on the decisions in which he was not a party.

8.6 ESSENTIALS OF SUCCESS OF RESPONSIBILITY ACCOUNTING

Responsibility accounting by itself, does not give any benefits. Its success is dependent on certain conditions. These are:

1) Support of all levels of management through "Participative budgeting". Budgeted performance is basic to responsibility accounting. Most managers will be responsive to a budget which they have helped to develop. If the budget of the responsibility centre is produced by a process of negotiation between its manager and immediate supervisor, he will work to attain it. He will more actively pursue the goals and accept the resulting performance measures as equitable.

Effective motivations and control based on appropriate performance measures does not occur by accident. They must be carefully considered during the design of the system.

2) The system is based on individual manager's responsibility. It is the manager who incur costs and should be held accountable for each expenditure

3) Separation of costs into controllable and non-controllable categories.

4) Restructuring the organization along the decision-making lines of authority.

5) An organization plan which establishes objectives and goals to be achieved.

6) The delegation of authority and responsibility for cost incurrence through a system of policies and procedures.

7) Motivation of the individual by developing standards of performance together with incentives.

8) Timely reporting and analysis of difference between goals and performance by means of a system
of records and reports.

9) A system of appraisal or internal auditing to ensure that unfavourable variances are clearly shown.
Then, follow-up and corrective action need be applied.

In responsibility accounting revenues and expenses are accumulated and reported by levels of responsibility with a view to comparing the actual costs with the budgeted performance data by the responsible manager. The whole effort is towards satisfying the 'data requirements for responsive control'.

Check Your Progress A

1) What do you understand about Responsibility Accounting?

....

....

2) What are the stages that are involved in the process of Responsibility Accounting?

....

....

3) Specify any four essential conditions for the success of Responsibility Accounting.

....

....

4) State whether the following statements are 'True' or 'False':

i) Responsibility accounting emphasizes on personalization of costs. [ ]

ii) Responsibility accounting is based on historical costing only. [ ]

iii) The degree of responsibility of a cost centre, in a responsibility accounting, depends upon the level of delegation of authority. [ ]

iv) Responsibility accounting is not based on the assumption that budgets are flexible.[ ]

v) Setting up of responsibility centres is the first step in the process of responsibility accounting.[ ]

8.7 SEGMENT PERFORMANCE

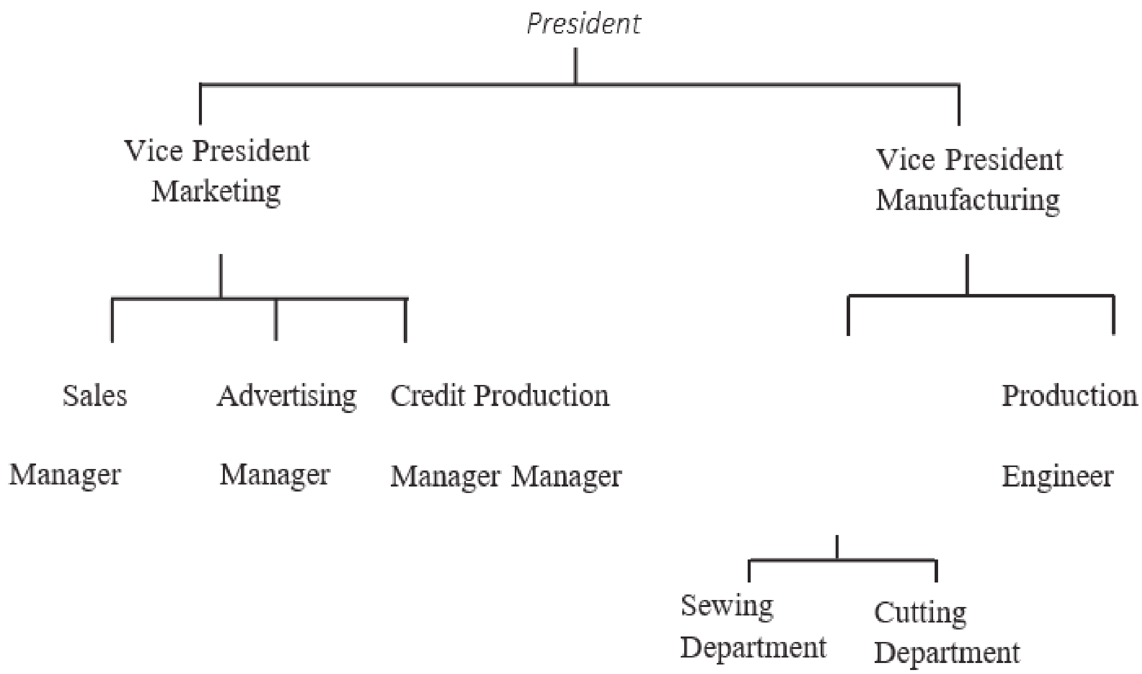
A segment or division may be either a profit centre having responsibility for both revenues and operating costs, or an investment centre, having responsibility for assets in addition to revenues and operating costs.

The manager of each segment are free to take decisions regarding the performance of their centres. When an orgainzation grows it is inevitable to create divisions or segments to control operations of different divisions. This requires accounting information which discloses not only the objectives and performances of divisions but also whether or not each division is performing in the interest of the organization as a whole. This section illustrates how segment data should be presented so that meaningful decisions regarding segment performance can be taken.

A manager's performance is evaluated generally on the basis of comparison of costs incurred with costs budgeted. It is therefore, important to allocate appropriate costs to the respective segments. While allocating the costs, the costs relating to general administration or head office should not be charged to any segment as these costs remain constant irrespective of the volume of sales by each department. Let us see the following illustration:

Illustration 1

A simplified representation of organization of Digital Co. Ltd. is presented below:



The company manufacturers cloth potholders in a simple process of cutting the potholders in various shapes and then sewing the contrasting pieces together to form the finished potholder.

The accounting system reports the following data for the year 2004-05:

	Budgeted	Actual
	Rs.	Rs.
Bad debt losses	500	300
Cloth used	3,100	3,400
Advertising	400	400
Credit reports	120	105
Sales representatives' travel exp.	900	1,020

Sales commissions	700	700
Cutting labour	600	660
Thread	50	45
Sewing labour	1,700	1,840
Cutting utilites	80	70
Credit department salaries	800	800
Sewing utilities	90	95
Vice-President, Marketing office exp.	2,000	2,140
Production engineering expense	1,300	1,220
Sales management office expenses	1,600	1,570
Production manager's office exp.	1,800	1,700
Vice-President, manufacturing office expenses	2,100	2,010

Using the data given, prepare responsibility accounting reports for the two vice-presidents.

Solution

Responsibility accounting tailors reports to each level of management to include those items which they can control and for which they are responsible. The items for which they are responsible are generally determined by the organization structure as reflected in the organization chart. Responsibility report highlights variances to assist in the process of management by exception. Reports for higher-level managers are in summary form in order to avoid flooding them with more detail than is needed

With these general ideas in mind, one can turn to the responsibility reports required by the problem. Each report is assumed to contain a one-line summary of the expenses of the subordinate departments. From the organization chart, the contents of the reports will, therefore, be as follows:

Vice-president, marketing : Sales expense + advertising expense + credit expense

Sales expense : Sales representatives' travel expense + sales commissions + sales management office

Advertising expense : Advertising

Credit expense: Credit reports + credit department salaries + bad debt losses

Vice-president, manufacturing : Production expense + production engineering

expense + production manager's office expenses

Production Manager : Sewing department + cutting department, i.e. thread + sewing labour + sewing utilities + cloth used + cutting labour + cutting utilities

Notice that these reports do not contain the expenses of the vice-president's offices. Although sometimes included, they are not here on the ground that the vice presidents cannot control their own salaries, the major component of these categories. If they are excluded on these reports, they would be included as an item on the president's report, where they are controllable.

Since the lower level reports are summarized in the higher-level reports, it is usually easier to begin with the lower-level reports.

i) Production Manager	Budgeted	Actual	Variance
Controllable expense report:	Rs.	Rs.	Rs.
Sewing department	1,840	1,980	140U
Cutting department	3,780	4,130	350U
Total	5,620	6,110	490U
ii) Vice-President, Manufacturing Controllable expense report: Production departments	5,620	6,110	490U

Production manager’s expenses	1,800	1,700	100F
Production engineer’s expenses	1,300	1,220	80F
Total	8,720	9,030	310U
iii) Vice-President, Marketing			
Controllable expenses summary:			
Sales manager’s expense	3,200	3,290	90U

Advertising expense 400 400 -

Credit expense 1,420 1,205 215F

Total 5,020 4,895 125F

Probably the most significant variances are in the production departments, with an average unfavourable variance of

8.7 percent (490 □ 100) of the budgeted amount and the credit department, with a 5620

favourable variance of 15.1 percent (215 □ 100) of the budgeted amount. The credit 1420

department variance results primarily from a better than normal bad debt loss experience. The production department’s variance should be investigated if 8.7 percent appears large relative to past experience.

Illustration 2

Kelly Services Ltd. has five plants---A,B,C,D and E. Each plant has a forming, cleaning and packing department. Each level of management at the company has responsibility over costs incurred at its level. The budget for the year ended March, 2005 has been set up as follows:

Plant	Budgeted Cost (Rs.)
A	1,35,000
B	1,22,500
C	1,08,400
D	1,35,000
E	1,35,000
Budgeted information for Plant C is as follows:	Rs.
Plant manager's office	2,350
Forming department	30,000
Cleaning department	55,450
Packing department	20,600

Budgeted information for Plant C forming department is as follows:

Rs. Direct material 8,333

Direct labour 15,000

Factory overhead 6,667

The following additional budgeted costs available:

Rs.

President's Office 16,250

Vice President---Marketing 20,000

Vice President---Manufacturing office 4,167

The following actual costs were incurred during the year:

Plant	Budgeted Cost Rs.
A	1,27,650
B	1,24,300
C	1,08,475
D	1,31,100
E	1,36,800

Actual costs for Plant C Forming department were as follows:

Direct materials	333	Under budget
Direct labour	4,000	Under budget
Factory overhead	333	Over budget

Actual cost for Plant C plant manager were:

	Rs.
Plant manager's office	2,475
Cleaning department	57,500
Packing department	22,500
Forming department	?

Actual costs for the president's level were:

	Rs.
President's Office	16,375
Vice president---marketing	29,800
Vice-president---manufacturing	6,33,315

Prepare a responsibility report for the year showing the details of the budgeted, actual and variance amounts for levels 1 through 4 for the following areas:

Level 1-Forming department---Plant C Level 2-Plant manager---Plant C Level 3-Vice president-manufacturing Level 4-President. Solution

Kelly Services

Responsibility Report for the Year ended March 2005

	Budgeted	Actual	Variance
Level 4-President:	Rs.	Rs.	Rs.
President's Office	16,250	16,375	125
Vice-president---marketing	20,000	29,800	9,800

Vice-president---manufacturing 6,40,000 6,33,315 (6,752)

Total Controllable costs 6,76,250 6,79,490 3,173

Standard Costing

Level 3-Vice President---Manufacturing			
Vice-president---manufacturing office:	4,167	4,990*	823
Plant A	1,35,000	1,27,650	(7,350)
Plant B	1,22,500	1,24,300	1,800
Plant C	1,08,400	1,08,475	75
Plant D	1,35,000	1,31,100	(3,900)
Plant E	1,35,000	1,36,800	1,800
Total Controllable Costs	6,40,067	6,33,315	(6752)
Level 2 - Plant Manager ---Plant C:			
Plant manager's office	2,350	2,475	125
Forming department	30,000	26,000	(4,000)
Cleaning department	55,450	57,500	2,050
Packing department	20,600	22,500	1,900
Total controllable costs	1,08,400	1,08,475	75
Level 1-Forming Department-Plant C:			
Direct material	8,333	8,000	(333)
Direct labour	15,000	11,000	(4,000)
Factory overhad	6,667	7,000	333
Total controllable costs	30,000	26,000	4,000

* The difference in the actual total controllable cost arrived and the figure as given in the illustration is to be treated as the actual cost of manufacturing office of vice president.

( ) Variance favourable (Figures within parentheses indicate favourable variances)

MEASURING SEGMENT PERFORMANCE: The primary purpose of a responsibility accounting is to determine the individual segment performance of an organization. The managers of different cost centres of the organisation are responsible to earn acceptable profit measured in terms of segment margin, or rate of return on sales for the profit centre. Segment margin represents the amount of income that has been earned by the particular segment.

The manager of an investment centre is responsible for earning a rate of return on the segment's investment in assets. There are various criteria to measure divisional performance such as profit on turnover, sales per employee and sales growth etc.

The most popular criteria are:

1) Return on Investment (ROI)

2) Residual Income (RI)

Return on Investment

Divisional operating profit is generally, used as a common measure of performance.

But divisional profit by itself does not provide a basis for measuring a divisions

performance in generating a return on the funds invested in the division. For example, Division A and Division B had an operating profit of Rs.1,00,000 and Rs.80,000 respectively does not necessarily mean that Division A was more successful than Division B. The difference in profit levels may be due to the difference in the size of the divisions. Therefore, a suitable measure may be used to scale the profit for the amount of capital invested in the division. One common method is Return on Investment (ROI) which will be calculated as follows:

$$\text{Return on Investment} = \frac{\text{Profit}}{\text{Capital employed}} \times 100$$

Or

$$\text{ROI} = \frac{\text{Profit}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Capital employed}}$$

If the investment in the Division A and Division B, in the above example was Rs. 10,00,000 and Rs.5,00,000 respectively, Rs.1,00,000

then ROI would be 10% (i.e. ——————— 100)

Rs. 10,00,000

If investment in respective divisions is considered,

Rs. 80,000

and 16% (i.e., —————— 100). Division B is more profitable than division A.
Rs.5,00,000

The ROI of partial segment must be high enough to provide adequate rate of return for the firm as a whole. It is always better to require a segment to earn a higher minimum rate of return on their investment. To improve this rate of return, a segment can increase its return on sales, increase its investment turnover or do both. The other way of increasing ROI is to reduce expanses and investment. If a segment reduces its investment without reducing sales, its ROI will increase. The ROI for the firm as a whole must not fail to meet the goals of top management. Though ROI is used widely to measure the segment performance, it has many limitations. One of the most limitations is that it can motivate managers to act contrary to the aims of goal congruence. If managers are encouraged to have a high ROI, they may turn down investment opportunities that are above the minimum acceptable rate, but below the current ROI of the divisional performance. For example, where a division earns a profit

100000

of Rs.1,00,000 for an investment of Rs.4,00,000, the ROI is 25% ————— 100 .

400000

Suppose there is an opportunity to make an additional investment of Rs.2,00,000 which would earn a profit of Rs.40,000 per annum. The ROI for additional investment is

Rs. 40,000

investment is 20% ———— . Assume that the company requires

— × 1 00

minimum requires a minimum return of 15 per cent on its investment, the additional investment clearly qualifies, but it would reduce the investment centre ROI from 25% to 23.3%

$$\text{i.e.}: \frac{\text{Rs. } 1,00,000 + \text{Rs. } 40,000}{\text{Rs. } 4,00,000 + \text{Rs. } 2,00,000} \times 100$$

Consequently, the manager of the division might decide not to make such an investment because the comparison of old and new returns would imply that performance had worsened. The centres manager might hesitate to make such investment, even though the investment would have positive benefit for the company as a whole. To overcome this drawback, Residual Income Method is used to evaluate the acceptability of a project proposal

Illustration 3

Peacock Company Ltd. has six segments for which the following information is available for the year 31st March, 2005:

You are required to measure the performance of different segments.

	I (Rs. in Lakhs)	II (Rs. in Lakhs)	III (Rs. in Lakhs)	IV (Rs. in Lakhs)	V (Rs. in Lakhs)	VI (Rs. in Lakhs)
Capital employed	1500	1200	3000	2400	4500	6000
Sales	3000	3000	6000	3600	18000	12000
Net profit	150	300	150	720	450	1200

Solution

The return on investment can be analysed as follows:

	Segments					
	I	II	III	IV	V	VI
Profit/ Sales (Profit ÷ Sales × 100)	5%	10%	2.5%	20%	2.5%	10%
Turnover of capital (Sales ÷ Capital Employed)	2	2.5	2	1.5	4	2
ROI (Profit ÷ Capital Employed × 100)	10%	25%	5%	30%	10%	20%

The above analysis gives the following conclusions regarding the performance of different segments:

The manager of segment I is not showing a satisfactory level of ROI even though his turnover of capital is not too bad. He must be motivated to increase his profit sales ratio.

Segment II is performing well as profit, sales ratio and turnover of capital, are relatively good.

The performance of segment III is not satisfactory as its profit margin and capital turnover is Poor.

The performance of segment IV is good as its profit margin is high with a reasonable capital turnover.

In respect of segment VI, the manager should be motivated to increase its profit margin but maintains a very good turnover of capital.

The manager of segment VI is performing well comparing to other segments, as it maintains a good ROI, fairly good capital turnover and reasonably good profit margin.

The segments which show a low capital turnover should be investigated and remedial action should be initiated particularly in segments IV, I and III.

Residual Income

Residual income is the profit remaining after deduction of the cost of capital on investment. It is the excess of net earnings over the cost of capital. Any income earned above the cost of capital is profit to the firm. The cost of capital charged to each division will be the same rate that is applicable to the organization as a whole. The more the income earned above the cost of capital, the better off the firm will be.

The Residual Income may be calculated as follows:

RI = Profit – (Capital Charge Investment Centre Asset)

Where, capital is the minimum acceptable rate of return on investment.

This method is used as a substitute for or along with ROI as means of evaluating managerial performance and motivates the managers to act to the aims of goal congruence. The firm is interested to maximise its income above the cost of capital. If the divisional managers are measured only through ROI, they will not necessarily maximise RI. If managers are encouraged to maximise RI, they will accept all projects above the minimum acceptable rate of return. That is why most managers recognise the weakness of ROI and take into account when ROI is lowered by a new investment.

Illustration 4

A division of a company earns a profit of Rs.1,00,000 for an investment of Rs.4,00,000. There is an opportunity to make an additional investment of Rs.2,00,000 which earns an annual income of Rs.40,000. You are required to calculate residual income if the company requires a minimum return of 15 per cent on its investment and comment.

Solution

Before the additional Investment:

Before the additional Investment:

RI = Rs.1,00,000 – (15% of Rs.4,00,000)

= Rs.1,00,000 – Rs.60,000

= Rs.40,000

RI from additional Investment

RI = Rs.40,000 – (15% of 2,00,000)

= Rs.40,000 – Rs.30,000

= Rs. 10,000

Total Residual Income on an investment of Rs.6,00,000 is Rs.50,000. The additional investment increases residual income and is improving the measure of performance.

Illustration 5

Sunrise Company has three divisions A, B and C. The investment in these divisions amounted to Rs.2,00,000, Rs.6,00,000 and Rs.4,00,000 respectively. The profits in these divisions were Rs.50,000, Rs.60,000 and Rs.80,000 respectively. The cost of capital is 10 per cent. From the above data, comment the performance of the three divisions.

Solution

	Divisions		
	A	B	C
Profit	Rs. 50,000	Rs. 60,000	Rs. 80,000
Investment	Rs. 2,00,000	Rs.6,00,000	Rs. 4,00,000
ROI $\left(\frac{\text{Profit}}{\text{Investment}} \times 100\right)$	25% $\left(\frac{50,000}{2,00,000} \times 100\right)$	10% $\left(\frac{60,000}{6,00,000} \times 100\right)$	20% $\left(\frac{80,000}{4,00,000} \times 100\right)$
RI = Profit – Cost of capital:	Rs. 30,000 (50,000–20,000)	NIL (60,000–10% of 6,00,000)	Rs.40,000 (80,000–10% of 4,00,000)

In terms of profit division C has done best performance. If evaluation is done on the basis of ROI criteria division A is the best performer. If residual income is the criterian, division C is the best.

Check Your Progress B

1) What do you mean by ROI.

....

....

2) Why do RI method is used to performance evolution?

....

....

3) ABC Company has assets worth Rs.2,40,000, operating profit of Rs. 60,000 and cost of capital 20%. Compute Return on Investment and Residual income

....

....

4) Under what conditions would the use of ROI measure inhibit goal congruent decision making by a division manager?

....

....

5) What are the advantages of using Residual Income Method?

....

....

6) State which of the following statements is 'True' or 'False'.

i) Administration and overhead costs should not be changed to any segment in evaluating segment performance (   )

ii) Segment margin represents the amount of income that has been earned by the organisation ( )

iii) It is always better to have a minimum rate of return on investment in the evaluation of segment performance.   ( )

iv) ROI and RI both the methods are to be used in performance evaluation. (   )

8.9 TRANSFER PRICING

Large businesses are organized into different divisions for effective management control. When the business is organized into divisions and if one division supplies its finished output as input to another division, there arise the question of transfer pricing. Transfer price is the price at which the supplying division prices its transfer of output to the user division. The price assigned to the interdivisional transfer of output represents a revenue of the selling division and a cost of the buying division. It should be noted that there is only an internal transfer and not a 'sale'. Transfer prices are set at the time of the transfer rather than waiting until the manufacturing process is completed and the goods are sold to someone outside the company. As the pricing of these goods or services is likely to have an impact on the performance evaluation of divisions, setting an appropriate transfer pricing is a problem. Questions like what should be the transfer price? Whether it should be equal to manufacturing cost of selling division or the amount at which the selling division could sell its output externally? Or should the transfer price be negotiated amount between the selling division's cost of manufacturing and the external market price? etc. would arise. Selection of transfer price to some extent depends upon the nature of the product, type of the product and policy of the organization. Transferer would like to obtain the highest possible price while the transferee would require the lowest possible price. Goal congruence should be taken into account while fixing the transfer price because the actions of one division should not have a detrimental effect on the group as a whole.

8.10 METHODS OF TRANSFER PRICING

There are different methods for pricing the output of one division to another. The selection of an appropriate transfer price will have significant impact on decision making, product costing and performance evaluation of different divisions in the organization.

Generally, transfer pricing methods can be classified into two broad categories. They are: (1) Market Price Based and (2) Cost- based. There are a number of alternative methods within each of the above two methods and these are discussed below.

8.10.1 Market Price Based

This method consists of the following methods:

a) Market Price

b) Adjusted Market Price, and

c) Negotiated Price

a) Market Price: When a market price is available or when there is a comparable product on the market and its price is available, this price can be used as a transfer price. Both the selling and buying divisions can sell and buy as much as they can at this market price. Managers of both the selling and buying divisions are indifferent trading with each other or with outsiders. From the company's perspective this is fine as long as the supplying unit is operating at capacity. The market price is useful for fixing transfer price when there is a competitive external market for the transferred product. An advantage of this method is that it can be regarded as the opportunity cost to a division in so far as there is choice whether or not to purchase from external market. Additionally, managers have control over their transfer price so performance measurement is facilitated. Another advantage of this method is that it helps to assure profit independence of the divisions. Any gain of the selling division do not get passed on to the buying division.

b) Adjusted Market Price: This price is based on the above market price, but it is adjusted to allow for the fact that such cost as sales commission and bad debts should not be incurred within the divisions.

c) Negotiated Price: This price can occur when there is some basis on which to negotiate between the divisional managers. The negotiated price, normally, may be a market price or a cost price. For example, one basis may be the contribution margin on the product being transferred divided between the transferor and the transferee or it may be the total cost which the transferer could suggest or the market price which the transferee could suggest. Both the divisions could negotiate between these two figures. Sometimes the negotiated price may be based on manufacturing cost plus an extra percentage added to approximate market price.

Whatever the basis chosen, the company should be careful in avoiding arbitrary price between the divisions. The arbitrary price may be rewarding to one division and prevailing to another division. Some times negotiated prices are imposed by company top level, but this could not hamper the autonomy of divisional managers and distorting the financial performance of any division.

8.10.2 Cost Price Based

Another method to be followed for charging transfer price for the transfer of output from one division to another division is Cost Price. When external markets do not exist or when the information about external market prices is not readily available, companies may elect to use some of cost based transfer pricing methods as stated below:

a) Absorption Cost

b) Cost Plus Profit Margin

c) Marginal Cost

d) Standard Cost

e) Opportunity Cost

Let us study about these methods in brief.

a) Absorption Cost: Absorption or full cost is based on the total cost incurred in manufacturing a product. When cost alone is used for transfer pricing, the selling division cannot realise any profit on the goods transferred. This method has a disadvantage that any excess cost on account of inefficiency may be passed on to the other divisions.

b) Cost Plus Profit Margin: Under absorption costing when cost alone is used for transfer pricing, the selling division cannot make any profit on the goods transferred. This is disincentive to selling division. To overcome this problem, some companies set transfer price on cost plus profit margin. This includes the cost of the item plus a mark up or other profit allowance. Under this method, the selling division obtains a profit contribution on the units transferred. It also benefits the transferring division if performance is measured on the basis of divisional operating profits. At the same time, it has also similar drawback of absorption costing that the inefficiencies if any, may also creep into the other divisions.

c) Marginal Cost: Another method to be followed for transfer pricing is the marginal cost. All costs that change in response to the change in the level of activity should be taken into account for the transfer price while transferring output from one division to another division. But this method fails to motivate divisional managers because it makes no contribution towards fixed overheads and profit.

d) Standard Cost: If actual costs are used as the basis for the transfer, any variances or inefficiencies in the selling division are passed along to the buying division. To promote responsibility in the selling division and to isolate variances within divisions, standard costs are usually used as a basis for transfer pricing in cost-based systems. Use of standard costs reduces risk to the buyer. The buyer knows that the standard costs will be transferred and avoids being charged with the seller's cost overruns.

e) Opportunity Cost: It represents the opportunity which has been foregone by following one course of action rather than another. Thus, if goods are transferred internally the organization could lose a contribution to profit which could have been obtained from an external sale. Generally, an opportunity cost approach will be used to establish a range of transfer prices in situations where the market is imperfect.

If the selling division has sufficient sales in the intermediate market such that it would have had to forgo those sales to transfer internally, the transfer price should be equal to differential cost to the selling division plus implicit opportunity cost to company if goods are transferred internally. The formulae is:

Transfer Price = Differential cost to the selling division + Implicit opportunity cost to company if goods are transferred internally.

Differential costs are those costs that change in response to alternative course of action. In estimating differential cost, the manager concerned unit has to determine which costs will be affected by an action and how much they will change. As long as the transfer price is greater than the opportunity cost of the selling division and less than the opportunity cost of the buying division, a transfer will be encouraged. A transfer is in the best interest of the company if the opportunity cost for the selling division is less than the opportunity cost for the buying division.

Transfer Prices are an important factor in the measurement of divisional performance. Whatever the method of transfer pricing is adopted it should be not only fair to each division concerned but it should also be in the best interest of the company as a whole. Use of bad transfer price may lead to conflict among the different divisions of the organisation and hamper the ultimate objective of the enterprise.

8.11 LET US SUM UP

Responsibility cost information is one of the three types of management and cost accounting information. The two others are full cost, and differential cost information. Responsibility accounting, also called “Responsibility reporting” is a system of responsibility reporting and control at each managerial level. It is built around functional activity for which specific managers are accountable. In designing a system, one has to look into its structure and the process. The four fundamental principles or techniques of responsibility accounting are:

(i) Restructuring the organization in terms of responsibility centres viz. cost revenue, profit or investment centres,

(ii) Bifurcating costs into controllable and uncontrollable categories,

(iii) Flexible budgeting, and

(iv) Performance reporting. The first technique gives the structure; and the other three the process of implementing responsibility accounting. Since the focus is on responsibility centres, it has several uses and gives many benefits. It is an important aid in the management control process. A responsibility accounting system provides information that helps control operations, and evaluate the performance of subordinates. It facilitates corrective action, management by objectives, and delegation of authority. It is a morale booster too as rewards are linked to the accomplishment. The success of the system depends, apart from other things, on active cooperation amongst the managers. Further, it is adopted by large decentralized organizations where departments and divisions could be treated as managerial levels of responsibility.

The primary purpose of responsibility accounting is to measure the performance of individual divisions. The most popular criteria to be used in measuring the divisional performance is Return on Investment and Residual Income.

Transfer price is the price at which the supplying division prices its transfer of output to the user division. The selection of an appropriate transfer price will have significant impact on decision making and performance evaluation of different divisions of the company. There are different methods at which transfer price can be set. These methods can be classified as Market Price based and Cost based. The market price based consists of (a) market price, (b) adjusted market price, and (c) negotiated price methods. Cost based method may again be sub-divided into (a) absorption cost

(b) Cost plus profit margin, (c) Marginal Cost, (d) Standard cost and (e) Opportunity cost methods. Whatever the method of transfer price followed, the divisional managers should not forget goal congruence of the organisation because the action of one division should not have a detrimental effect on the group as a whole.

8.12 KEY WORDS

Cost Centre: A responsibility level where employees are concerned only with cost management.

Controllable Cost: A cost for which the departmental supervisor is able to exert influence over the amount spent.

Flexible Budget: A budget prepared using the actual sales volume realized by a segment. It is used for computing the effects of differences between actual sales prices and costs, and budgeted sales prices and costs on the profit goals of the segment.

Investment Centre: A responsibility level whose manager is concerned not only with cost management but also with revenue generation and investment decisions.

Management by Exception: A management principle by which managers concentrate their attention on exceptional or unusual items in the performance reports.

Non-controllable Cost: A cost assigned to a department or responsibility centre that is not incurred or controlled by the department head.

Negotiated Price: Either the market price or cost price which is negotiated between divisional managers.

Performance Report: A report produced by each decision centre which discloses budgeted and performance measures, and variances from the budget.

Profit Center: A responsibility level in which performance is measured in terms of budgeted profits and has responsibility for both income and expenses.

Responsibility Centre (RC): A unit or segment of the organization in which a specific manager has the authority and responsibility to make decisions.

Transfer Price: The price at which the supplying division prices its transfer of output to the user division.

8.13 ANSWERS TO CHECK YOU PROGRESS

A) 4) i) True ii) False iii) True iv) False v) True

B) 3) ROI : 25% and RI : Rs. 1200

6) i) True, ii) True, iii) False, iv) True

8.14 TERMINAL QUESTIONS

1) "Responsibility accounting is a responsibility set-up of management accounting". Comment.

2) Define Responsibility Accounting. How does it differ from conventional cost accounting?

3) Is it fair to opine that responsibility accounting is a method of budgeting and performance reporting created around the structure?

4) While designing a responsibility accounting system for a decentralized corporation, discuss the steps in terms of the structure and the process.

5) Explain 'how the choice' of the responsibility center type (cost revenue, profit or investment) affects budgeting and performance reporting.

7) Explain clearly the terms cost centre, revenue centre, profit centre, and investment centre, and their utility to management.

8) a) Why should non-controllable costs be excluded from performance reports prepared in accordance with responsibility accounting?

b) Why is a flexible budget rather than a stable budget used to evaluate production departments?

9) How may controllable and uncontrollable costs be handled in a responsibility accounting sytem?

10) Give the pre-requisites for the success of a responsibility accounting system.

11) The following

The following information related to the operating performance of three divisions of a company for the year 2005.

	Div	ision	
	A	B	C
Contribution (Rs.)	50,000	50,000	50,000
Investment (Rs.)	4,00,000	5,00,000	6,00,000
Sales (Rs.)	24,00,000	20,00,000	16,00,000
No. of employees	22,500	12,000	10,500

You are required to evaluate the performance using rate of Return on Investment (ROI) and Residual Income (RI) criteria.

12) The operating performance of the three divisions of Excel Company Ltd. for 2005 is as follows:

		Division	
	A (Rs.)	**B (Rs.)**	**C (Rs.)**
Sales	3,80,000	17,00,000	20,00,000
Operating Profit	20,000	50,000	1,00,000
Investment	2,00,000	6,25,000	8,00,000

Using the rate of return on investment and residual income as the criteria which is the most profitable division?

Which of the two measures in your opinion gives the better indication of over all performance.

13) The managers of Divisions X and Y in Beta Company Ltd. are considering the possibility of investment in a project. The estimated cost of the proposed project

to be Rs. 2,00,000. The prese per cent respectively. The Co the projects. The details of the ROI of X and Y divisions are 10 per cent and 25 company uses a cost of capitale project are as follows: 15% in evaluating

Division

	X (Rs.	'000)	Y (Rs. '0	00)
Investment	Rs.400		Rs.400	
Life in years	10		10	
Estimated costs and revenues:				
Revenue		420		440
Costs:				
Direct materials	200		160	
Direct wages	40		80	
Power	20		20	
Consumable stores	12		12	
Maintenance	20		8	
Depreciation	80		80	

Total Cost	372	360
Surplus	48	40

Note : These questions will help you to understand the unit better. Try to write Answers for them, but do not submit your answers to the University.

You ae required to evaluate the proposal son the basis of ROI and RI and also comment are for your practice only.

8.15 FURTHER READINGS

J. Lewis Brown, Leslie R. Howard, Managerial Accounting and Finance,

Machonald & Evans Ltd., London.

Davidson, Maher, Stickney, Weil, Managerial Accounting, Holt-Sounders Inter- national Editions, New York.

Nigam and Sharma, Advanced Cost Accounting, Himalaya Publishing House, Bombay.

Arora, M.N., Cost Accounting, Vikas Publishing House Pvt. Ltd., New Delhi.

UNIT-9 MARGINAL COSTING

STRUCTURE

9.0 OBJECTIVES

After studying the Unit, students will be able to

- Understand the techniques of Absorption Costing and Marginal Costing
- Explain the basic features and in that process bring out explicitly the differences between the two techniques
- Develop an appreciation that Marginal Costing has an edge over Absorption Costing as far as managerial decision making is concerned volume, price, variable cost, fixed costs on profits;
- Apply cost-volume profit relationship for profit planning;
- Examine the assumptions and limitations of Marginal Costing

9.1 INTRODUCTION TO MARGINAL COSTING

The analysis of cost behaviour is necessary for planning, control and decision making. Analysis of cost behaviour means analysis of variability of each cost element in relation to the level of output. Every cost follows some definite behaviour pattern. For example, total variable costs varies in direct proportion to the volume of output but per unit variable cost remains same. Examples of such costs are direct material, direct labour, packaging expenses, selling commission etc. These costs are called product costs and are controllable, as they incur only when production takes place. Whereas fixed costs remain same irrespective to the level of output but per unit fixed cost goes on decreasing with the increasing level of output as fixed cost scattered over a large number of units. Examples of such expenses are rent, rates and insurance, executives' salary, audit fees etc. These costs are also called period costs and are uncontrollable.

The mixed costs or semi-variable costs have both the elements variable and fixed.

These costs also change in the same direction in which volume of output changes but this change is less than proportionate change in output. Examples of such costs are power, telephone, depreciation, etc. Thus, the concept of break-even analysis is a logical extension of marginal costing. It is based on the same principle of classifying the costs into fixed and variable.

Semi-variable costs are segregated in fixed and variable components as discussed in the earlier chapter. Fixed component is added in fixed costs and variable component with variable cost. Thus, the costs are classified into two water tight compartments i.e. fixed and variable.

The cost behaviour plays a significant role in decision making. The relationships in volume, cost and profit shows that if volume increase by 10 per cent (say), then cost will not increase by 10 per cent. Because only variable cost will increase and fixed costs remain same and unit fixed cost declines. Consequently, profit will not increase by 10 per cent but more than that and vice versa. The level of production changes due to many reasons, such as recession or boom, competition, introduction of new product, increase in demand, scarce raw material etc. The management wants to know the effect of these changes on profit. The break-even analysis helps the management in decision making in these situations.

The study of cost-volume-profit relationship is some time called as “break even analysis.” In the opinion of some, it is a misnomer as break even analysis depicts a point where costs and total sales revenue is same. Beyond this point, it is called costvolume-profit relationship. Some hold the view, that break even analysis can be interpreted in two senses – narrow and broad sense. In narrow sense, it refers to determine the level of output where total costs equal to total revenue i.e. no profit, no loss. In the broad sense, it is used to determine the probable profit at any level of

output.

Definition of Cost: - “Cost is the amount of expenditure incurred on or attributable to a given thing.” Or “Cost is the amount measured in money of cash expended or other property transferred capital stock issued, service performed or a liability incurred in consideration of goods or services received or to be received.”

Definition of Marginal Cost: - In economics, marginal cost refers to the increase in total cost brought by each unit of newly produced product (or purchased product). This concept states that the product cost per unit is related to the total product volume. For example, the cost of producing just one car is enormous, while the cost of producing the 101st car is much lower, and the cost of producing the $10{,}000^{th}$ car is even lower (due to economies of scale). However, given the opportunity cost, as the production volume increases, the marginal cost may increase.

9.2 CLASSIFICATION OF COST

A classification by nature or element

B Functional Classification

C Classification on the basis of behaviour

D Classification for managerial decisions and control.

B: FUNCTIONAL CLASSIFICATION

(a) Prime Cost = Direct Material + Direct Labour + Direct Expenses

(b) Factory / Works Cost = PC + Works / Factory expenses

(c) Office cost / Cost pf production = FC + Adm. expenses

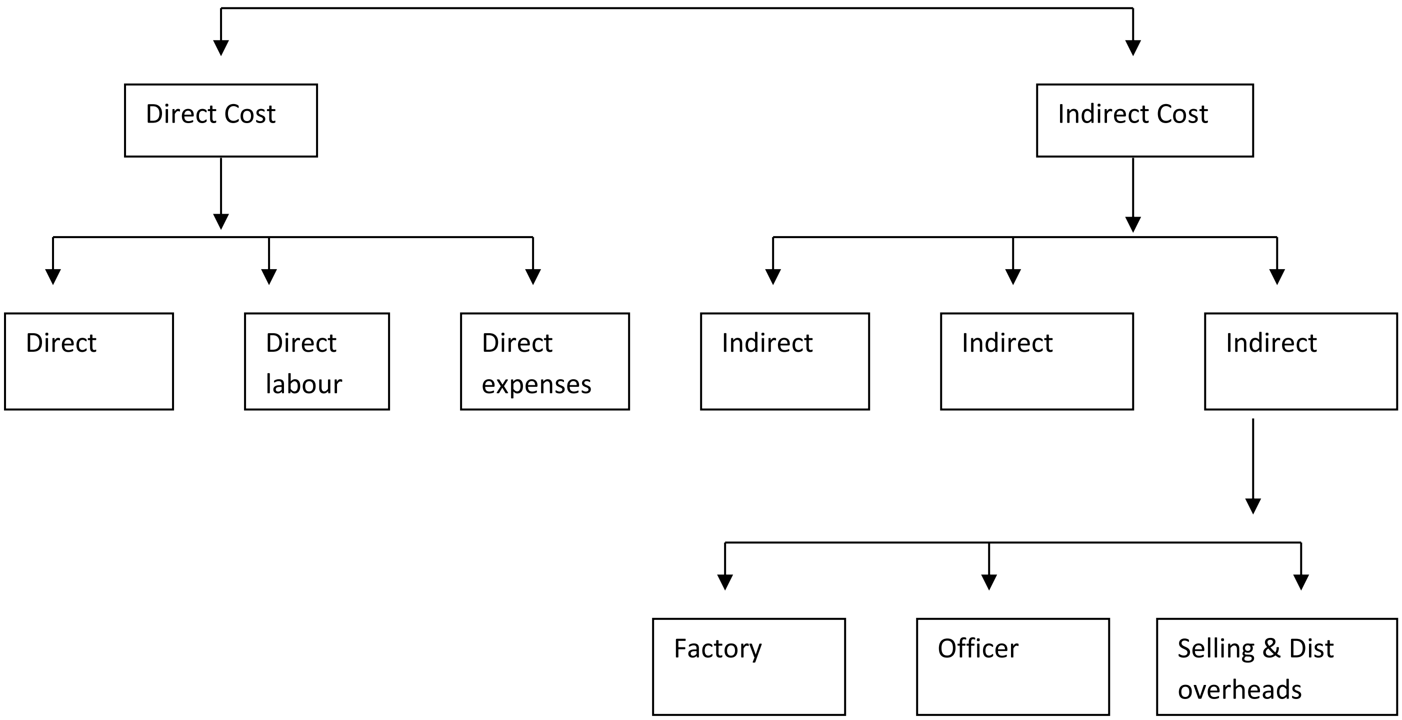
(d) Total cost / cost of sales = office cost + selling & Dist expenses

C: Classification on the basis of Behaviour

- Variable cost
- Fixed cost
- Semi-variable cost

A classification by nature or element

Classification By Nature or Element



D: Classification of Cost for Managerial Decisions and Control:

- Controllable and Uncontrollable costs.
- Normal and abnormal costs.
- Avoidable and unavoidable cost
- Shut down and sunk cost
- Product costs and period costs.
- Differential, incremental and decremental cost.
- Out of pocket cost.
- Marginal cost
- Opportunity costs.
- Conversion Costs

- Budget cost and standard costs
- Imputed /Hypothetical costs.

9.3 MARGINAL COSTING

Marginal Costing: - "The ascertainment of marginal costs and of the effect on profit of changes in volume or type of output by differentiating between fixed costs and variable costs."

"In this technique of costing only variable costs are charged to operations, processes or products costs are charged to operations, process or products leaving all indirect costs to be written off against profit in the period in which they arise.

Characteristics of Marginal Costing

1. It is a technique of analysis and presentation of costs which helps management in Managerial decisions.
2. All elements of cost are classified into fixed and variable components.
3. The variable costs are regarded as the cost charged to profit and loss account for the period for which they are incurred.
4. Fixed costs are treated as period costs and are changed to profit and loss account for the period for which they are incurred.
5. The stock of finished goods & work in process are valued at marginal costs.
6. Prices are determined on the basis of marginal cost.

Assumptions of Marginal Costing

- Cost ➔ VC & FC
- Variable cost per unit constant
- Selling price per unit constant
- Fixed cost remains unchanged
- Volume of production influences the cost.

9.4 ABSORPTION COSTING

Absorption Costing technique is also termed as Traditional or Full Cost Method. According to this method, the cost of a product is determined after considering both fixed and variable costs. The variable costs, such as those of direct materials, direct labour, etc. are directly charged to the products, while the fixed costs are apportioned on a suitable basis over different products manufactured during a period. Thus, in case of Absorption Costing all costs are identified with the manufactured products.

This system of costing has a number of disadvantages:

- It assumes prices are simply a function of costs.
- It does not take account of demand.
- It includes past costs which may not be relevant to the pricing decision at hand.
- It does not provide information which aids decision-making in a rapidly changing market environment

Thus, the technique of Absorption Costing may lead to rather odd results particularly for seasonal businesses in which the stock levels fluctuate widely from one period to another. Their profits for the two periods will be influenced by the transfer of overheads in and out of stock, showing falling profits when the sales are high and increasing profits when the sales are low.

The technique of Absorption Costing may also lead to the rejection of profitable business. The total unit cost will tend to be regarded as the lowest possible selling price. An order at a price which is less than the total unit cost may be refused, though this order may actually be profitable,

The technique of Marginal Costing is a definite improvement over the technique of Absorption Costing. According to this technique, only the variable costs are considered in calculating the cost of the product.

9.5 DIFFERENCE BETWEEN MARGINAL & ABSORPTION COSTING

ABSORPTION COSTING	MARGINAL COSTING
● total cost technique. This is the practice of charging all costs,	● Only variable cost is charged. Variable costs are treated as product

both variable & fixed to operations, processes or products.	costs. Fixed cost is treated as period cost.
● The stock of finished goods and work in process is valued at total cost which includes both fixed and variable cost. It leads to higher valuation of stock as compared to marginal costing.	● Closing inventory is value at variable cost only.
● Arbitrary appointment of fixed costs results in over or under absorption of costs.	No under or over absorption of costs.
● Managerial decision making is based upon 'profit' which is excess of sales over total cost.	● The managerial decisions are guided by 'contribution', which is excess of sales value over variable cost.

The difference between Absorption Costing and Marginal Costing is based on the recovery of fixed overheads. The difference in valuation of inventory under the two techniques is a consequence of such treatment. However, for the sake of clarity, we are analysing the difference from both angles, viz. recovery of overheads and valuation of stock.

Recovery of overheads

In case of Absorption Costing, both fixed and variable overheads are charged to production. On the other hand, in Marginal Costing only variable overheads are charged to production while fixed overheads are transferred in full to the profit and loss account. Thus, in case of marginal Costing, there is under- recovery of overheads since only variable overheads are charged to production.

Valuation of Stocks

In Absorption Costing stocks of work -in-progress and finished goods are valued at works cost and total cost of production respectively. The works cost or cost of production is so defined as to include the amount of fixed overheads also. In marginal Costing, only variable costs are considered while computing the value of work-in progress or finished goods. Thus, the closing stock in Marginal Costing is undervalued as compared to Absorption Costing. But this does not result in carrying over of fixed overheads of one period to another, as it happens in Absorption Costing.

9.6 MARGINAL COSTING

Following are the major methods or techniques of Costing:

9.7 METHODS & TECHNIQUES OF COSTING:

Job Costing	Process Costing	Composite or Multiple costing
● Batch costing	● Single output or unit costing	● Marginal costing
● Contract costing	● Operating costing	● Absorption Costing
● Departmental Costing	● Operation costing	● Direct costing
		● Uniform costing
		● Standard costing
		● Cost plus costing
		● Historical costing

In theory, marginal cost represents the increase in total cost (including constant and variable costs) when output increases by 1 unit.

As the output (Output) increases, the marginal cost will first decrease and then increase.

When the output is small, it can be understood that the equipment of the enterprise is not fully utilized, so the output is very small. As the enterprise employs more employees for production, the utilization rate of the production equipment also begins to increase. The contribution of output is 10, then the contribution of the second worker added may be 15 or more, and the third will be 30. This corresponds to the first step of the production function curve, that is, the marginal product (Marginal Product) increases with the increase of the input (Input) at an increasing proportion (Increasing Rate) (that is, the growth rate is not constant but increasing. , it can be seen from the slope of the production function that the greater the slope, the greater the growth rate), at this stage, the rate of increase in output exceeds the rate of increase in cost, so that marginal cost decreases with the increase in output; as the number of employees increases to a certain At this time, each additional employee will still increase the utilization rate of production equipment, but this increase in utilization rate will gradually slow down (we call it slack in life), which corresponds to production.

The second step of the function, that is, the slope of the production function gradually decreases from the maximum value at the first step to 0. When the employee increases to a certain level, when another employee is added, the employee's contribution to the output will be 0 , that is, the marginal product is 0. At this stage, the rate of increase in output gradually decreases from the maximum value to zero, while the rate of increase in cost (cost per employee, plus cost per unit of product) is greater than the increase in output rate, thereby increasing marginal cost. That is, from the marginal cost curve (Marginal Cost Curve), it can be seen that it is a curve that slopes upward to the right, indicating that the marginal cost increases as the output increases.

The fundamental reason for increasing marginal cost is the principle of diminishing marginal product (Diminishing Marginal Product). Marginal cost is the change in the total cost of increasing or decreasing one unit of output at a given level of output. Usually only variable costs are calculated. Marginal cost is used to judge whether increasing or decreasing output is economically justified. It is a term commonly used in management accounting and business decision-making. For example, when 100 units of a certain product are produced, the total cost is 5,000 rupee, and the unit product cost is 50 rupee. If 101 units are produced, the total cost is 5,040 rupee, then the cost of an additional product is 40 rupee, that is, the marginal cost is 40 rupee. When the actual output does not reach a certain limit, the marginal cost decreases with the expansion of the output; when the output exceeds a certain limit, the marginal cost increases with the expansion of the output. Because, when the output exceeds a certain limit, the total fixed cost will increase. It can be seen that the important factor affecting the marginal cost is the periodic increase of the total fixed cost caused by the continuous expansion of the output beyond a certain limit (production capacity).

When the increased income (selling price per unit of output) of increasing a unit of output is higher than the marginal cost, it is cost-effective; otherwise, it is uneconomical. Therefore, any increase in the income of one unit of output cannot be lower than the marginal cost, otherwise there will inevitably be losses; as long as the income of an increase of one output can be higher than the marginal cost, even if it is lower than the total average unit cost, it will increase profits or reduce losses. For example, the cost of producing just one car is enormous, while the cost of producing the 101st car is much lower, and the cost of producing the 10,000th car is even lower (due to economies of scale). However, given the opportunity cost, as the production volume increases, the marginal cost may increase. Therefore, calculating marginal cost plays an important role in making product decisions. Microeconomic theory holds that when output increases to the point where marginal cost equals marginal revenue, it is the output that obtains its maximum profit for the firm.

9.8 FORMULA INTRODUCTION

Marginal cost: The opportunity cost that arises from a one-unit increase in an activity. The marginal cost of something is what you must give up to get one additional unit of it.

Marginal cost: The increase in cost resulting from an increase in one unit of output is called marginal cost. By definition, marginal cost is equal to the change in total cost (TC) ($\triangle TC$) divided by the corresponding change in output ($\triangle Q$): Changes in Total Cost / Changes in Production in Output) namely:

$MC(Q)=\triangle TC(Q)/\triangle Q$ or $MC(Q)=\lim=\triangle TC(Q)/\triangle Q=dTC/dQ$ (where $\triangle Q \to 0$).

The role of marginal cost is to study the law of cost change, and to calculate the marginal profit in conjunction with the marginal revenue.

When marginal revenue - marginal cost = marginal profit > 0, the plan is feasible.

When marginal revenue - marginal cost = marginal profit < 0, the plan is not feasible.

But the theory does not deal with marginal income and marginal profit, which is its insufficiency.

The law of change in marginal cost:

The law of change of marginal cost is similar to that of average cost, and it first decreases with the increase of output, and starts to increase after reaching a certain scale. It's just that the output when it reaches the minimum is smaller than the average total cost and the average variable cost. When the average total cost and the average variable cost reach the lowest point, the marginal cost is equal to the average cost.

9.9 CALCULATION METHOD

Illustration

In 2002, an enterprise capital was 1.2 million rupees, and the weighted cost was 10%. In 2003, the enterprise plans to raise 800,000 rupees of new funds, and the weighted cost of 800,000 rupees is 12%.

Solution

Total capital after fundraising = 1.2 million + 800,000 = 2 million rupees

Weighted cost after fundraising=10%×120/200+12%×80/200=10.8%

Weighted cost increase before and after fundraising = 10.8%-10% = 0.8%

0.8% is the real marginal cost. In the textbook, the weighted cost of new financing is 12% as the marginal cost.

Marginal cost is not the same as average cost per unit, average cost per unit takes into account all products, while marginal cost ignores the last product before the last one. For example, the average cost per car includes a large fixed cost of producing the first car (distributed among each car). And marginal cost doesn't take fixed cost into account at all. Marginal costing is a method of management accounting. It is used to calculate the production cost of products or services of an enterprise in a certain period of time, price finished products, products in process, and inventories, and measure the profits obtained by the enterprise.

Under the marginal costing method, all costs of a business are divided into fixed costs and variable costs. According to the definition of the Chartered Management Accountants Association of the United Kingdom; the marginal cost method is an accounting system, under this system, the cost unit only includes variable costs, and all fixed costs in a certain period are written off from the marginal contribution gross profit. The rationale for treating fixed and variable costs this way is that variable costs change every time a product is produced, whereas fixed costs are paid regardless of the output. Therefore, the contribution gross profit is first used to make up for fixed costs. If the compensation is over, it is a profit, and if the compensation is insufficient, it is a loss.

9.10 GUIDING PRINCIPLE

The use of marginal cost method to obtain information has an important guiding role for enterprise managers to conduct relevant analysis and decision-making.

It overcomes the shortcomings of the full cost method, avoids manipulation of short-term profits, and is beneficial to short-term production decisions.

Under the full cost method, the method of calculating output and labor costs is to include a reasonable part of the production overhead (ie indirect cost) on the direct cost of producing products and services to obtain the unit full cost and total cost, and non-production overhead costs are not Included in full cost, treated as a period charge. The full cost method relies on the estimation of output, and the profit of a company in a certain period depends to some extent on the level of production rather than the level of sales. If the output is greater than the sales volume, part of the fixed cost will be deferred to the next accounting period to offset the profit, and the nature of the fixed cost will be distorted. Pricing decision for special-order, special-order decision mainly refers to the decision whether to accept the order in the case of excess production capacity of the enterprise.

Due to the development of production technology, the production efficiency of most enterprises has been greatly improved, so enterprises often fail to use their production capacity. At this time, as the manager of the enterprise, how to make decisions on special orders is particularly important. Taking the machine repair shop as an example, I believe this point can be better explained, because the machine repair shop often has insufficient living resources and excess production capacity. Suppose, the maximum capacity of a machine repair shop to produce a certain spare part is 12,000 pieces/year, and a processing contract for 10,000 pieces has been signed. The changed part (direct materials, labor, etc.) is 800 rupees, and the remaining production capacity cannot be transferred. An existing customer is planning to place an additional order of 1,000 pieces at a price of 900 rupees per piece. There are no special requirements for additional orders, and there is no need to invest in exclusive equipment. Can this order be accepted? According to the customary decision-making philosophy, this order cannot be accepted. Because the unit production cost calculated according to the full cost method is 1,000 rupees, and the customer is only willing to pay 900 rupees per piece, with a loss of 100 rupees per piece. Although enterprises have surplus production capacity, they cannot afford to lose money. However, when the marginal cost method is introduced, its conclusion is different.

9.11 COST-VOLUME-PROFIT ANALYSIS

Cost-volume-profit analysis is to analyze the relationship between total cost, revenue (the final profit of the enterprise) and the production and sales volume of the enterprise. It is also based on the marginal cost method, which is mainly used for breakeven analysis and target forecasting in the practical application of enterprises.

Breakeven Analysis

Breakeven analysis also falls under the category of cost-volume-profit analysis, which discusses the relationship between costs, revenue, and sales within a relatively narrow range. Breakdown is zero profit, and breakeven is the level of sales at which total revenue and costs are equal. The term 'Break-even Analysis refers to a system of determination of that level of activity where total cost equals total selling price. However, in the broader sense, it refers to that system of analysis which determines the probable profit at any level of activity. The relationship between cost of production, volume of production, profit and sales value is established by break-even analysis. The analysis is also known as `Cost-Volume-Profit analysis.

Break-even analysis is useful for a manager in the following ways:

• It helps him in forecasting the profit fairly accurately.

• It is helpful in setting up flexible budgets, since on the basis of Cost-Volume

Profit relationship, one can ascertain the costs, sales and profits at different levels of activity.

• It assists in performance evaluation for purposes of management control.

• It helps in formulating price policy by projecting the effect which different price structures will have on costs and profits.

• It helps in determining the amount of overhead cost to be charged at various levels of operations, since overhead rates are generally pre-determined on the basis of a selected volume of production.

Thus, cost-volume-profit analysis is an important medium through which one can have an insight into effects on profit due to variations in costs (both fixed and variable and sales (both volume and value). This enables us to take appropriate decisions. This aspect will be discussed in detail in the next unit of this course. However, it will be expedient for us to understand at this stage the meaning of and the technique of determining the break-even point.

Break-even Point

It refers to that level of activity where the income of the business exactly equals its expenditure. In other words, it is a `no profit, no loss' point. If production is increased beyond this level, profit shall accrue to the business and if it is decreased below this level, loss shall be suffered.

At the break-even point the profit is zero. In case the volume of output of sales is to be computed for `a desired profit'. The amount of `desired profit' should be added to fixed costs

Target Prediction

All cost-volume-profit analysis is based on the following formula:

Profit = sales revenue - total variable costs - total fixed costs

This formula is the mathematical expression for profit calculation under the marginal costing method. The use of each element in the formula will help enterprise managers make predictions and decisions.

It can be seen that the annual sales volume of this new product must reach 16,667 pieces in order to achieve the goal of annual profit of 800,000 rupees. This provides more reliable information for enterprise managers to rationally arrange production and organize marketing, so that managers can make decisions clearly and have a definite aim, avoiding blindness and decision-making mistakes.

Contribution

It has already been stated earlier in the unit that the difference between selling price and variable cost (i.e. the marginal cost) is known as `Contribution' or `Gross Margin' In other words, contribution is the sum of fixed costs and the amount of profit. It can be expressed by the following formula.

Contribution = Selling Price-Variable Cost

or = Fixed Cost + Profit

From the above, we can conclude that profit cannot result unless contribution exceeds fixed costs. In other words, the point of no profit no loss' will be at a level where contribution is equal to fixed costs. Let us take an example.

Variable cost Rs. 5,000

Fixed cost Rs 2,000

Selling Price Rs. 8,000

Contribution = Selling Price – Variable cost

= Rs. 8,000 – Rs. 5,000

= Rs. 3,000

Profit = Contribution – Fixed cost

= Rs. 3,000 – Rs. 2,000

Rs. 1,000

As contribution exceeds fixed cost there is a profit of Rs. 1,000. If fixed cost is

assumed at Rs. 4,000, the position will change as under:

Contribution – Fixed Cost = Profit (Loss)

Rs. 3,000 – Rs. 4,000 = (Rs. 1,000)

The sum of Rs. 1,000 represents the extent of loss since the fixed costs are more than contribution. At the level of fixed cost of Rs. 3,000, there shall be no profit and no loss. The concept of Break-even Analysis emerges out of this basic fact.

9.12 PRACTICAL APPLICATIONS

The use of marginal cost method to obtain information plays an important guiding role in relevant analysis and decision-making for enterprise managers, such as:

An enterprise produces a component product, and its production cost is: direct material 10 rupees/piece, direct labor 5 rupees/piece, variable manufacturing cost (energy) 7 rupees/piece, fixed manufacturing cost (depreciation) 4000 rupees. The non-productive costs are: management costs (insurance) 400 rupees, sales costs: variable costs 3 rupees / piece (buy one get one free), fixed costs (advertising costs) 600 rupees. The inventory at the beginning of the period is 0. This month, 1,000 pieces are produced, 600 pieces are sold, and the price is 40 rupees/piece.

1. The profit calculated using the full cost method is as follows:

Unit production cost: 10+5+7+4000÷1000(pieces)=26 rupees

Sales revenue: 600 pieces × 40 = 24,000 rupees

Less: Cost of sales: 600 pieces × 26 = 15,600 rupees

Gross profit: 8400 rupees

Less: Period cost: 600 pieces × 3+400+600=2800 rupees

Net profit: 5600 rupees

Under the full cost method, there is a fixed cost (depreciation) of 1600 rupees in 400 pieces of inventory (4000÷1000 pieces × 400 pieces)

As inventory, assets and current profits are inflated. At the same time, it can also be seen that under the full cost method, it is difficult for an enterprise to make a correct decision on whether to increase or decrease production, because the absorption cost of products or services includes fixed cost elements, which have nothing to do with the output of the enterprise.

2. The profit calculated by the marginal cost method is as follows:

Unit production cost: 10+5+7=22 rupees

Sales revenue: 600 pieces × 40 = 24,000 rupees

Less: Cost of sales (all changes): 600 pieces × (22+3) = 15,000 rupees

Contribution gross profit: 9000 rupees

Minus: All fixed: 4000+400+600=5000 rupees

Net profit: 4000 rupees

It can be seen that under the marginal cost method, profit is directly related to sales volume, but not to output. The difference between the profit calculated by the two methods is exactly the amount of fixed expenses included in the ending inventory product under the full cost method. Therefore, the marginal cost method can more accurately reflect the actual profit of the enterprise.

At the same time, it can also be seen that since fixed cost has nothing to do with the increase or decrease of output, it is not necessary to consider the fixed cost factor in the decision of increasing or decreasing output in the short term. Therefore, the marginal cost method is very useful for enterprise managers to make short-term output decisions.

9.13 TEST YOUR UNDERSTANDING

A factory manufacturing fans has the capacity to produce 250 fans per annum. The marginal (variable) cost of a fan is Rs. 400 which is sold for Rs. 500. Fixed overheads are Rs. 12,000 per annum. Let us calculate the break-even points for output and sales and show what profit will result if output is 90% of capacity? Contribution per fan is Rs. 500 - Rs. 400 Rs. 100.

…………………………………………………………………………………………………..

…………………………………………………………………………………………………..

…………………………………………………………………………………………………..

9.14 ACTIVITY

Consider any profit-oriented organisation. Talk to a well-informed functionary of Accounting and Finance Department of such an organisation regarding its break-even point. At what percentage of the capacity the organisation is having its break-even point presently? Analyse in terms of the break-even point it had 3-5 years ago. Has break-even point moved downward or upward? Why?

…………………………………………………………………………………………………..

…………………………………………………………………………………………………..

…………………………………………………………………………………………………..

9.15 SELF ASSESSMENT TEST

1). 'Cost-volume profit analysis and break-even point analysis are same' Comment?

2) What are different methods of computing breakeven point?

3) "The breakeven chart is an excellent planning device" Comment.

4) Explain the significance of Profit-Volume ratio, Margin of Safety and Angle of Incidence?

5) What is Contribution? How does it help the management in taking managerial decisions?

6) Describe three ways to lower down the breakeven point?

7) What are various ways to improve the margin of safety and P/V ratio?

8) ‘A 10 per cent increase in production and sales leads to more than 10 percent increase in profit’ Explain.

9.16 LIMITATIONS OF MARGINAL COSTING

Marginal Costing technique has some limitations as explained below:

Difficulty in classification of costs between fixed and variable elements: It is a tough job to analyse costs under `fixed' and `variable' elements. The nature of costs in several cases may not be very clear. Moreover, some items of costs may be partly fixed and partly variable. Splitting of such costs into fixed and variable components may have to be based on assumptions. Besides, some overheads may have no relation either with the volume of output or with the time factor. As such, they cannot logically be categorised either as fixed or variable. The decisions of the management regarding bonus to workers, facilities to administrative staff, etc. are some such examples.

Difficult application: Marginal Costing technique is difficult to apply in many firms. Its scope is highly circumscribed where job costing is the need.

Notwithstanding the above-mentioned limitations of marginal costing, it is regarded as a highly useful technique for analysis of several business decisions.

9.17 IMPLICATIONS

In conclusion, as a method of management accounting, the marginal cost method has obvious advantages: it does not rely on estimates, assumptions and forecasts to calculate unit costs, and production costs only include variable costs, which can accurately reflect how the enterprise actually occurs Compared with the full cost method, the sales volume is directly related to the profit, which can more accurately reflect the actual profit.

Since the fixed cost has nothing to do with the increase or decrease of production, it is very useful for decision makers without considering the fixed cost factor in the decision of increasing or decreasing production in the short-term; Easy to understand.

Although the marginal costing method has several advantages, it is not perfect, and there are still shortcomings in practical application. Sometimes it is difficult to divide accurately. No accounting cost is fixed in the long run, and fixed costs are no exception. In the long run, it is all variable costs, but marginal costing does not admit a point when calculating costs. Another example, since fixed costs are not included in costs under marginal costing, it fails to notice the fact that as output increases, the total cost per unit will actually decrease; otherwise, it will increase because the total fixed cost is independent of changes in output, so for each additional product produced, the fixed cost is divided into smaller amounts, which reduces the total cost per unit. In addition, the marginal cost method is not recognized by financial accounting as a valuation method for finished products, products in process, and inventories. Therefore, in practical application, we should pay attention to promoting strengths and circumventing weaknesses, and use them flexibly instead of imposing them.

Energy-related industries will have to face incremental costs to improve their carbon efficiency, but ultimately, such incremental costs will have to be shouldered by the consumers, Energy-related industries will increase marginal costs to improve carbon usage, but ultimately these marginal costs are passed on to consumers. After India announced its carbon emissions target, relevant experts are conducting research on the incremental cost and how to improve energy efficiency. At present, most industries still use fossil fuel, so my country is studying to increase carbon tax (carbon tax, soot emission tax), encourage the public to change to a low-carbon lifestyle (low-carbon lifestyle), and pay attention to energy-saving appliances. (Energy-saving appliances) to give financial subsidies (financial subsidies).

9.18 LET US SUM UP

Marginal Costing and Absorption Costing are the two techniques which can be used for ascertaining the cost of a product, job or a process. Absorption Costing is also termed as Traditional or full Cost method. According to this technique, the cost of a product is determined after considering both fixed and variable costs. in other words, all costs are identified with or absorbed into the manufactured products. Marginal Costing is a technique where only the variable costs are considered while computing the cost of products. The fixed costs are met against the total contribution of all the products taken together.

Marginal Costing is regarded as superior to traditional costing so far as managerial decision-making is concerned. It identifies only such costs with the jobs or products which directly vary with the level of output. The uncertainty and irrationality associated with apportionment of fixed cost in traditional costing is thus avoided.

The technique of Marginal costing greatly helps the management in taking appropriate managerial decisions, viz., dropping a product line, making or buying a component, shut-down or continuation of operations in periods of trade depression, fixation of minimum selling price of a product, etc. Marginal Costing involves computation of marginal cost. The term marginal cost is synonymous with the term `variable cost'. It comprises of direct material, direct labour, variable direct expenses and variable overheads.

The semi-variable overheads are also segregated into fixed and variable categories according to some suitable method. Such segregation of costs into fixed and variable categories helps also in determining the break-even or no profit no loss point. A firm will start making profits only after it reaches the breakeven level. The sooner it reaches this level, the better it will be. Hence, the break-even level of activity is also of considerable significance to management. Marginal Costing technique has some limitations. The categorisation of costs into fixed and variable elements is a difficult and tedious task. However, in spite of these limitations, marginal costing is regarded as a highly useful technique of analysis for several business decisions.

9.19 KEY WORDS

Absorption Costing: A technique where all costs, fixed as well as variable, are allotted to cost units.

Break-even Point: It refers to the level of activity where the income of the business exactly equals its expenditure. It is also termed as `no profit, no loss' point.

Contribution: It refers to the excess of selling price over variable cost.

Marginal Cost: The variable cost of one more unit of a product or service, i.e. a cost which would be avoided if the unit was not produced or service not provided.

Marginal Costing: A technique whereby marginal cost of a product is ascertained. Only variable costs are charged to production. Fixed costs are charged against the contribution of the period. It is also termed as `variable costing'.

9.20 REVIEW QUESTIONS

1. Explain briefly the technique of Marginal Costing. In what ways you consider this technique useful in Management Accounting?

2. Explain and bring out in a comparative form the means of income determination under marginal and traditional costing systems.

3. Explain the different methods for segregating semi-variable overheads. 3. What benefits are gained from Marginal Costing? Are there any pitfalls in its application?

4. State whether each of the following statements is True or False:

a) Fixed costs are included in the valuation of work-in progress and finished goods stocks under marginal costing.

b) The valuation of stock is higher in absorption costing as compared to marginal costing.

c) Semi-variable costs form a part of product cost in marginal costing.

d) Absorption costing is not as suitable for decision making as marginal costing is.

5. From the following choose the most appropriate answer:

i) Contribution margin is also known as (a) Marginal Income; (b) Gross Profit; (c) Net Income.

ii) Period cost means:

(a) Variable cost; (b) Fixed Cost; (c) Prime cost.

iii) If fixed cost is Rs. 10,000 and P/V ratio is 50%, the break-even point will be: (a) Rs. 20,000 (b) Rs. 40,000 (c) Rs. 50,000 (d) None of these.

iv) If Profit-Volume Ratio is 40% and sales value Rs. 10,000, the variable costs will be:

(a) Rs. 4,000 (b) Rs. 40,000 (c) Rs. 10,000 (d) None of these.

v) If sales are Rs. 2 lakhs, fixed cost Rs. 30,000, P/V ratio 40%, the amount of profit will be:

(a) Rs. 50,000 (b) Rs. 80,000 (c) 12,000.

6. Fill in the blanks:

a) The technique of Marginal Costing is based on classification of costs into……………………………. costs.

b) Contribution is the difference between sales and ……………….

c) In marginal costing stock of finished goods is valued at…………cost.

d) Both fixed and variable costs are charged to products under……………………..…costing.

e)Profit-Volume ratio shows the relationship between…………………..…and……………….………

f) At break-even point, total cost is equal to……………………….

g) At break-even point, the contribution will be equal to ………….

7. ABC Ltd. produces a standard type of article. The results of the last four quarters of the year 2003 are as follows:

Quarters Output (Units)

I 200
II 300
III 400
IV 600

The cost of direct material is Rs.60 and direct labour is Rs. 40 per unit. Variable expenses are Rs. 20 per unit. Fixed expenses are Rs. 1,20,000 per annum. Find out cost per unit of each quarter.

9.21 FURTHER READINGS

- Horngren, C.T., Gary L. Sundem and Frank H. Selto, “Management Accounting”, Prentice Hall of India, New Delhi, 2018.
- Kaplan, R.S., s, Engle Wood Cliffs, NJ., Prentice Hall Inc
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SEMESTER 1

COURSE: ACCOUNTING FOR MANAGERIAL DECISIONS

UNIT-10 BREAK EVEN ANALYSIS

STRUCTURE

10.0 OBJECTIVES

After studying the Unit, students will be able to

- understand the concept of break-even analysis, impact of change in sales
- volume, price, variable cost, fixed costs on profits;
- apply cost-volume profit relationship for profit planning;
- understand the concept of margin of safety, angle of incidence, and profit volume ratio in decision making; and
- examine the assumptions and limitations of the break-even analysis

10.1 INTRODUCTION TO BREAK EVEN ANALYSIS

The break -even point is the point at which gains and losses are equal, and it reflects when an investment will yield a positive return. The break-even point is also the point where sales revenue equals cost expenses, or total cost equals total revenue. At the break-even point, there is neither profit nor loss. After the price is set and the profit margin is determined, the break-even point becomes the bottom line of the profit level. Therefore, it is very important to grasp the break-even point in business management.

The break-even point reached today can neither make up for the losses incurred yesterday nor provide any reserves for future losses. From an ROI perspective, it doesn't contribute anything to that. Break-even analysis can be applied to a wide range of products, investments, or the overall operation of a company. In the realm of options, it also has a role to play. In this regard, the break-even point is that the warrant must reach a certain market price, and only at this price level, the option buyer will not have any loss during the exercise period. For a call option, it is equal to the strike price + premium paid; for a put option, it is equal to the strike price - premium paid.

Break-even analysis is a very useful tool for studying the relationship between fixed costs, variable costs, and profit. The break-even point tells when an investment will yield a positive return. It can be expressed with intuitive diagrams or simple formulas. Through a break-even analysis, it is possible to calculate the minimum output that must be achieved at a given price level in order to cover all costs. Through a break-even analysis, it is possible to calculate the minimum price that must be reached in order to cover all costs at a given level of production. When doing a break-even analysis, first define cost items.

10.2 VARIABLE AND FIXED COSTS

Break-even sales are sales at which a company has neither profit nor loss. Then the total revenue is equal to the total cost. Variable costs depend on sales. Proportionally variable costs increase at the same rate as sales (they are then directly proportional): the variable costs per unit are in that case the same for every production/hours/sales volume. Variable costs increase due to expansion of production/sales and price increases. Within the available capacity, constant costs (fixed costs or capacity costs) are independent of production/sales. Constant costs increase due to expansion of the company's capacity and price increases. Examples of constant costs are: depreciation, interest and rental costs.

Fixed costs are those costs that a company is involved in after entering a business activity and remain fixed regardless of any changes in production levels. Fixed costs include equipment depreciation, interest expense, taxes, and general operating expenses, among others. The total fixed cost is the sum of the fixed costs.

Variable costs are directly related to production and include cost of goods sold or production expenses such as labour, electricity, raw materials, fuel, and other costs associated with production or investment. Total variable cost is the sum of the variable costs at a certain level of output. Average variable cost, or variable cost per unit, is simply total variable cost divided by output.

Be careful not to confuse the break-even point with the Payback Period, which refers to the time it takes to recover the cost of an investment.

In value management terms, the break-even point can be defined as the marginal level of operating profit at which an operation or investment achieves a minimum acceptable rate of return, that is the total cost of capital.

Whilst the distinction between fixed and variable costs is a convenient way of categorising business costs, in reality there are some costs which are fixed in nature but which increase when output reaches certain levels. These are largely related to the overall "scale" and/or complexity of the business. For example, when a business has relatively low levels of output or sales, it may not require costs associated with functions such as human resource management or a fully-resourced finance department. However, as the scale of the business grows (e.g., output, number people employed, number and complexity of transactions) then more resources are required. If production rises suddenly then some short-term increase in warehousing and/or transport may be required. In these circumstances, we say that part of the cost is variable and part fixed.

A distinction is often made between "Direct" variable costs and "Indirect" variable costs. Direct variable costs are those which can be directly attributable to the production of a particular product or service and allocated to a particular cost centre. Raw materials and the wages those working on the production line are good examples. Indirect variable costs cannot be directly attributable to production but they do vary with output. These include depreciation (where it is calculated related to output - e.g., machine hours), maintenance and certain labour costs.

10.3 BREAK-EVEN ANALYSIS CHART

The break-even sales can also be determined graphically by making a graph with:

- the total cost line and the total revenue line;
- the line representing the total fixed costs and the line representing the coverage contribution.

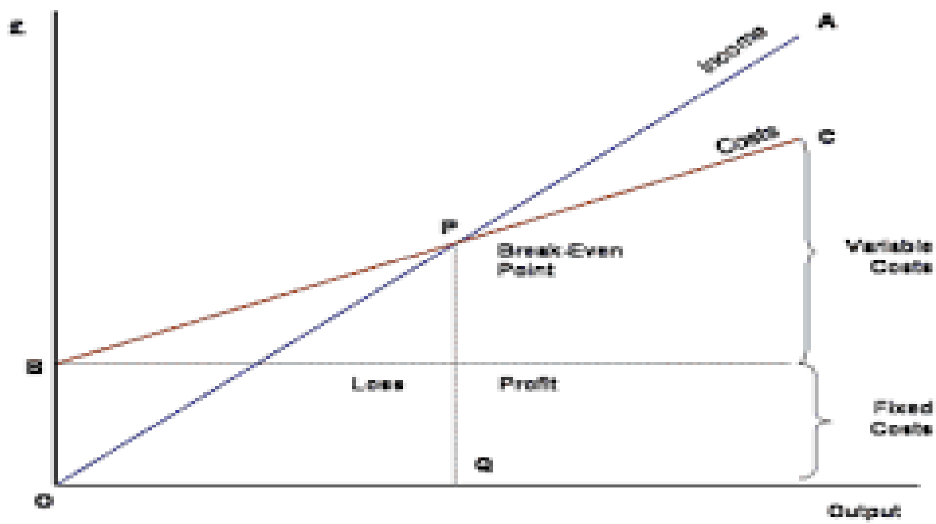
As explained earlier, Break-even analysis is a technique widely used by production management and management accountants. It is based on categorising production costs between those which are "variable" (costs that change when the production output changes) and those that are "fixed" (costs not directly related to the volume of production).

Total variable and fixed costs are compared with sales revenue in order to determine the level of sales volume, sales value or production at which the business makes neither a profit nor a loss (the "break-even point").

In its simplest form, the break-even chart is a graphical representation of costs at various levels of activity shown on the same chart as the variation of income (or sales, revenue) with the same variation in activity. The point at which neither profit nor loss is made is known as the "break-even point" and is represented on the chart below by the intersection of the two lines.

In the Figure 1, the line OA represents the variation of income at varying levels of production activity ("output"). OB represents the total fixed costs in the business. As output increases, variable costs are incurred, meaning that total costs (fixed + variable) also increase. At low levels of output, Costs are greater than Income. At the point of intersection, P, costs are exactly equal to income, and hence neither profit nor loss is made.

Figure 1: Break Even Chart



10.4 BREAK-EVEN ANALYSIS – SIMPLE CALCULATION

The cover contribution per unit of product = p – v = sales price (excluding VAT) – variable costs per unit (in the case of a trading company, these consist of the purchase price and the other variable costs, for services the products can also be hours).

To calculate break-even sales (BEA) and break-even sales (BEO), it is useful to use the following charts: (with fabricated percentages and amounts).

If a company sells many different products and it is not feasible to calculate the share of fixed costs for each product separately:

Revenue 100%

Purchase value of sales 60%

Gross profit 40%

Other variable costs 25%

cover contribution 15%

Constant costs Rs.300,000

Net profit Rs.0

BEO = 100/15 x Rs.300,000 = Rs.2,000,000.

At an average sales price of Rs.40, BEA is: Rs.2,000,000/Rs.40 = 50,000 units.

To achieve a net profit of Rs.150,000, BEO becomes: 100/15 x Rs.450,000 = Rs.3,000,000.

If a company only sells one product (type/hour) or if the share of the fixed costs per product (type/hour) can be calculated:

Method 1

(Suppose the sales price is Rs.40)

Revenue	40X (X = BEA)
Purchase value of sales	24X
Gross profit	16X
Other variable costs	10X
cover contribution	6X
Constant costs	Rs.300,000
Net profit	Rs.0

BEA = Rs.300,000/Rs.6 = 50,000 pieces and BEO = 50,000 x Rs.40 = Rs.2,000,000.

Method 2

TO = TK → 40X = 24X + 10X + 300,000 → 16X = 300,000, so X = 50,000.

Method 3

using the formula: C/pv → 300,000/40-34 = 50,000.

To achieve a net profit of Rs.150,000, BEA becomes: Rs.450,000/Rs.6 = 75,000 units.

If a company has more product types, we can only calculate the break-even turnover. We then use method 1 or 2.

Let us discuss in detail.

10.5 MATHEMATICAL METHOD

The break even point through mathematical method can be found out either by

i) Equation Method, or

ii) Contribution Margin Technique.

Equation Method

We know,

Sales – Variable costs – Fixed cost = Profit (S --- VC – FC = P)

Sales – Variable costs = Fixed costs + Profit (S --- VC = FC + P)

Sales minus variable costs is called Contribution. (S --- VC = C)

Contribution = Fixed costs + Profit (C = FC + P)

At breakeven point, profit is zero.

∴ Contribution = Fixed Costs (at breakeven point)

or

(SP ---- VC) Q = F

Where, SP is selling price, VC is the variable costs, F is a fixed costs and Q is the

number of units produced and sold. Look at the following illustration how the break-even point is to be calculated:

Illustration 1

Calculate the breakeven point from the following information:

Selling price = Rs. 3 per unit

Variable cost = Rs. 2 per unit

Fixed cost = Rs. 90,000

Estimated sales for the period = 100,000 units or Rs. 300,000

Suppose the units to be produced and sold at break even point is Q, then

Sales – Variable Costs = Contribution = Fixed Costs

3 Q – 2 Q = 90,000

Q = 90,000 units

When we produce and sell 90,000 units, then total sales revenue is Rs. 2,70,000

(90,000 units × Rs. 3) and total cost is Rs. 2,70,000, (VC Rs. 2 × 90000

units = 1,80,000 + F C Rs. 90,000)

Contribution Margins Technique

Contribution per unit means difference between selling price and variable costs

or

Contribution per unit = Selling price per unit – Variable Cost per unit

Total Contribution = Sales Revenue – Total Variable Costs

Break even point can be expressed in terms of units to be produced and sold or in terms of value of goods. At break even point, we know

Break Even Point in Units

Sales – Variable Costs = Fixed Costs

or

(SP – VC) Q = Fixed Costs

or

Q = BEP (in units) =

Fixed Costs

SP per unit – VC per unit

or

Q = Fixed Costs

Contribution Per Unit

Break Even Point in Value

Multiplying both sides by selling price (SP), SP × Q = BEP (in value) =

Fixed Cost × SP per unit/ Contribution per unit

or BEP (in value) =

Fixed Costs × Sales/Total Sales – Total Variable Costs

or = Fixed Costs × Sales/Total Contribution

Let us calculate the break-even point with the help of above equations by using the information given in illustration 1

BEP (in units) =

Fixed Costs

SP – VC

= Rs. 90,000 = 90,000 units

Rs. 3 – Rs. 2

BEP (in value) =

Fixed Cost × Selling Price/SP – VC

= Fixed Costs × Selling Price/Contribution per unit

= Rs. 90,000 × Rs. 3

Rs. 3 – Rs. 2

= Rs. 2,70,000

BEP (in value) = Fixed Costs × Total Sales/Total Sales – Variable Costs

= Rs. 90,000 × Rs. 300,000 = Rs. 2,70,000 Rs. 300,000 – Rs. 200,000

It shows that a firm will be at a break even point when it is producing and selling 90,000 units or having a sale of Rs. 2,70,000.

Profit /Volume Ratio (P/V ratio)

Total contribution divided by total sales is called profit-volume ratio or contribution ratio (P/V ratio). Break-even point can be determined with the help of P/V ratio.

P/V ratio =

Contribution

Sales

= Sales – Variable Cost/ Sales

= Variable Cost/ Sales

O r

Fixed Cost + Profit F + P/P/V Ratio = =

Sales

BEP (in value) = Fixed Costs × Total Sales/ Total Sales – Variable Costs

= Fixed Costs × Total Sales/ Total Contribution

= Fixed Costs/ Total Contribution ÷ Total Sales

= Fixed Costs/ P\V Ratio

Variable Costs to Sales is called Variable Cost Ratio.

∴ BEP (in value) Fixed Costs =

1 – Variable Costs/ Sales

It should be noted that firms producing one product line only, the calculation of break even point is preferred in units and firms having a variety of product lines, calculation of break even point is preferred in value. P/V ratio can also be expressed in the form of percentage by multiplying by 100. Look at the following illustration.

Illustration 2

XYZ Ltd. is manufacturing and selling four types of products A, B, C and D. The sales

mix and variable costs are as follows:

Product Sales per month Variable Cost Ratio

A 2,00,000 50%

B 1,50,000 50%

C 1,00,000 75%

D 2,50,000 40%

The fixed costs are Rs. 1,50,000 per month. Calculate break even point.

Solution

Firstly calculate the variable costs and contribution.

Particular A B C D Total

Sales (Rs.) 2,00,000 1,50,000 1,00,000 2,50,000 7,00,000

Variable Costs (Rs.) 1,00,000 75,000 75,000 1,00,000 3,50,000

Contribution (Rs.) 1,00,000 75,000 25,000 1,50,000 3,50,000

Fixed Costs (Rs.) - - - - 1,50,000

Profit (Rs.) 2,00,000

1 –

Break Even Analysis

P/V Ratio =

Total Contribution = Rs. 3,50,000 = 0.50 (i.e., 50%) Total Sales Rs. 7,00,000

Break Even Point (in value) = Rs. 1,50,000 = Rs. 3,00,000 0.50

Variable Cost Ratio =

Variable Costs =

Rs. 3,50,000 = 0.50 (i.e., 50%) Total Costs Rs. 7,00,000

∴ BEP (in value) =

Fixed Costs =

Rs. 1,50,000 = Rs. 3,00,000

1 – Variable Costs 1 – 0.50

Total Sales

Break-even point as percentage of estimated capacity utilisation: Break-even point can also be calculated as a percentage of estimated sales or capacity utilisation by dividing the break-even sales by the estimated capacity sales/utilisation.

Illustration 3

The ratio of variable costs to sales is 70 percent. The break even point occurs at 60 percent of the capacity. Find the break even point sales when fixed costs are Rs. 90,000. Also compute profit at 75% of the capacity sales.

Solution

As the variable cost to sales ratio = 70%

We know

P/V ratio or Contribution ratio = 1 – VC

= 1 – 0.70 Sales

= 0.30

∴ BEP (in value) = Fixed Cost = Rs. 90,000

P/V Ratio 30

= Rs. 3,00,000

BEP occurs at 60 per cent of the capacity utilisation

Capacity Utilization Sales

60% Rs. 3,00,000

75%

We can apply unitary method or proportion method

X = Rs. 3,00,000 × 75

= Rs. 3,75,000 60

Now we can compute, contribution earned when sales is Rs. 3,75,000. Sales

multiplied by P/V ratio gives the contribution.

Contribution = Sales × P/V Ratio

= Rs. 3,75,000 × 30%

= Rs. 1,12,500

∴ Profit = Contribution – Fixed Costs

= Rs. 1,12,500 – Rs. 90, 000

= Rs. 22,500

10.6 GRAPHICAL METHOD

The break-even point can also be shown graphically. The BEP chart shows the relationships between cost, volume and profit at various levels of output. Fixed costs, variable costs and sales revenues are shown on Y-axis and volume of out on X-axis. The break-even point is that point at which the total cost line and total sales line intersect each other. This point represents "no profit, no loss".

The following steps are involved in construction of break even chart:

Sales volume is plotted on x-axis. Sales volume may be expressed in terms of value (rupee), units or as percentage of capacity.

Cost and Revenue are depicted in y-axis. Fixed costs remains constant irrespective to the sales volume. Hence it is parallel to the x-axis and starts from Rs. 90,000. (Data of illustration 1) Variable cost starts from (0,0)

because no sales volume, no variable cost and as the volume increases variable cost also increases. When a parallel line of variable cost drawn from the fixed ncost line in y - axis, it depicts the total cost line. The sales revenue curve also starts from (0,0).

The point of intersection of sales revenue line and total cost line depicts, break even point. It occurs at a point of 90,000 units on x-axis and Rs. 2,70,000 (in terms of value) on y-axis.

The area to the left side of break even point depicts loss zone as cost curve is at a higher level and sale revenue line is at a lower level. The area to the right hand side of break even point is call profit zone as sale revenue line lies at a higher level than the total cost line.

The angle formed by the intersection of sale value line and total cost line is known as angle of incidence. Larger the angle, lower is the break even point and vice versa. Let us draw a break even chart with the help of the following illustration.

Illustration 4

Let us draw a break-even chart with the help of data given below at different production levels of 0, 80,000, 90,000, 1,00,000 1,10,000, and 1,20,000 units.

Sale Price = Rs. 3 per unit

Variable Cost = Rs. 2 per unit

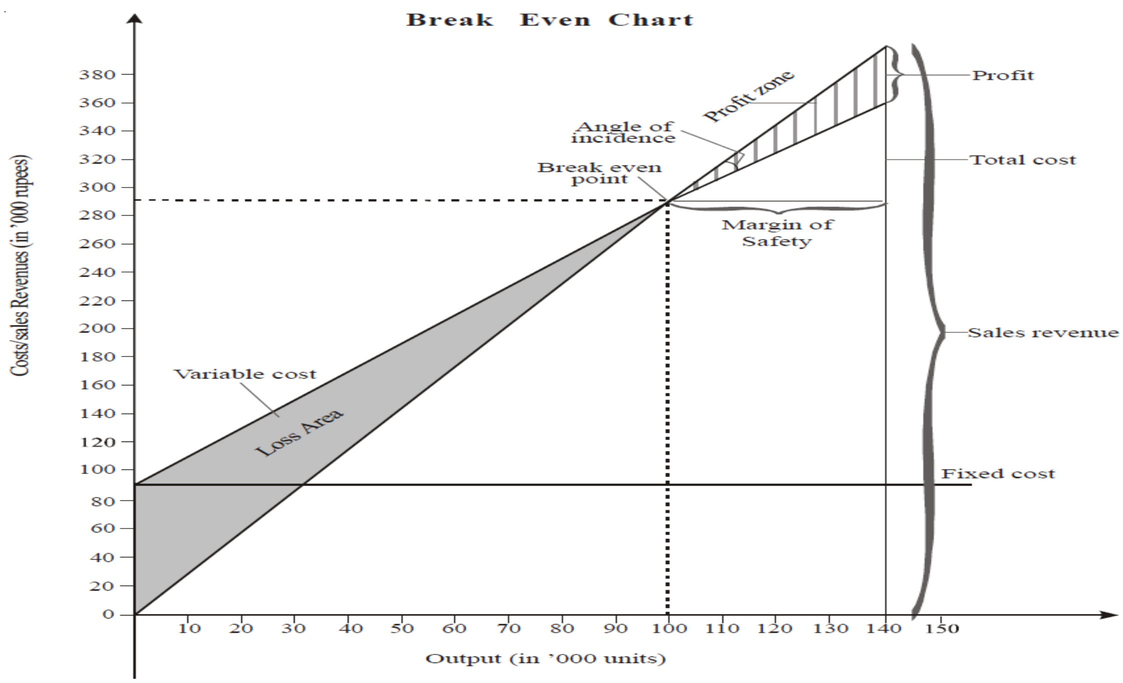
Fixed Cost = Rs. 90,000

Solution

The costs and profits and different levels of output is computed as follows:

Output	Variable Cost Rs.	Fixed Cost Rs.	Total Cost Rs.	Sale Rev. Rs.	Profit Rs.
0	0	90,000	90,000	0	–90,000
80,000	1,60,000	90,000	2,50,000	2,40,000	–10,000
90,000	1,80,000	90,000	2,70,000	2,70,000	0
1,00,000	2,00,000	90,000	2,90,000	3,00,000	10,000
1,10,000	2,20,000	90,000	3,10,000	3,30,000	20,000
1,20,000	2,40,000	90,000	3,30,000	3,60,000	30,000

The above data if presented on a graph, it appears as follows:



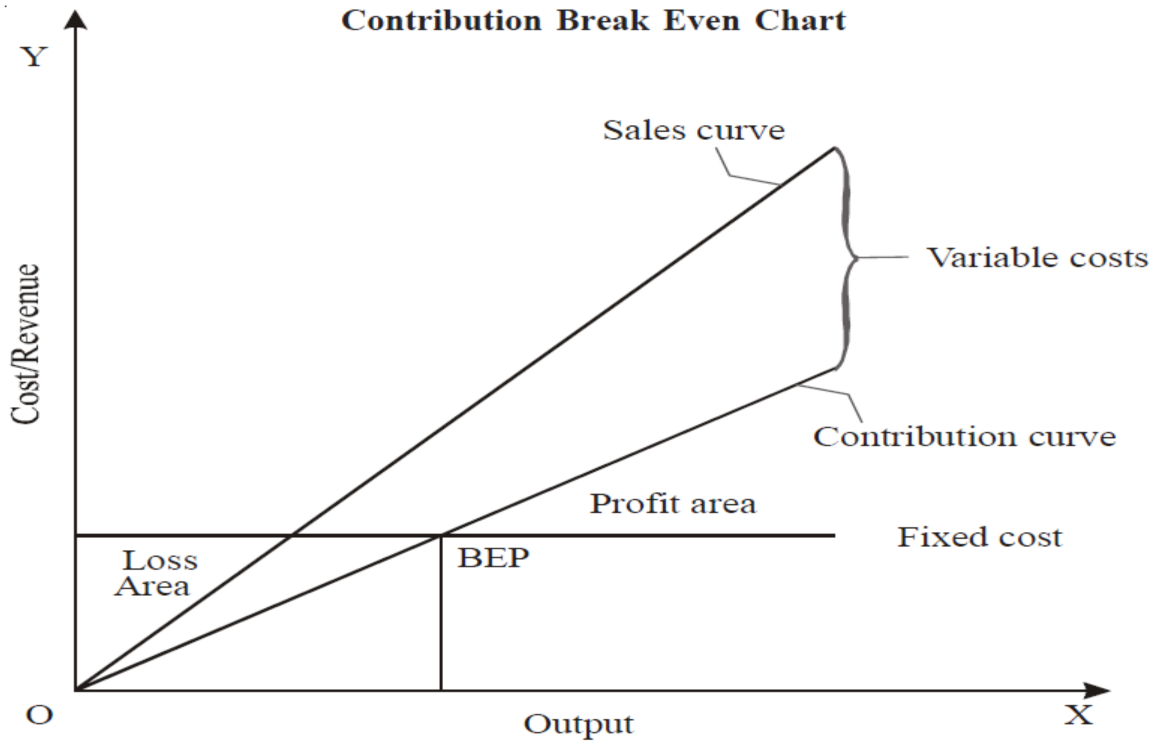
10.7 CONTRIBUTION BREAK EVEN CHART

From this chart we can ascertain the contribution earned at different levels of activity. Under this method, total cost line is not drawn instead the contribution line is drawn from the (0.0) point or origin. Intersection of cost line and sales line does not arises in this case as break even point occurs at where contribution is equal to fixed cost. When contribution is greater than fixed cost it is profit and vice versa. The contribution break even chart shows the contribution at different levels of activity and any level of activity below the BEP will not cover the fixed cost.

Let us represent the data as given in illustration 4 by means of contribution break-even Chart.

Solution:

Output	Variable Cost (Rs.)	Fixed Cost (Rs.)	Total Cost (Rs.)	Sale Rev. (Rs.)	Contribution (Rs.)
0	0	90,000	90,000	0	0
80,000	1,60,000	90,000	2,50,000	2,40,000	80,000
90,000	1,80,000	90,000	2,70,000	2,70,000	90,000
1,00,000	2,00,000	90,000	2,90,000	3,00,000	1,00,000
1,10,000	2,20,000	90,000	3,10,000	3,30,000	1,10,000
1,20,000	2,40,000	90,000	3,30,000	3,60,000	1,20,000



10.8 REQUIRED SALES FOR DESIRED PROFIT

Break even point equation can be extended to estimate the profit and loss at different levels of production. At break even point, profit is zero but for calculating the sales volume required to earn a desired profit, the profit value is put as desired profit. The following equations can be derived for this purpose.

Sales – Variable Costs = Fixed Costs + Desired Profit

or

Contribution = Fixed Costs + Desired Profit

Sales Volume Required (in Units) =

Fixed Costs + Desired Profit

SP – VC (Per unit)

= Fixed Costs + Desired Profit

Contribution Per Unit

Sales Volume Required (in Value) = (Fixed Cost + Desired Profit) Sales

Sales – Variable Costs

= (Fixed Cost + Desired Profit) Sales

Total Contribution

= Fixed Costs + Desired Profit

P/V Ratio

= Fixed Costs + Desired Profit

1 – Variable Costs/Sales

Illustration 5

A company producing a single product and sells it at Rs. 10 per unit. Variable cost is Rs. 6 per unit and fixed cost is Rs. 40,000 per annum. Calculate (a) Break even point, (b) Sales volume required to earn a profit of Rs. 60,000 per annum

Solution

Contribution = SP – VC = Rs. 10 – Rs. 6

= Rs. 4 per unit

BEP (in units) = Fixed Costs/Contribution Per Unit

= Rs. 40,000/4 = 10,000 units

BEP (in value) = Fixed Costs/P/V Ratio

P/V Ratio = Total Contribution/Total Sales

= Rs. 40,000/100000 = 0.40

BEP = Rs. 40,000/ 0.40

= Rs. 1,00,000

Sales volume required to earn a desired profit (in units) =

Fixed Costs + Desired Profit/Contribution Per Unit

= Rs. 40,000 + Rs. 60,000/ Rs. 4

= Rs. 1,00,000/4 = 25,000 units

Sales volume required to earn desired profit (in value) = Fixed Costs + Desired Profit/P/V Ratio

= Rs. 40,000 + Rs. 60,000/0.4 = Rs. 2,50,000

10.9 SALES REQUIRED TO MAINTAIN PRESENT PROFIT

Calculating the sales volume required to meet the proposed expenditure Because of high competition in the market, the management plans an aggressive promotion policy to boost the sales, which requires an extra expenditure. In such cases, management wants to know the additional sales volume required to cover the expected increase in expenditure.

Here the logic should be to cover the extra expenditure, how much additional units to be sold. Suppose contribution per unit is Rs. 10 per unit and a company spends Rs. 1,00,000 extra on advertisement, then logically company must sell 10,000 extra units to cover this expenditure. Thus, the formula should be

In units

Additional Sales Volume Required = Proposed Expenditure/Contribution per unit

In value

Additional Sales Volume Required = Proposed Expenditure/P/V Ratio

Illustration 6

Sales 10,000 units

Fixed Cost Rs.1,00,000

Variable Cost Rs. 2,00,000

The selling price is Rs. 36 per unit. The company is spending Rs. 100,000 on advertisement to promote its product. Find the sale volume required to earn the present profit.

Solution

Extra sales volume required to meet the additional publicity expenditure of Rs. 1,00,000

so as to maintain the present profit level is worked out as follows:

Variable Cost Per Unit =

Rs. 2,00,000/10000 units = Rs. 20 per unit

Contribution Margin = Rs. 36 – Rs. 20 = Rs. 16 per unit

Addition sales required (in units) =

Rs. 1,00,000/16 = 6,250 units

When a company sells 6,250 unit extra, then present level of profit will be maintained.

For example, before spending money the company was earning a profit of Rs. 60,000

which is as follows:

Profit = Contribution – Fixed Cost

= Rs. 16 x 10,000 – Rs. 1,00,000

= Rs. 1,60,000 – Rs. 1,00,000 = Rs. 60,000

When sales volume increase to 16,250 units (i.e., 10,000 units + 6,250) then profit

will be

= Rs. 16 × 16,250 – Rs. 2,00,000 (F. C. Rs. 1,00,000 + Advertisement Rs. 1,00,000)

= Rs. 2,60,000 – Rs. 2,00,000 = Rs. 60,000

Calculating new sales volume or new selling price to offset the impact of change in variable costs and fixed costs.

When a company introduces new production plans or improve the process, then generally variable costs and fixed costs also change. In such situation, there are two alternatives before the management to earn the same profits either to increase the sales volume or increase the selling price when costs increases and vice versa. The new sales volume needed to earn the same profit, when only variable costs changes, then new contribution is calculated by changing the variable cost and break even equation remains same. If management wants to change the selling price and volume remains the same, then new selling price is:

New selling price = Old selling price + (new variable cost -- old variable cost)

When fixed cost changes, then fixed costs is replaced by a new fixed cost in the equation and new volume of sales can be computed to earn the same profit. If management thinks that selling price be changed and volume remain the same, then new selling price is:

New selling price = Old selling + New fixed cost -- old fixed costs/Volume of production

The logic is change in selling price is incremental change in variable cost and / or fixed

cost per unit is added in selling price so as to earn the same profit.

10.10 MARGIN OF SAFETY

The margin of safety is the difference between actual sales and sales at break even point.

M/S = Actual Sales – Sales at BEP

Suppose the actual sales of X Y Z Ltd. is 1,20,000 units and

sales at break even point is 90,000 units, then

M/S = 1,20,000 units – 90,000 units = 30,000 units

Sale price was Rs. 3 per unit.

M/S = Rs. 3,60,000 – Rs. 2,70,000 = Rs. 90,000

Higher margin of safety provides greater protection to the company. The size of margin of safety is an indicator of soundness of business. It shows how much sales may decrease before the firm will suffer a loss. Sales beyond the break-even point represent margin of safety.

Larger the margin of safety, greater the soundness of the business, smaller the margin of safety, weaker will be the soundness of the business.

The following actions help in improving the margin of safety:

1) Increase the level of production

2) Reduce the fixed and / or variable costs

3) Increase the selling price

4) Substitute the existing product with more profitable products

5) From the product mix, remove the product whose contribution ratio is very low

10.11 ADVANTAGES OF BREAK-EVEN ANALYSIS

The main advantage of a break-even analysis is that it illustrates the relationship between cost, output, and profit. Its extended analysis can also show how changes in fixed and variable cost relationships, changes in commodity prices, and changes in income affect profit levels and break-evens. Break-even analysis is more effective when used in conjunction with partial budgeting or capital budgeting tools. Of course, the main function of the break-even analysis is to reveal the minimum level of output in order to avoid operating losses.

10.12 LIMITATIONS OF BREAK-EVEN ANALYSIS

Each analysis applies to only one product. It is difficult to categorize all fixed or variable costs.

Even if the functional relationship between cost and income changes, operators may still use the original balance of payments analysis, resulting in operational risks and economic losses.

10.13 TEST YOUR UNDERSTANDING (A)

1. Define the term Break Even Point

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2. State three features of Break Even Analysis

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3. Give tow advantages of Break Even Analysis

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10.14 TEST YOUR UNDERSTANDING (B)

1. During boom period high angle of incidence is better and in recession period low angle of incidence is better? Comment

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2. Give limitations of Break Even Analysis.

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10.15 LET US SUM UP

Break even analysis helps is ascertaining the level of production where total costs equals to total revenue. Below this level of production, there are losses and above this point depicts the profit zone. Like marginal costing this analysis is also based on cost classification into fixed and variable costs. Break even analysis helps in measuring the effect of charges in volume, costs, selling price and product mix on profit. In fact, break even analysis is cost-volume profit analysis.

Break-even point can be determined both mathematically (equation technique and contribution margin technique) and graphically. It is expressed in terms of units or in value terms. This technique is very useful in profit planning and decision making. It can be applied to estimate profits at a given sales volume, sales volume required to earn a desired profit, calculating sale volume required to offset price reduction, ascertaining the margin of safety, measuring the effect of changes in profit factors etc. The other tools in this analysis are profit-volume ratio, margin of safety and angle of incidence. There are inherent limitations in the break even analysis – classification of costs into fixed and variable costs, fixed costs remains fixed, variable cost per unit is constant, selling price per unit is constant etc. In spite of its limitation the break even point is a useful technique in decision making if it used by those who understand its limitations.

10.16 KEY TERMS

- **BREAK EVEN POINT:** Break Even Point is the level of sales (volume or value) where total costs equal to total revenue or no profit no loss point.
- **COST-VOLUME-PROFIT ANALYSIS:** Cost-Volume-Profit analysis is technique to study the effects of costs and volume variations on profit.
- **MARGIN OF SAFETY:** Margin of Safety is the difference between actual sales and sales at break-even point. It shows the amount by which sales may decrease before losses occur.

- **THE BREAK-EVEN CHART:** In its simplest form, the break-even chart is a graphical representation of costs at various levels of activity shown on the same chart as the variation of income (or sales, revenue) with the same variation in activity. The point at which neither profit nor loss is made is known as the "break-even point" and is represented on the chart below by the intersection of the two lines.
- **FIXED COSTS:** Fixed costs are those business costs that are not directly related to the level of production or output. In other words, even if the business has a zero output or high output, the level of fixed costs will remain broadly the same. In the long term fixed costs can alter - perhaps as a result of investment in production capacity (e.g. adding a new factory unit) or through the growth in overheads required to support a larger, more complex business.
- **VARIABLE COSTS:** Variable costs are those costs which vary directly with the level of output. They represent payment output-related inputs such as raw materials, direct labour, fuel and revenue-related costs such as commission.
- **INTERNAL USERS.** These are the users that are present inside the business a mainly include owners of the business, managers of the business and employees etc. these persons may be working as Top, middle and lower level executives in the business.
- **EXTERNAL USERS.** External users are those users that are not present inside the organisation. Though these users are not present inside the organisation but still they may be interested in accounting information as their interests are attached to the business.
- **MANAGEMENT ACCOUNTING**: As the name suggests, management accounting is the branch of accounting that helps the management of the business in managing the functions of the business. Management accounting generate accounting information related to position of funds in the business, cost of the business, assets and liabilities of the business.

10.17 REVIEW QUESTIONS

1. 'Cost-volume profit analysis and break even point analysis are same' Comment?
2. What are different methods of computing break even point?
3. "The break even chart is an excellent planning device" Comment.
4. Explain the significance of Profit-Volume ratio, Margin of Safety and Angle of Incidence?
5. What is Contribution? How does it helps the management in taking managerial decisions?
6. Describe three ways to lower down the break even point?

7. What are various ways to improve the margin of safety and P/V ratio?
8. ‘A 10 per cent increase in production and sales leads to more than 10 percent increase in profit’ Explain.

10.18 FURTHER READINGS

- Horngren, C.T., Gary L. Sundem and Frank H. Selto, “Management Accounting”, Prentice Hall of India, New Delhi, 2018.
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- Robert N Anthony, David Hawkins, Kenneth A. Merchant, *Accounting: Text and Cases*. McGraw-Hill Education, 2017.

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SEMESTER-I

COURSE: ACCOUNTING FOR MANAGERIAL DECISIONS

UNIT-11 RELEVANT COSTS FOR DECISION MAKING REPORTING TO MANAGEMENT

STRUCTURE

11.0 OBJECTIVES

After studying the Unit, you will be able to

- Define the Meaning of Relevant cost
- Explain the relevant cost for Decision Making.
- Distinguish between Relevant vs Irrelevant cost.
- Explain importance and usefulness of relevant cost.
- Distinguish between Sunk Cost and Relevant Cost.
- Identify the types of Relevant cost and Relevant cost for decision making.
- Identify the types of Relevant Cost Decision and how we used it on Decision making.
- Explain applications and limitations of relevant cost.
- Understand the report for the specific purpose;
- Follow the pattern of reports and apply these to your decisions;
- Prepare good reports;
- Know the needs of the reports; and
- Use the reports for data base.

11.1 INTRODUCTION TO RELEVANT COST

In management accounting, notion of relevant costing has great significance because these costs are pertinent with respect to a particular decision. A relevant cost for a particular decision is one that transforms if an alternative course of action is taken. Relevant costs are also termed as differential costs. Studies have demonstrated that relevant costs will make a difference in a decision. A relevant cost only relates to a particular management decision and which will alter in the future as a result of that decision. Other theorists described those relevant costs are future costs that will differ among alternatives. The main intent of relevant costing is to determine the objective cost of a business decision. An objective measure of the cost of a business decision is the degree of cash outflows that shall result from its execution. Relevant costing focuses on just that and overlooks other costs which do not influence the future cash flows. The fundamental principles of relevant costing are quite simple and managers can perhaps relate them to personal experiences involving financial decisions. It is stated in theoretical literature that relevant costing is a management accounting toolkit that assists management team to make decisions when they have to deal with some issues such as whether to buy a component from an external vendor or manufacture it in house? Whether to accept a special order? What price to charge on a special order? Whether to discontinue a product line? How to utilize the scarce resource optimally? IMA describes relevant costs as: *"the costs appropriate to a specific management decision"*. A study of relevant costs and benefits assists to take wise decision. In order to meet the criteria for relevancy, a cost must have two criteria that include they affect the future and they differ among alternatives. Other group of theorists asserted that the relevant costs are applicable to decision. Costs are relevant, if they direct the executive towards the decision. It will be useful, if the costs are not only relevant but also precise. Relevance and accuracy are not alike concepts. Costs may be correct and irrelevant; costs may be incorrect but it can be relevant.

Relevant information is the predicted future costs and incomes that will differ among the alternative's relevant information. Relevant costs are the costs which would change as a result of the decision under consideration, where as irrelevant costs are those which would remain unchanged by the decision. Therefore, only relevant cost would be included in the investigative framework. A relevant cost is also defined as a cost whose amount will be affected by a decision being made. Management should believe only future costs and revenues that will differ under each alternative. Relevant costs are accepted future costs and relevant profits are expected future revenues that differ among the alternative course of action being considered. In the arena of Management accounting, one feature of relevant cost is that they are future costs which have not been incurred. Hence the cost of material is relevant cost as long as the material not purchased because of deciding whether or not to purchase the material, one is to decide to sustain the cost or evade it. Therefore, all relevant costs are future costs. Whether particular costs and profits are relevant for decision making depends on decision circumstance and the options available. When selecting among different alternatives, manager must focus on the costs and revenues that differ across the decisions alternatives; these are relevant cost/revenues. The relevance of cost to decision alternative is determined by situation. The facts and policies explain situation. It is established that historical cost is not relevant, only future cost is relevant. All sunk costs are irrelevant.

The following are relevant Costs:

a) **Differential cost:** A differential cost is the difference in cost items under two or more decision alternatives distinctively two different projects or situations. Where same thing with the same amount appears in all alternatives, it is irrelevant. Differential costs must be compared to differential revenues.

b) **Incremental or marginal cost:** Relevant costing is an incremental investigation which indicates that it considers only relevant costs that is costs that vary between alternatives and ignores sunk costs that is costs which have been incurred, which cannot be changed and therefore are inappropriate to the business situation. Incremental or marginal cost is a cost linked with producing an additional unit. Incremental cost must be compared with incremental revenues to take decision.

c) **Opportunity cost:** It is cost of opportunity foregone. Whenever an organization decides to go for a particular project, it should not overlook opportunities for other projects. It should consider what alternative opportunities are there and which the best of these alternative opportunities is.

d) **Irrelevant costs:** The reverse of a relevant cost is a sunk cost. A sunk cost is an expense that has already been made, and so will not change on a go-forward basis. Sunk costs are past costs. These cannot be changed with any future decision. Similarly, a cost which is identical in all decisions is immaterial.

11.2 RELEVANT COST FOR DECISION MAKING

The need for a decision arises in a business organization, because a manager is faced with lots of

problems and alternative courses of action are available. Every decision involves a choice between at least two alternatives. The decision process may be complicated by volumes of data, irrelevant data, incomplete information, an unlimited array of alternatives, etc..... Some of the of the of the factors affecting the decision may not be expressed in monetary value. Hence, the manager will have to make 'qualitative' judgments, e.g., in deciding which of two personnel should be promoted to a managerial position.

The costs and benefits of the alternatives need to be compared and contrasted before making a decision.

The decision should be based only on significant information. Related information includes the predicted future costs and revenues that differ among the alternatives. Any cost or benefit that does not differ between alternatives is irrelevant and can be ignored in a decision. All future revenues and/or costs that do not differ between the alternatives are irrelevant. Sunk costs- (A cost that has already been incurred and thus cannot be recovered), are always irrelevant since they will be the same for any alternative.

a) Difference between sunk cost and relevant cost

A sunk cost differs from other, future costs that a business may face, such as inventory costs or R&D expenses, because it has already happened. Sunk costs are independent of any event that

may occur in the future.

The reverse of a relevant cost is a sunk cost. A sunk cost is an expenditure that has already been made, and so will not change on a go-forward basis as the result of a management decision.

11.3 MEANING OF RELEVANT COST

Relevant cost is a managerial accounting term that describes avoidable costs that are incurred only when making specific business decisions. The concept of relevant cost is used to eliminate unnecessary data that could complicate the decision-making process. As an example, relevant cost is used to determine whether to sell or keep a business unit.

The opposite of a relevant cost is a sunk cost, which has already been incurred regardless of the outcome of the current decision. Relevant costs, sometimes called differential costs, refer to the financial costs that result from a business decision

Example of Relevant Cost:

Assume, for example, a passenger rushes up to the ticket counter to purchase a ticket for a flight that is leaving in 25 minutes. The airline needs to consider the relevant costs to make a decision about the ticket price. Almost all of the costs related to adding the extra passenger have already been incurred, including the plane fuel, airport gate fee, and the salary and benefits for the entire plane’s crew. Because these costs have already been incurred, they are "sunk costs" or irrelevant costs.

The only additional cost is the labour to load the passenger’s luggage and any food that is served mid-flight, so the airline bases the last-minute ticket pricing decision on just a few small costs.

We define relevant cost as follow:

Relevant costs’ can be defined as any cost relevant to a decision. A matter is relevant if there is a change in cash flow that is caused by the decision.

The change in cash flow can be:

- additional amounts that must be paid
- a decrease in amounts that must be paid
- additional revenue that will be earned
- a decrease in revenue that will be earned.

A change in the cash flow can be identified by asking if the amounts that would appear on the company’s bank statement are affected by the decision, whether increased or decreased. Banks record cash so this test is reliable.

11.4 IMPORTANCE OF RELEVANT COST

Relevant costs are important because they promote healthy decision practices that affect your current economic standing and future financial growth. Sometimes decisions need thorough analysis before they're acted upon, and relevant costs help to answer some of those uncertain variables, such as:

a) **Time to develop:** This is a relevant cost decision that refers to the time it takes to develop each option, as cost may increase as the development stage continues. For example, a small family-owned business has a product that requires additional hours of labour before the final product is ready to sell. If the costs incurred from increased production time are more than the potential gains, then the product may not be worth investing time and resources into making. In this scenario, relevant costs refer to the price of having to pay for more labour because of the extended production time.

b) **Development resources:** This is a relevant cost decision that factors in all the resources that are needed before the conclusion of a final decision. Variables like the number of people, the price of their wages and the materials required affect the relevant cost value.

c) **Time to market:** Time to market is a relevant cost decision about delivery times. It refers to the length of delivery times between a development and its availability on the market. It seeks to determine how that time affects sales and costs.

11.5 USEFULLNES OF RELEVANT COST

The notion of the relevant cost is very helpful to eliminate irrelevant information from a particular decision-making process. Also, by eliminating irrelevant costs from a decision, management is prevented from focusing on information that might inaccurately affect its decision. The relevant cost is only applicable to management accounting activities and this notion is not applicable in financial accounting, as no spending decisions are involved in financial accounting. Whereas relevant costing is a functional tool in short-term financial decisions, it would possibly not be sensible to form it as the foundation of all pricing decisions because in order for a business to be sustainable in the long-term, it should charge a price that provides enough profit margin above its total cost and not just the pertinent cost.

There are numerous examples of use of relevant costing such as:

- Competitive pricing decisions
- Make or buy decisions
- Further processing decisions

When company is willing to take long term financial decisions such as investment appraisal, disinvestments and shutdown decisions, relevant costing is not suitable because most costs which may seem non-relevant in the short term become preventable and incremental when considered in the long term. Though, even long-term financial decisions such as investment assessment may use the fundamental principles of relevant costing to make easy an objective appraisal.

11.6 TYPES OF RELEVANT COST

There are four types of relevant costs;

- Avoidable costs

- Incremental costs
- Opportunity costs
- Future cash flows

a) Avoidable Costs: The term is also called variable costs. If a company decides not to undertake an activity, the company can avoid some expenses. It happens when the company opt-out of other activities that can save it from incurring expenses. Variable costs vary with different levels of production. It means that if there is zero production, there is no spending.

Variable costs=Quantity output x Variable cost per unit output

b) Incremental Costs: Along the line of business, there is the production of several units. These additional units have a price tag. Thus, these costs increase as the production increases or drops with low production. They are called incremental costs. Along the line of business, there is the production of several units. These additional units have a price tag. Thus, these costs increase as the production increases or drops with low production. They are called incremental costs.

c) Opportunity Costs: Opportunity costs are associated with choosing between two alternative options. The loss of benefit due to an alternative option is the opportunity cost, also known as the alternative cost. For example, a person has to choose between vacationing and spending time with their family. In this context, opportunity cost is the cost of the holiday and visiting new places if the person decides to go on vacation rather than stay home.

d) **Future Cash Flows:** The future expenses that might occur due to a decision made in the present are called future cash flows. The current value is used to project future revenues to see if a decision will incur future costs. Here, we can price the expected ongoing-project revenues with the current value. Then, a discounted rate is formulated to arrive at discounted cash flows.

11.7 RELEVENT COST VS. IRELEVANT COST

Relevant and Irrelevant costs are the classification of costs based on their importance. Cost data is vital for a business as it helps in decision-making regarding maximizing profit or meeting other business objectives. But not all costs are essential to a company when making a particular decision. Thus, to improve decision-making or to make better decisions, a business needs to understand the difference between relevant cost vs. irrelevant cost.

When a company faces two or more alternatives, the choice depends on the more profitable option. The profitability, in turn, hinges on the revenue and cost of each option. Some costs would vary for each option, while some costs are the same. Thus, we must classify costs as relevant and irrelevant to make a better decision.

Following are some situations when differentiating between relevant cost vs. irrelevant cost is essential:

- Closing a division or starting a new department.
- Whether or not to accept special orders.
- To outsource or produce a product in-house.
- To buy a new machine or use an existing one.

Relevant cost vs. Irrelevant Cost – Differences

Following are the differences between relevant cost vs. irrelevant cost:

a) **Meaning:** Relevant costs, as the name suggests, are the cost that is affected by the decision that the company or manager takes. Or, we can say these costs change with each choice. On the other hand, managerial choices do not affect irrelevant costs. Since irrelevant costs remain unaffected by a decision, businesses often ignore these costs.

b) **Relevance:** Relevant costs play a crucial role when a company has several alternatives to choose from. Irrelevant costs have no bearing when selecting from different options. Irrelevant costs are not useful from the point of decision making, but they are as helpful as relevant costs due to the following reason:

- A company needs both costs to come up with the average cost of production or service.
- Both costs also help to determine the total cost of operations.
- A company records both costs in the financial statements.

c) **What does it include?** Relevant costs include the expected costs that a company plans to incur. It may consist of differential, avoidable, and opportunity costs. Differential cost is the cost gap or difference between the two choices. Avoidable costs are the cost that a company can avoid by making one choice over another. Opportunity costs are the revenues that a company foregoes by making one decision over another. On the other hand, Irrelevant costs include sunk costs and unavoidable costs or fixed costs. Sunk costs include the actual costs or the expenses that the company has already incurred. Fixed costs can be relevant if it varies based on the decision. For example, fixed costs that a company incurs to utilize idle capacity are relevant costs. Thus, we can say that avoidable fixed costs are relevant.

d) **Nature:** Relevant costs are generally variable. Or, we can say they are operational or recurring expenditures. On the other hand, Irrelevant costs are usually fixed in nature or relate to the capital or one-off spending.

e) **Time Horizon:** Relevant costs usually relate to the short-term. Irrelevant costs are generally for the long-term as they are mostly capital or one-off expenditures. In the long term, however, most costs are relevant. For instance, if a company is planning for ten years ahead, then it would consider all types of costs, including the fixed and sunk cost that it might incur.

f) **Who Spends it?:** Usually, lower management incurs the relevant costs, while top management oversees the spending of the irrelevant costs.

g) **Effect on Cash Flows:** Relevant costs affect future cash flows. Irrelevant costs do not have any effect on future cash flows.

h) **Avoiding Cost:** A company must not avoid relevant costs when making a decision. One must consider them in all managerial analyses and calculations. On the other hand, a company must avoid irrelevant costs when deciding as it could cause you to make the wrong choice. Also, one must not consider them in managerial analysis and calculations.

i) **Example**

Company A is using a two-year-old machine costing ₹24,000. The company uses straight-line depreciation, while the machine has a useful life of 10 years.

Company A is considering buying another machine costing ₹45,000 with a useful life of 9 years. The new machine won’t have any effect on the number of units that a company produces. Company A, however, expects the variable cost to come down from ₹34,000 to ₹22,000. Fixed costs will also be the same at ₹20,000.

In this case, depreciation (₹2,400) on the old machine is an irrelevant cost. The company would have to depreciate the old machine irrespective of whether or not it buys a new machine. Also, the cost of the old machine is irrelevant (a sunk cost). The fixed cost of ₹20,000 is also not relevant as a company would have to incur it whether or not it buys a new machine.

Here depreciation of New Machine, say ₹4500, will be relevant cost. Company A will incur this cost only if it decides to buy the new machine. Another relevant cost will be the variable cost, as Company A will save ₹12,000 because of the new machine.

Thus, the depreciation on the new machine and variable cost saving is the only relevant cost. Based on these two costs, Company A will have a net saving of ₹7,500 (₹12,000, Less ₹4,500) if it buys a new machine.

j) **Final Words:** From the above differences, we now know the relevance of differentiating between the relevant and irrelevant costs. However, sometimes it may be difficult to distinguish between the relevant and irrelevant costs. Still, the manager must use his due diligence to differentiate one from another as they are crucial for decision making.

11.8 RELEVANT COST FOR DESCION MAKING

The costs which should be used for decision making are often referred to as "relevant costs." **CIMA** defines relevant costs as 'costs appropriate to aiding the making of specific management decisions.

To affect a decision a cost must be:

a) **Future:** Past costs are irrelevant, as we cannot affect them by current decisions and they are common to all alternatives that we may choose.
b) **Incremental:** Meaning, expenditure which will be incurred or avoided as a result of making a decision. Any costs which would be incurred whether or not the decision is made are not said to be incremental to the decision.
c) **Cash flow:** Expenses such as depreciation are not cash flows and are therefore, not relevant. Similarly, the book value of existing equipment is irrelevant, but the disposal value is relevant.

Other terms:

d) **Common costs:** Costs which will be identical for all alternatives are irrelevant, e.g., rent or rates on factory would be incurred whatever products are produced.
e) **Sunk costs:** Another name for past costs, which are always irrelevant, e.g., dedicated fixed assets, development costs already incurred.

f) Committed costs: A future cash outflow that will be incurred anyway, whatever decision is taken now, e.g., contracts already entered into which cannot be altered.

11.9 TYPES OF RELEVENT COST DECISION

Types of decisions:

a) Make or Buy Decisions: A make or buy decision relates to whether an item should be made internally or purchased from an external supplier. Assuming Bathla Electronic company is producing 8,000 TV cables(wire) annually at an internal "cost" of ₹21 per unit. An outside supplier has offered to sell 8,000 cables per year to Bathla at a unit price ₹$19. Should Bathla continue to produce Tv cables or should they purchase it? analyzing the "costs" of the internally produced cables reveals that the depreciation and allocated general overhead costs (totaling ₹7 per unit) will continue even if the cable is purchased externally. Thus, the relevant costs are ₹14 to make versus ₹19 to buy or a difference in supporting of the Bathla firm continuing to make the cable of (₹5 * 8,000) or ₹40,000.

b) **Special Orders:** Special orders are one-time orders that do not affect a company's normal sales. The profit from a special order equals the incremental revenue less the incremental costs. As long as the incremental revenue exceeds the incremental costs and present sales are unaffected, the special order should be accepted.

c) **Utilization of a Constrained Resource:** Whenever demand exceeds productive capacity, a production constraint (bottleneck) exists. This means that the company is unable to fill all orders and some choices have to be made concerning which orders are filled and which are not filled. Total contribution margin will be maximized by promoting those products or accepting those orders that provide the highest unit contribution margin in relation to the constrained resource

d) **Sell or Process Further Decisions:** In some manufacturing processes, several intermediate products are produced from a single input. Such products are known as joint products. The costs associated with making these products up to the point where they can be recognized as separate products (the split-off point) are called joint product costs.

A decision often must be made about selling a joint product as is or processing it further. It is profitable to continue processing a joint product after the split-off point so long as the incremental revenue from such processing exceeds the incremental processing costs. In such decisions, the joint product costs incurred before the split-off point are irrelevant and should be ignored.

11.10 HOW RELEVANT COST USED IN DECISION MAKING

The three main types of relevant cost examples considered during a business decision are:

- Whether to make or buy.
- Close a business unit or continue production.
- Special orders.

a) **Make or Buy:** A company that deals with making finished goods requires specific parts. The company has to decide whether to make the parts internally or outsource. Naturally, the lowest cost alternative is the best. Direct materials, direct labour, and various overhead costs are examples of the make or buy situation.

Suppose a company wants a part of some machine. They can buy the part from a vendor or make it in the factory. The company shall free some space that can be leased if it decides to outsource. The management can outsource to make an extra income from leased space. The relevant cost analysis thus helped the company to conclude that buying the part was a more financially sound decision.

For example; Boss Company manufactures motor vehicle spare parts that need a specific piece of equipment. Purchasing from a supplier cost ₹5 per unit. But the company can make the same piece internally as well. The company requires 50,000 units of spare parts per annum. By producing internally, the company incurs the following costs:

Direct materials=₹2/unit

Direct labour=₹4/unit

Overhead costs=₹1/unit

Special tools=₹40,000

Item	**Cost per unit**	**Total cost for 50,000 units**
Direct materials	₹2	₹1,00,000
Direct labour	₹4	₹2,00,000
Overhead costs	₹1	₹50,000
Special tools		₹40,000
		₹3,90,000

According to the above illustration, it will cost Boss₹2,50,000 to buy from a supplier. And it will cost ₹3,90,000 to make the same internally. Therefore, Boss should continue outsourcing.

b) Continue Production or Close Business Unit

A major dilemma regarding any business at some point is whether to continue operation or close business units. Here, the management needs to consider whether the units are making expected income or have high maintenance costs. Appropriate cost analysis form plays a primary role in making that decision.

For example;

The company Billy's makes cheese worth ₹10,000 per month. Maintenance cost for machinery is ₹3,000, ₹2,000 for material, ₹2,500 for labour, and ₹1,500 for miscellaneous costs. Overall expenses amount to an income of ₹10,000. So, the Billy's might think of discontinuing the cheese unit. Billy's might continue with cheese production if the expenses are lower, like ₹ 7,500.

c) Special Orders

In business, a customer may request a one-time item from a company. They could have made this order right after the company had calculated all its costs on normal sales. The company shall then consider the lowest price for producing that order. It considers taking special orders if the costs involved will generate income in the long run.

Before accepting special orders, the company must put into consideration;

- If it has the necessary capacity to complete the order.
- If it has already covered the cost of production.
- If it has analysed all the fixed costs

If the product cost price is below production cost, the company can safely decide to take special orders.

11.11 APPLICATION AND LIMITATION OF RELEVENT COST

a) **Application of relevant costing:** While relevant costing is a useful tool in short-term financial decisions, it would probably not be wise to form it as the basis of all pricing decisions because in order for a business to be sustainable in the long-term, it should charge a price that provides a sufficient profit margin above its total cost and not just the relevant cost.

Examples of application of relevant costing include:

- Competitive pricing decisions
- Make or buy decisions
- Further processing decisions

For long term financial decisions such as investment appraisal, disinvestment and shutdown decisions, relevant costing is not appropriate because most costs which may seem non-relevant in the short term become avoidable and incremental when considered in the long term. However, even long-term financial decisions such as investment appraisal may use the underlying principles of relevant costing to facilitate an objective evaluation.

b) **Limitation of relevant costing:** There are many limitations of relevant costing: If the correct and accurate results are to be obtained, then proper thought has to be given to the matter. Each cost item apparent or hidden needs proper attention before assumption are built in the solution. It is not proper to proceed on the assumption in the context of relevant costing. The cost so indicated on the relevant cost statement is valid only at a given level of activity. Experts stated that in relevant costing, period of comparison is often incomplete or incomparable. Timing of cost and benefit is not important in the technique of relevant costing.

On the contrary, the financial analyst considers the cash flow along with the timing of it. The consideration of time factors allows the discontinuation in the cash flow in financial management theories. Relevant costing suffers the limitation on this count but serves the practical objective of profit. Another issue in relevant costing is handling the opportunity cost. The difficulty of estimating opportunity cost can be temporarily overcome by extending relevant costing solution into the calculation of accounting rate of return. It is also termed as average rate of return. A return as a percentage of investment is calculated.

11.12 CONCEPT OF MANAGEMENT REPORTING

Reporting is the exchange between two parties of statements and pertinent information. Management reporting is the process of supplying information to management. The various levels of management get these reports on a regular basis to keep them informed about the success of each assignment. The management accountant's responsibility for reporting is crucial since effective reporting is essential to the effective and efficient operation of the business. The format and timing of the presentation determine how well a report to management is received in large part. The act of reporting to management includes selecting the right financial and operational data, organising it in the right way, analysing, and interpreting it before presenting it to the management in the suitable way.

11.12.1 OBJECTIVES OF REPORTING

Main objectives of reporting can be divided under the following heads:

Accounting reports consist of financial statistics. Management cannot analyse all significant facts regarding its business especially in case of large-scale production where the business operations are more complex in nature. Accounting reports helps to get full information about the its entire operative activity of the firm.

a) **Providing accounting information:** Accounting reports consist of financial statistics. Management may not analyse all significant facts regarding its business operations especially in case of large-scale production where the business operations are more complex in nature. Accounting reports help to get full information about its entire operative activity of the firm. Thus, important objective of the reporting is to provide accounting information to operating and top-level management in accurate form in understandable brief manner.
b) **To take right decision:** To help the management in taking the right decisions with suitable statements provided by the management accountant.

c) **Acceptability of the decision by all:** Reporting leads to motivate people, increases efficiency and boosting the morale of the people engaged in the various aspects of the work of the enterprise.
d) **Maximizing the profits:** To achieve this ultimate goal of any business reporting at the right time, at right place to the right person in right manner becomes an essential feature.
e) **For better control:** Abnormal events can be checked in time by obtaining the necessary information in respect of each operating activity. Control through reports become effective as compared to personal investigations.

11.12.2 REPORTING NEEDS AT DIFFERENT MANAGERIAL LEVELS

Reporting is the life line of the organization. It helps in planning and control and works as a media of communication and stimulates corrective action. Accounting system becomes useless, if the business has no system of reporting because all decisions are normally based on reporting system. Need of reporting differs at different management levels. This also differs to the user community also. There are three levels of management and their ports can be classified according to the needs as follows:

a) Top-Level Management Reports
b) Middle Level Management Reports
c) Lower-Level Management Reports

a) Top Management Reports: At this level reports are concerned with the following matters:

- For determining the aims of the enterprise;
- For formulation of policies and plans;
- For delegation of responsibility in successful manner to executives for the best utilization of resources; and
- For formulating special significant plans.

It can be assumed that top brass of the business only needs reports for cost and operational control. The report submitted to the level should be brief or we can call it a summarized statement, which provides an overall view on the subject. Previously these reports used to be submitted within the time framework. The time framework may be monthly, quarterly or yearly. With the use of information technology and the real time accounting, the whole-time framework has been changed and now these can be made available online.

Reports to top level management consist of the following:

1. Reports to the Board of Directors
2. Reports to the Chief Finance Officer
3. Reports to the Chief Production officer, and
4. Reports to the Chief Executive Marketing and Sales.

Let us study these reports in brief.

1. **Reports to the Board of Directors:** Generally, following reports are to be submitted to the Board of Directors and the Chief Executive Officer (C.E.O.):
   i. Different budgets,
   ii. Machine utilization statement
   iii. Work force utilization statement
   iv. Cost analysis statement
   v. Fund flow statement
   vi. Cash flow statement, and
   vii. Balance sheet and income statement
2. **Reports to the Chief Finance Officer:** Following reports are to be submitted to the Chief Finance Officer (C.F.O.) :
   i) Cash flow statement,
   ii) Funds flow statement,
   iii) Abstract of receipts and payments and
   iv) Report regarding any special problem such as make or buy, replacement of old assets or any other
3. **Reports to the Chief Production Officer:** Following reports are to be submitted to the Chief Production Officer (C.P.O.) :

   i) Cost analysis statement

   ii) Machine utilization report

iii) Work force utilization statement

iv) Materials statement,

v) Production statement showing budgeted and actual with variance and

vi) Overheads cost statement

4. **Report to the Chief Executive Marketing and Sales:** Following reports are to be submitted to the Chief Executive Marketing and Sales:
   i) Sales summary
   ii) Reports on credit collection
   iii) Reports of orders received and executed and outstanding orders
   iv) Report on stock of finished goods

b) Middle Level Management Reports

The middle level management consists of the heads of various departments. The reports at this level should show the efficiency and cost data relating to different departments. At this level execution of plans formulated by the top managements worked out and all the managers in each department are concerned with this. It is also the function of middle level management to coordinate different activities of different departments. The reports at middle level management consists of the following:

1. **Report to the General Manager:** The following Reports are to be submitted to the General Manager:
   i) Administration budget,
   ii) Cash and capital budget,
   iii) Salaries statement of staff and
   iv) Research and development budget
2. **Report to the Finance Manager:** The reports to be submitted to the Finance Manager are:
   i) Funds flow statement
   ii) Cash flow statement
   iii) Cash and bank reports
   iv) Debtor's collection period reports
   v) Average payment period reports
3. **Reports to the Purchase Manager:** The following reports are to be submitted to the

Purchase Manager:

i. Stock level of raw material,
ii. Use of raw material,
iii. Raw material budget and actual purchases, and
iv. Budgeted cost and actual cost of purchases

4. **Reports to the Works Manager:** The reports submitted to the Works Manager are:
   i. Production cost report
   ii. Raw material budget and actual consumption
   iii. Production budget and actual production
   iv. Idle time report
   v. Idle capacity report
5. **Reports to the Sales and Marketing Managers:** The following reports are to be submitted to the Sales and Marketing Manager:
   i. Report of budgeted and actual sales,
   ii. Report of orders booked and executed,
   iii. Statement of sales.
   iv. Finished goods stock position and
   v. Position of collections and debtors.

With modernization and adoption of computers in the business house, the reporting period has been reduced tremendously and the data are ready at hand and these can be used to prepare reports instantly. Middle level management is connected on line with the computers within the organization, so preparation of reports has become easy.

c) Lower-Level Management Reports

At this level foremen and supervisors are concerned at the floor and they prepare their reports physically without any expert opinion. They are concerned with the daily work and they infuse a certain amount of competitive spirit among the workers by comparing the output per man per hour in a similar job. These reports include the following factors:

- Worker's efficiency report,
- Daily production report,
- Worker's utilization report and

- Scrap report
- Over-time report
- Material spoilage report
- Accident report etc.

11.13 TYPES OF REPORTS

Reports can be classified in various ways in which the different reports are presented to the management such as:

a) Users Reports
b) Reports Based on Information
c) Reports Based on Nature
d) Functional Classification of Reports

Let us study each of them in brief.

a) Users Reports

Depending upon users, reports can be classified as follows:

i) Internal Users Report
ii) Special Reports
iii) Routine Reports
iv) Management Level Reports
v) External Users Reports

Reports can be prepared according to the users. They can be:

i) Internal Users: Reports, which are prepared for the use of different levels of management and for the use of the employees are known as the reports for internal users. These are not public documents. These reports are aimed to different levels of management.

ii) Special Reports: These reports play a vital part in decision-making. They are prepared for specific reasons. While preparing this type of report the problem under study should be clearly be defined and understood and effect of cost and income should be considered. Comparison of cost of study and estimation of cost and income relating to the problem should also be considered. These reports can be prepared for any of the problems relating to :

- market analysis
- Make or buy decisions
- Problems of raw material
- Technological changes
- labour problems
- Cost reduction schemes or any other problems.

iii) **Routine Reports:** These are only control reports and they are required only when a control system exists. These are prepared daily as per scheduled time regarding activities. Production operation reports, cost reports, research and development reports, various budget reports, utilization of man, machine and material reports, report regarding customer default, sales and distribution report, administration reports, income statement and balance sheet and cash flow statement are included in this classification.

iv) **Management Level Reports:** Main classification of these reports have been provided while describing the reporting needs at different management levels at 18.3.3.

v) **Reports for External Users:** These reports are prepared for the external users who have interest in the enterprise. They are the shareholders, debenture holders, creditors, bankers, other financial institutions, stock exchange and the Government. They may be interested in knowing the financial position, progress made, future-plans and growth of the company. While preparing these reports, the information regarding the interest of all the external users should be taken into consideration. For example, the profit and loss account and balance sheet are prepared every year and these statements are to be filed with the Registrar of Companies and also stock exchange authorities.

b) Reports Based on Information

There are two types of information reports. They are:

i) **Operating Reports:** These reports convey the information regarding the operations of the business at different functional levels. These reports are used to review and control the total production and to improve the interdepartmental efficiency. Operating reports can further be classified as information reports and the control reports.

A. Information Reports: The reports prepared for this purpose should be simple and clear in respect of various operating activities. These reports are of three types, viz., trend reports, analytical reports and activity report. In trend reports, comparative information is provided over a period regarding the direction or trend of different activities. Analytical reports are based on the horizontal comparison of results. This provides information in an analytical manner about comparison of different activities for a particular period. When reports are prepared for any particular activity of the business then they are known as activity reports. Segment reports are also information reports.

B. **Control Reports**: These reports are prepared to help the managers in controlling the operations of the business. Various responsibility centers are established in every business to have an effective control. To know the performance of each responsibility centre reports are prepared for them. First important aspect regarding the performance of the centre manager and the other is concerned with the economic performance of the centre towards the goal or the business, are the main features of these reports. These reports can be current control reports or they can be summary control reports. Summary control reports can be master summary control reports or these can be subsidiary summary control reports.

ii) **Financial Reports:** Financial reports differ from control or information reports. They are necessary to know the success or failure of the management's responsibility to shareholders through the accounting. These reports can be of two types *viz*., dynamic financial reports and static financial reports. Dynamic financial reports show the changes took place during the year in the financial position of the business. These reports include report of financial change, financial control reports and effective use of funds reports. Static financial reports provide the information regarding the position of assets and liabilities. They include balance sheet and certain additional statements for individual items of the balance sheet.

c) Reports Based on Nature

There are three types of reports based on nature:

i) Enterprise Reports: These are the reports, which give a detailed description of the various operating activities and financial position of the business. They are generally meant for the external users i.e., bankers, financial institutions, shareholders and government authorities. They are generally regular and include annual accounts, directors' reports, auditors report. It is obligatory under Companies Act to furnish these reports.

ii) Control Reports: These reports have already been discussed under the head reports based on information.

iii) Investigative Reports: These reports are specially prepared only when to investigate a particular problem. These types of reports contain findings and suggestions to solve the problem. These reports are helpful in taking a decision on a particular problem.

d) Functional Classification of Reports

These reports are normally for the particular function or for a particular department or for joint activity. They are also of two types:

i) Individual Activity Report: Report is prepared for the individual activity of a single department working under the supervision of one executive is known as individual activity report.

ii) Joint Activity Report: This report is prepared when joint efforts are made in performing the activity. When the details are necessary then they should be included in appendix. Then the results of all the joint activities are considered under the supervision of the main supervisor

11.14 REPORTING TECHNIQUES

There are three modes or techniques of reporting:

1) Written

2) Graphic, and

3) Oral.

These reports are further divided as follows:

Written	Graphic	Oral
1. Financial Statements 2. Tabulated Information Conferencesand Individual Talks 3. Accounting Ratios	1. Charts 2. Diagram and Pictures 3. Graphs	1. Group meetings 2. Conferences and Individual talks

Modes of Reporting

a) Written Reports: Written reports are prepared in the different forms to provide information. These are as follows:

i) Financial Statements: These statements provide the information regarding the data of actual performance with budgeted figures and comparative statements containing information over a period.

ii) Tabulated Information: Information related with expenditure, production, sales and distribution is furnished in the form of tables so that the data can easily be analysed.

iii) Accounting Ratios: Accounting ratios play a vital role for the interpretation of accounting and financial statements**.** Different liquidity ratios, profitability ratios, efficiency ratios and capital structure ratios may be used for this purpose.

b) Graphic Reporting: Graphic reporting is very common in these days to present information to the management. These reports can be submitted in the form of graphs, diagram, pictures and charts. They are prepared when quick action is needed.

The common charts and diagrams usually included in a report are:

i) Line Graphs: To show, for example, cumulative actual sales against budget and/or against previous year's actuals;

ii) Bar Charts: Generally used for showing comparison of month-wise sales and expenses – budgeted and actuals;

iii) Pie Charts: Commonly used to show in a circular diagram the distribution of the total sales revenue among costs, profits as also the total costs among the different constituent elements.

c) Oral Reporting: Oral reporting may take place in the form of (1) Group meeting, (2) Conferences, and (3) Individual talks. These oral meetings cannot be part of important decisions, but they furnish a common platform to discuss the problems genuinely. For decision-making the written reports have a upper hand over all types of reports.

11.15 KEYS TO A SUCCESSFUL REPORTING PROCESS

Business report is a media of communication that contains factual, correct and clear information and it should be able to add to the knowledge of the recipient. It should be easy to understand the problem of the event reported to him. Accounting reports become ideal if they follow the following guidelines:

a) Content and the shape: While making a draft of the report the following heads should be kept in mind:

i) Suitable title: Title should be short and suitable to the content.
ii) Time: It should give time and the person for whom it is prepared.
iii) Facts: Report should contain facts and not the opinions.
iv) Totals: Where statistics are required, only relevant data should be provided and details may be given in appendix.
v) Objectives: Contents should serve the purpose for which it is prepared.
vi) Synchronize: The contents should be in logical sequence.

b) **Precise:** Report should not be lengthy. It should be precise, specific and concise. It should not contain irrelevant matter. If details are necessary then they should be included in appendix.

c) **Accuracy:** The information provided in the reports should be accurate.

d) **Comparable:** It should be prepared in such a manner that comparison with past and predetermined standards can be made.

e) **Simple:** Report should be simple and should not contain any ambiguity.

f) **Timeliness:** Reports should be prepared and presented in time, so that decisions can be taken promptly and further deviations checked.

g) **Consistency:** For comparison consistency is necessary. Uniform system of collection, classification and presentation of the information should be followed.

h) **Attractiveness:** The report should be eye-catching in the sense that it does not go unheeded by the users.

i) **Jargon:** All technical jargon should be avoided as for possible since the reader may not understand these and, therefore, may become hostile to even the spirit of the report.

j) **Highlighting Deviations:** Report should highlight the variations and trouble spots which are significant to the organisation.

k) **Assumptions:** Assumptions used in the preparation of reports should be stated neatly, precisely and separately.

l) **Effective Communication:** Report that communicates effectively to all levels of management stimulates action and influence decisions. Detailed planning, codification and timely processing of data are the essential requisites for effective reporting.

m) **Figures and data:** These should be presented is a tabular form preferably in annexure at the end of the report.

11.16 ACTIVITY

1. Take the annual reports of any firm and Identify the types of Relevant cost and Relevant cost for decision making.

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2. Explain the Qualitative characteristics of reporting practices.

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3. Briefly Explain various decision areas of corporate management.

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4. Explain the different types of reports prepared by a business firm.

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11.17 LET US SUM UP

To summarize, decision making is an integral part of any business of human life. But business life presupposes the conscious level of decision making instead of rash decision. Before taking the decision, managers must identify the variables that may have bearing on the decision and try to get information about those variables. Relevant cost, in managerial accounting, denotes to the incremental and unnecessary cost of implementing a business decision. Relevant cost analysis is a cost accounting-based evaluation technique. It is just an improved application of basic principles to business decisions. The major factor in relevant costing is the capacity to clean what is and is not pertinent to a business choice. This technique is applicable to all special or non-routine situations

One should be very clear about the objective of the report before preparing it. He should be able to clearly define and understand the problem for which the report is going to be presented. Needs of report differs at different management levels. So, this should be decided that which level of management will use the particular report. Mode of reporting is also important regarding the presentation. Report will be a user's reporter information report or any other type of report. Certain guiding principles such as brief sequencing, consistency, comparability, timeliness, accuracy, attractiveness, simplicity, shape and contents are very important and these should be taken into mind while preparing a report.

11.18 KEY TERMS

- **REPORTING:** Reporting is the exchange between two parties of statements and pertinent information. Management reporting is the process of supplying information to management. The various levels of management get these reports on a regular basis to keep them informed about the success of each assignment.
- **FINANCIAL REPORTS:** Financial reports differ from control or information reports. They are necessary to know the success or failure of the management's responsibility to shareholders through the accounting.
- **INTERNAL USERS.** These are the users that are present inside the business a mainly include owners of the business, managers of the business and employees etc. these persons may be working as Top, middle and lower-level executives in the business.
- **RELEVANT COSTS:** Relevant costs' can be defined as any cost relevant to a decision. A matter is relevant if there is a change in cash flow that is caused by the decision.
- **OPPORTUNITY COST:** It is cost of opportunity foregone. Whenever an organization decides to go for a particular project, it should not overlook opportunities for other projects. It should consider what alternative opportunities are there and which the best of these alternative opportunities is.
- **COMMON COSTS:** Costs which will be identical for all alternatives are irrelevant, e.g., rent or rates on a factory would be incurred whatever products are produced.

- **ENTERPRISE REPORTS:** These are the reports, which give a detailed description of the various operating activities and financial position of the business. They are generally meant for the external users i.e., bankers, financial institutions, shareholders and government authorities. They are generally regular and include annual accounts, directors' reports, auditors report. It is obligatory under Companies Act to furnish these reports.
- **GRAPHIC REPORTING:** Graphic reporting is very common in these days to present information to the management. These reports can be submitted in the form of graphs, diagram, pictures and charts. They are prepared when quick action is needed.
- **MANAGEMENT ACCOUNTING**: Management accounting generate accounting information related to position of funds in the business, cost of the business, assets and liabilities of the business.

11.19 REVIEW QUESTIONS

1. Explain how Reporting is beneficial for Business.
2. Write various steps involved in the process of Reporting.
3. Explain in detail various advantages and limitations of Financial Reporting.
4. Who are the various users that are interested in accounting information?
5. Discuss the Application and Limitations of Relevant cost.
6. Discuss the Concept of Management Reporting.
7. Discuss the Objectives of Reporting.
8. What are Reporting Needs at Different Managerial Levels.
9. Identify the types of Relevant Cost Decision and how we used it on Decision making.
10. What are relevant costs for decision making?

11.20 FURTHER READINGS

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SEMESTER-I

COURSE: ACCOUNTING FOR MANAGERIAL DECISIONS

UNIT 12: RECENT DEVELOPMENTS IN ACCOUNTING

STRUCTURE

12.1 OBJECTIVES

After studying this unit, you will be able to:

- explain some of the recent developments in the area of accounting;

- understand the basics of recent developments in the Human resource accounting,
- Inflation accounting,
- Environmental accounting,
- Social accounting and
- Carbon or cloud accounting.

12.2 RECENT DEVELOPMENTS IN ACCOUNTING

The role of accounting is to record financial transactions and summaries the same in a useful format. Financial accountants prepare three principal financial statements by summarizing huge volume of financial transactions namely Profit and Loss Account, Balance Sheet and Cash Flow Statement. While these three are reported in annual reports, they also prepare a number of statements for internal purpose. Cost Accountants prepare a number of statements mainly for internal purpose and the primary objective of the exercise is to find out the cost of production. However, the world of accounting or accountant is fast changing. Modern accountants are expected to be more intelligent than doing a mere compiling job. You might have seen that even smaller companies are started using computer software for accounting. With simplification in tax laws, the role of accountant in tax administration is also diminishing.

Accountants are also expected to provide more information about the non-conventional information. When machines dominate industrial world, accountants are asked to provide more information about material things of the firm. Today, in many firms, knowledge is asset. Since financial reports stated above are not geared to provide such information, accountants are asked

to provide additional information. There is also lot of concerns about the social behaviour of corporate sector. Hence many are interested in knowing the firms' effort on social responsibility and environment. Special reports are devised to address some of these issues. In this unit, we will briefly discuss some of these reports and recent developments. Each item discussed here are full subject on its own and depending on your interest, you can specialise in one or more of the subjects either taking up some specific issue and mastering them by reading some Specialised books or attending some courses on these topics. It is to be noted that accountants today, are expected to be more intelligent since computers replaced conventional accountants in many firms.

Finally, as a business owner, it's critical to follow accounting trends and apply them to your enterprise. If you are out of date, your competitors may outperform you by using the most advanced tools and software while you lag behind. To help you remain on top of the latest accounting trends, here is a new term in accounting:

1. Human resource accounting
2. Inflation accounting
3. Environmental accounting
4. Social accounting
5. Carbon or cloud accounting

12.3HUMAN RESOURCE ACCOUNTING

1. **Meaning:** Human Resource Accounting is the process of identifying and measuring data about Human Resources and communicating this information to the interested parties. It is an attempt to identify and report the Investments made in Human Resources of an organisation that are currently not accounted for in the Conventional Accounting Practices.

   Thus, *Human Resource Accounting* is a term applied by the Accountancy Profession to quantify the cost and value of employees of their employing organisation.

2. **Objectives of Human Resource Accounting**

   The Aim of HR Accounting is to depict the Potential of the Employees in Monetary Terms. This concept can be examined from 2 directions i.e.

   1. **Cost of Human Resources** i.e., the expenditure incurred for recruiting, staffing and training the Quality of the Employees.

   2. **Value of Human Resources** i.e., the yield which the above investment can yield in the future.

3. **Importance of Human Resource Accounting**

Followings are the importance of human resource accounting:

- The 21st Century has been referred to as the Century of the Service Sector. All major expansion scope seems to be happening in the service sector and the scope of expansion of the manufacturing sector is minimal. But are the accountants properly able to value this Service Sector and show this on the Company's Balance Sheet?
- For any Company operating in the Manufacturing Sector, its core assets are its Machinery and Fixed Assets but for a Company operating in the Service Sector, its core assets are its employees which are intangible assets. For a Service Sector Company, the value of employees gains importance as earnings are based on the per-employee per hour billing model and profitability is linked to the value added by the workforce.
- The Concept of Human Resource Accounting was established primarily for the service sector has now started gaining so much relevance that now Companies in all Sectors have applied HR Accounting and a good weightage is given to these reports when making any Company Analysis.

4. Benefits of Human Resource Accounting

The main benefits of Human Resource Accounting are: -

- HR Accounting helps the company ascertain how much Investment it has made on its Employees and how much return it can expect from this Investment.
- The Ratio of Human Capital to Non-Human Capital computed as per the HR Accounting.
- Concept indicates the degree of Labour Intensity of an Organisation.
- HR Accounting provides a basis for planning of physical assets vis-a-vis Human Resources.
- HR Accounting provides valuable information to Investors interested in making Long Term Investments in-service Sector Companies.

5. Methods of Human Resource Accounting

Quite a few Models have been suggested in the past for the Human Resource Accounting and these can be classified into 2 parts each having various Models. Some of the Important ones are: -

A. Cost Based Models

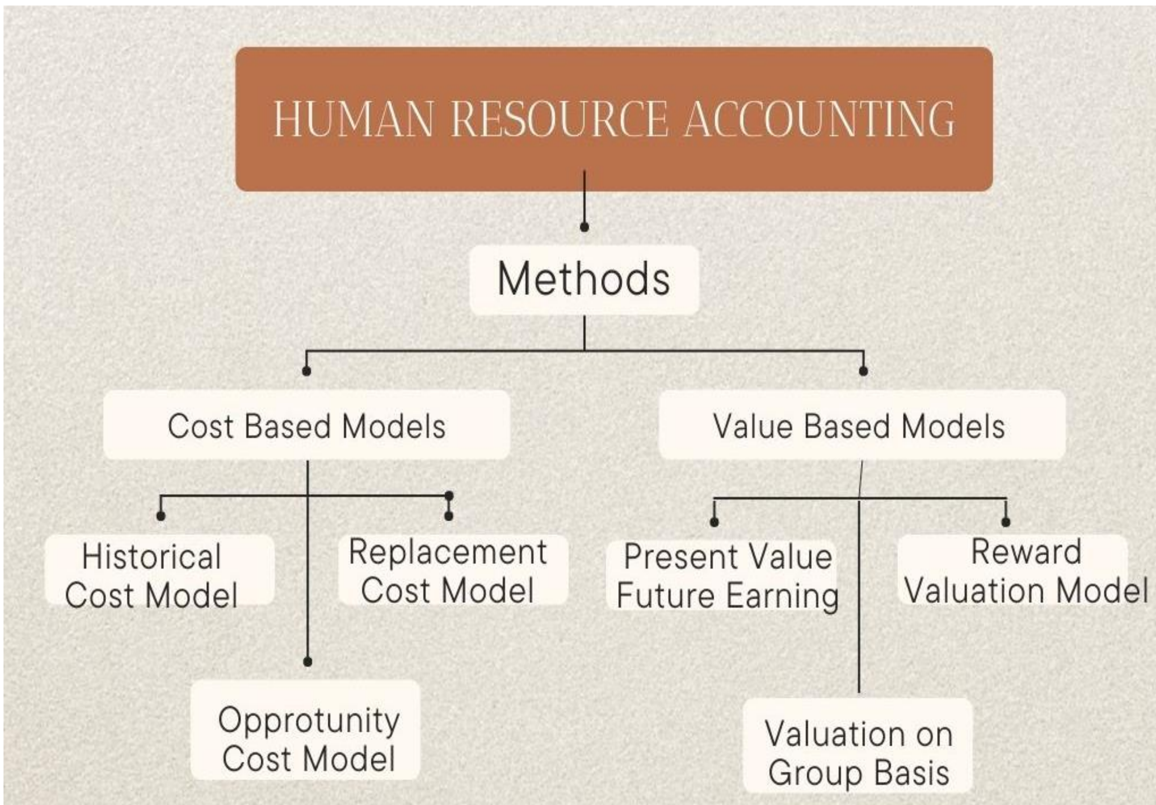
- Capitalization of Historical Costs Model

- Replacement Costs Model
- Opportunity Cost Model

B. Value Based Models

- Present Value of Future Earnings Model/ Lev and Schwartz Model
- Reward Valuation Model/ Flam Holtz Model.
- Valuation on Group Basis

Figure 12.1: Methods of Human Resource Accounting



12.3.1 COST BASED MODELS

I. Capitalisation of Historical Costs

- As per this Method of HR Accounting, the sum of all costs related to Human Resources (i.e., Recruitment, Acquisition, Formal Training, Informal Training, Informal Familiarization, experience and development) is taken together to represent the value of the human resources.

- The value is amortized annually over the expected length of the service of individual employees and the unamortized cost is shown as Investments in the Human Assets. If an employee leaves the firm (i.e., Human Assets expire) before the expected service life period, then the net value to that extent is charged to the Current Revenue.

II. Replacement Costs Model

• The Historical Cost Method was highly criticized as it only takes into account the Sunk Costs which are irrelevant for Decision Making. Thus, a new model for Human Resource Accounting was conceptualized which took into the account, the costs that would be incurred to replace its existing human resources by an identical one.

1. **Individual Replacement Costs** – which refers to the cost that would have to be incurred to replace an individual by a substitute who can provide the same set of services as that of the individual being replaced.

2. **Positional Replacement Costs** – which refers to the cost of replacing the set of services referred by an incumbent in a defined position. Thus, the Positional Replacement Cost takes into account the position in the organisation currently held bythe employee and also the future positions expected to be held by him.

III. Opportunity Cost Model

- This model was advocated by Hekimian and Jones in the year 1967 and is also known as the Market Value Method.
- This method of measuring Human Resources under this Model is based on the concept of opportunity cost i.e., the value of an employee in its alternative best use, as a basis of estimating the value of human resources. The opportunity cost value may be established by competitive bidding within the firm, so that in effect, managers bid for any scarce employee. A human asset therefore, will have a value only if it is a scarce resource, that is, when its employment in one division denies it to another division.

Limitations

One of the serious limitations of this method for Human Resource Accounting is that it excludes employees of the type which can be hired readily from outside the firm. Thus, this approach seems to be concerned with only one section of a firm's human resources, having special skills within the firm or in the labour market.

12.3.2 ECONOMIC VALUE BASED MODELS

I. Present Value of Future Earnings Model

• This Model of human resource accounting was developed by Lev and Schwartz in the year 1971 and involves determining the value of human resources as per the **present value of estimated future earnings discounted by the rate of return on Investment (Cost of Capital).** As per this valuation model of Human Resource Accounting, the following expression is used for calculating the expected value of a person's human capital.

$$E(V_{\tau}^{*}) = \sum_{t=\tau}^{T} P_{\tau}(t+1) \quad \sum_{t=\tau}^{T} \frac{I_{i}^{*}}{(1+r)^{t-\tau}}$$

ıere P (t) is the probability of a person dying at age

τ = the human capital value of a person τ years o

t) = the person's annual earnings upto retirement.

= a discount rate specific to the person.

= retirement age.

Limitations

- This Model of HR Accounting ignores the possibility and probability that an Individual may leave an organisation for reasons other than Death or Retirement.
- This Model of HR Accounting also ignores the probability that people may make role changes during their careers. For example, an Assistant Engineer will not remain in the same position throughout the expected service life in the Organisation.

Despite the above limitations, this model is the most commonly used model across the Globe for the purpose of Human Resource Accounting.

II. Reward Valuation Model/ Flam Holtz Model

• Flam Holtz advocated that an **Individual's Value to an organisation is determined by the services he is expected to render.** This model of Human Resource Accounting is an improvement to the "Present Value of Future Earnings Model" as it takes into account the probability that an individual is expected to move through a set of mutually exclusive organisational roles or service states during a time interval. Such movement can be estimated probabilistically by using the following model

Limitations

(a) The major drawback of this model of Human Resource Accounting is that it is difficult to estimate the probabilities of likely service states of each employee.

(b) Determining the monetary equivalent of service states is also very difficult and costly affair.

(c) Since the analysis is restricted to Individuals, it ignores the value-added element of Individuals working as groups.

III. Valuation on Group Basis

- While applying the above models, the accountants realised that proper Valuation as per Human Resources Accounting is not possible unless the contributions of the Individuals as a Group are taken into consideration.
- An Individual's expected service tenure in the organisation is difficult to predict but on a group basis it is relatively easier to estimate the percentage of people in a group likely to leave the organisation in the future. This model of Human Resource Accounting attempted to calculate the present value of all existing employees in such in each rank. Such Present Value is ascertained with the help of the following steps: -

  1. Ascertain the number of employees in each rank

2. Estimate the probability that an employee will be in his rank within the organisation or will be terminated in the next period. This probability will be estimated for a specified time period.

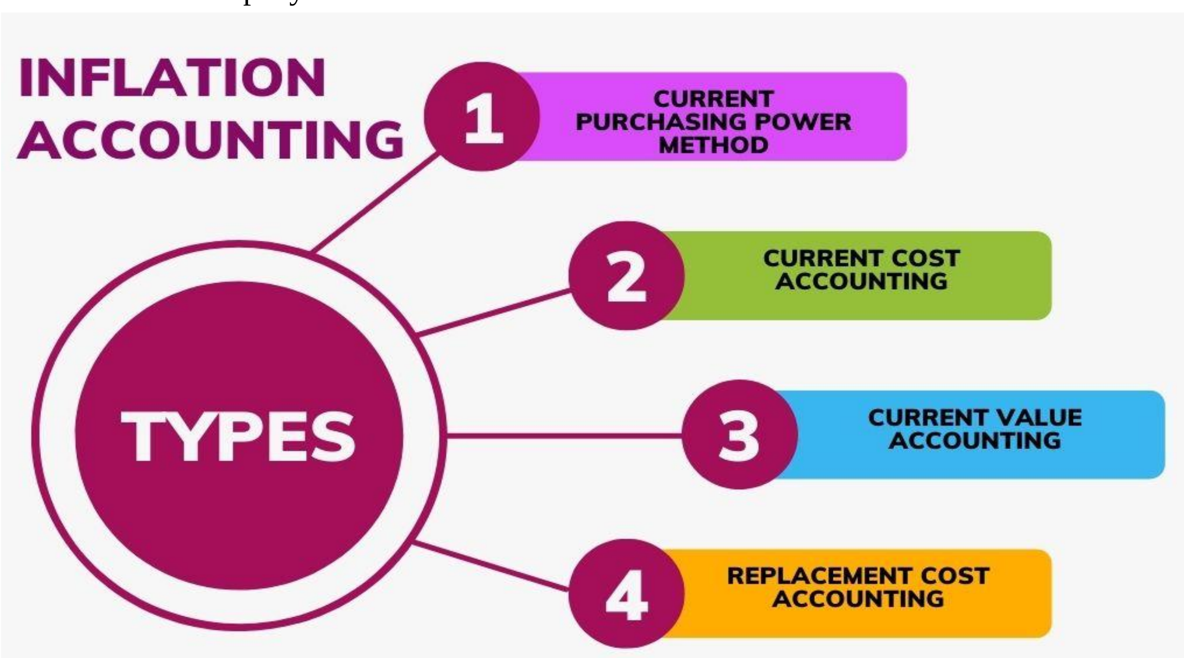
3. Ascertain the economic value of an employee in a specified rank during each time period.

4. The present value of existing employees in each rank is obtained by multiplying the above three factors and applying an appropriate discount rate.

12.4 INFLATION ACCOUNTING

1. Meaning

- It is a newly introduced concept in the financial world. **Inflation accounting refers to the adjustment of the financial statements during the inflationary periods.** This special accounting technique is only used in inflationary periods where the general level of prices is usually high for three consecutive quarters.
- It involves the recording of the income and expenditure of the business at the current prices and reinstating all the three statements of the company and analyse the cost and the trend of the current company.



2. Types and Components of Inflation Accounting

There are various kinds of techniques which are involved in the inflation accounting and there are various methods attached to it.

Figure 12.2: Types of Inflation Accounting

1. Current Purchasing Power Method

This technique involves adjustment of the financial statements to the current price changes. It involves recalculating the historical financial figures of the company at the current purchasing power which is done by applying a certain conversion factor (Consumer Price Index Prepared by RBI).

2. Current Cost Accounting

Under this method, the cost categories and the various cost items and the items in the balance sheet are shown at the current cost rather than the historical cost and the profit is determined on the actual cost period and not on the basis of the sales.

3. Current Value Accounting:

- Under this method, all assets and liabilities are measured and are **reinstated at their cost structure**.
- The Value of Net Assets at the beginning and at the end of accounting period is ascertained and the difference in the value at beginning and end is termed as Profit or Loss, as the case may be.

3. Replacement cost accounting:

The **cost of replacing is the parameter** under which all the assets and the liabilities on the balance sheet are recorded.

Below are **examples** of inflation which are as follows:

ASD company is involved in manufacturing and have purchased a Machinery in 2001 for ₹10,000. ASD company is using an inflation accounting technique to reinstate its financial records in the year 2009. Find the current cost of the machine purchased in the year 2001 if the general price index in 2001 was 400 and itis 600 in the year 2009.

So,

The Current price index = 600

Base price index = 400

Historical Cost = ₹10,000

Current Cost = 600/400 X 10,000 = ₹15,000. The current cost would be ₹15,000 and it would be recorded as the closing balance of the land in the balance sheet

4. Advantages of Inflation Accounting

- It reflects the current and not the historical cost of the balance sheet.
- It is highly effective in times of general inflation or hyperinflation.
- Depreciation of the business is valued and cost on the current price and not on the historical or the carrying value of the asset which is the correct method.
- Profit and loss will reflect the true condition of the company.
- Financial ratios based on figures, adjusted to the current value, are more meaningful.

5. Disadvantages of Inflation Accounting

- Changing in price is a never-ending process hence it becomes difficult every time to reinstate the figures of the company and present the financial statements.
- Inflation accounting is a complicated process and it involves too much calculation and the data gathering process.
- In times of deflation, the depreciation cost will be on a lower side hence it does not reflect the true picture.

6. Conclusion

Inflation accounting has its own merits and demerits due to which the use of inflation accounting is not still very much prevalent in the industry. But as the time will progress there is no doubt that inflation accounting will speed up and the development will lead to the future of accounting which is inflation accounting.

ENVIRONMENTAL ACCOUNTING

1. **Meaning:** The term environmental accounting is frequently used within the accounting and environmental management literatures. Environmental accounting is a broader term that relates to the provision of environmental-performance-related information to stakeholders both within, and outside, an organization.

- **According to the United States Environment Protection Agency (US EPA):**

An important function of environmental accounting is to bring environmental costs tothe attention of corporate stakeholders who may be able and motivated to identify ways of reducing or avoiding those costs while at the same time improving environmental quality.

While environmental accounting can be 'corporate-focused', it should also be appreciated that environmental accounting can also be undertaken at a national or regional level. The practice of including the indirect costs and benefits of a product or activity, for example, its environmental effects on health and the economy, along with its direct costs when making business decisions.

2. **Forms of Environmental Accounting:**

I. **Environmental Management Accounting (EMA):** Management accounting with a particular focus on material and energy flow information and environmental cost information. This type of accounting can be further classified in the following subsystems:

a. Segment Environmental Accounting: This is an internal environmental accounting tool to select an investment activity, or a project, related to environmental conservation from among all processes of operations, and to evaluate environmental effectss for a certain period.

b. **Eco Balance Environmental Accounting**: This is an internal environmental accounting tool to support PDCA for sustainable environmental management activities.

c. Corporate Environmental Accounting: This is a tool to inform the public of relevant information compiled in accordance with the Environmental Accounting. It should be called as Corporate Environmental Reporting. For this purpose, the cost and effect (in quantity and monetary value) of its environmental conservation activities are used.

II. **Environmental Financial Accounting (EFA):** Financial Accounting with a particular focus on reporting environmental liability costs and other significant environmental costs.

III. **Environmental National Accounting (ENA):** National Level Accounting with a particular focus on natural resources stocks & flows, environmental costs & externality costs etc.

3. Need of Environmental Accounting at Corporate Level:

It helps to know whether corporation has been discharging its responsibility towards environment or not.

Basically, a company has to fulfil following environmental responsibilities.

a) Meeting regulatory requirements or exceeding that expectation.

b) Cleaning up pollution that already exists and properly disposing of the hazardous material.

c) Disclosing to the investors both potential & current, the amount and nature of the preventative measures taken by the management (disclosure required if the estimated liability is greater than a certain percent say 10 per cent of the company's net worth).

d) Operating in a way that those environmental damages does not occur.

e) Promoting a company having wide environmental attitude.

f) Control over operational & material efficiency gains driven by the competitive global market.

g) Control over increases in costs for raw materials, waste management and potential liability

4. Scope of Environment Accounting

The scope of Environmental Accounting (hereinafter called as EA) is very wide. It includes corporate level, national & international level. As far as this article is concerned the emphasis is given on the corporate level accounting. The following aspects are included in EA:

1) From Internal point of view investment made by the corporate sector for minimization of losses to environment. It includes investment made into the environment saving equipment devices. This type of accounting is easy as money. measurement is possible.
2) From external point of view all types of loss r indirectly due to business operation/activities. It mainly includes:

- Degradation and destruction like soil erosion, loss of bio diversity, air pollution, water pollution, voice pollution, problem of solid waste, coastal & marine pollution.
- Depletion of non-renewable natural resources i.e., loss emerged due to overexploitation of non-renewable natural resources like minerals, water, gas, etc.
- Deforestation and Land uses. This type of accounting is not easy, as losses to environment cannot be measured exactly in monetary value. Further, it is very hard to decide that how much loss was occurred to the environment due to a particular industry.

5. **Limitations of Environmental Accounting**

EA suffers from various serious limitations as follows:

1. There is no standard accounting method.
2. Comparison between two firms or countries is not possible if method of accounting is different which is quite obvious
3. Input for EA is not easily available because costs and benefits relevant to the environment are not easily measurable.
4. Many businesses and the Government organizations even large and well managed ones don't adequately track the use of energy and material or the cost of inefficient materials use, waste management and related issue. Many organizations, therefore, significantly underestimate the cost of poor environment performance to their organization.
5. It mainly considers the cost internal to the company and excludes cost to society.
6. EA is a long-term process. Therefore, to draw a conclusion with help of it is not easy.
7. EA cannot work independently. It should be integrated with the financial accounting

12.5 SOCIAL ACCOUNTING

1. **Meaning:** The term "social accounting" refers to data on a company's output, consumption, outlays, etc., and how it benefits the larger social environment. To achieve their objectives and contribute to sustainable development, all organisations must take into account their social costs and benefits.

2. **Types of Social Accounting**

I. **Environmental Accounting:** It provides details regarding the effects on the environment. In other words, it can reveal information about how a company's operations affect air, water, land, the environment, and natural resources like coal, zinc, oil, and gas.

II. **Sustainability Accounting:** It provides information on social and economic sustainability and is also known as corporate social responsibility. It has an immediate effect on society, the environment, and an organization's financial performance. Utilizing recycled materials, for instance, can contribute to sustainability.

III. **National Accounting:** It alludes to accounting methods that examine a country's economic activity. It examines the nation's overall outlay for carrying out a commercial activity. For instance, in order to prevent fraud, a government must track every dollar it spends on a project.

Apart from the regular audit, they conduct special audits to know if there is any misuse of expenses.

Figure 12.3: Social Accounting

Example:

- Corporate Social Responsibility, such as building a hospital in their neighbourhood
- Waste paper is recycled and used in the paper industry to make new paper.
- Due to the release of toxic air that is harmful to both living things and non-living things, manufacturing facilities are located outside of the immediate area.
- Utilizing waste disposal methods to prevent water pollution.

3. **Benefits**

- It built trust in society through its transparency.
- It is beyond financial reporting because it covers social impact.
- It provides information to the government, people, society.
- It helps achieve social objectives by providing transparent information.
- It is also helpful in measuring social analysis Cost etc.

4. **Limitations**

- Since it is a hypothetical cost, it cannot be measured in money
- It has no effect on the financial measures used in financial reporting.

12.6 CLOUD ACCOUNTING

1. **Meaning:** These days, everything is stored in the cloud, including your music, photos, and passwords. Why not your account then? Saving money and time with cloud accounting. In fact, roughly two thirds of accountants think it will be beneficial to their work. The main benefit of using cloud accounting software is that you and your team can update and access your financial information at any time, from any location, and most importantly, simultaneously. With no need for email exchange or permanent archives, collaboration is simpler than ever. Speaking of archiving, cloud accounting software makes sure that your data is stored securely with military-grade encryption, which is unquestionably better than USB sticks.
2. **What is Cloud Accounting:** It's nothing new to keep track of your small business's earnings and expenses in order to monitor past financial performance. Accounting software has been around for decades, and double-entry bookkeeping has been practised for centuries. These tools allow finance teams to record and monitor the money coming into and leaving the company.
3. **Benefits of Cloud Accounting Software:** The main advantages offered by cloud accounting software account for why it has quickly become the tool of choice for many finance professionals. These advantages also demonstrate why cloud accounting is evolving into the norm.

   I. **Automation:** Transactions are automatically posted to the accounting system when bank accounts are connected, so there is no need for laborious data entry or manual imports. In order to help you close the books more quickly, this software can also automate account reconciliations by comparing bank statements and invoices to ledgers. On user-specified dates, some accounting software can also automatically pay suppliers and send invoices to clients.

II. **Accessibility:** An internet connection, web browser, and login information are all that are required for anyone to access a cloud accounting solution, as was already mentioned. On portable electronics like smartphones and tablets, they can access the solution. To view information or complete tasks in the system, employees and other users are not required to be on a specific computer or in a specific location. That also makes it possible for someone like your accountant from a CPA firm, for example, to find all the information they require and notify leaders of anything that needs their attention.

III. **Lower overhead expenses:** Businesses that use the cloud typically spend less than those that manage their tech stacks internally. According to cloud research company Datometry, more than 60% of IT executives said that cutting costs was their top priority. The fact that you don't need to buy hardware or pay a large IT staff to manage the system accounts for a large portion of those savings. The total cost of ownership is also reduced by avoiding upgrades and maintenance, which frequently result in hefty bills from the vendor or a partner.

IV. **Data security:** Top cloud software providers have much more stringent security protocols than most businesses can achieve with on-premises systems. The risk that a fire or other natural disaster could compromise your instance of the system and information is lower thanks to cloud providers' regular data backups to servers in different locations. Because the data is not stored on the device itself, people in your office cannot steal hard drives or other devices containing private information. Additionally, there is no need to share data via insecure channels like emails or flash drives.

V. **Scalability:** With cloud software, businesses can access almost any computing resource they might require. They can add server space as needed as the company and its requirements expand. If they need more functionality, they don't have to buy new hardware or make any other changes. Outsourcing all of the infrastructure has this as another significant benefit. Cloud accounting solutions can be quickly and more affordably implemented across multiple locations or geographies.

VI. **Increased collaboration**: As all information is available to and viewable by all authorised users, cloud accounting software makes collaboration easier. There is no single information gatekeeper, so permissions can be changed to allow someone, like a marketing leader, to view sales data from the previous quarter. Teamwork and cross-departmental projects are encouraged by visibility.

VII. **Faster implementation:** Because there are no servers to buy, set up, or train an IT team for, businesses can typically implement cloud solutions more quickly. Top vendors have also completed thousands of implementations and created effective, repeatable processes that will enable you to start enjoying the benefits of the new system right away.

4. Challenges of Traditional Accounting Software

While those benefits may sound promising, perhaps you feel like your aging on-premises accounting software is still getting the job done. What might you be missing out on by hanging on to that system?

I. **Expensive, long upgrades:** Inconvenient upgrades to on-premises systems are notorious for taking months or longer to complete and requiring users to reinstall or reprogram customizations. These projects rarely go as planned, so the bills can add up quickly. Because of this, many businesses put off upgrades, which prevents them from taking advantage of the newest features and functionality that their rivals might have.

II. **Poor security practices:** It's a big job to back up all the data in your accounting software. The

III. **Figure 12.4: Benefits of Cloud Accounting Software**

IV. process of setting up backups can be costly and labour-intensive, so businesses frequently don't finish it at all. Due to the constant possibility of a successful ransomware attack or natural disaster, you run the constant risk of losing weeks or months' worth of important data.

V. **Limited access:** Traditional accounting software can restrict where and how users use it because they frequently need to be on the company's network or log into a VPN to access the system. This adds hassle and expense because the company must buy VPN or similar software. Key stakeholders' access to information that might influence their strategy and decisions may be constrained as a result.

VI. **End of Life (EOL):** Many on-premises accounting software providers are ceasing support for their products as cloud accounting becomes more prevalent. This poses a significant risk because, if you're using an end-of-life solution, you'll either have to switch to the cloud or assume full ownership of out-of-date, unsupported on-premises software. The software is frequently updated and is unlikely to be retired with cloud accounting.

5. When Should a Company Use Cloud Accounting?

Given the many benefits of cloud accounting and its lower initial costs, many younger businesses choose to use it right away. Cloud versions are now available for even entry-level accounting systems, which may encourage customers to switch.

All businesses operate on a financial and accounting foundation because they require a system for tracking transactions and assessing their financial health at any given time. Without good financial management, a company won't last long and runs the risk of breaking important financial and tax regulations. When a business is first starting out, it might manage its general ledger and other accounts using spreadsheets or other manual systems. However, this method is labour-intensive, prone to errors, and frequently proves unsustainable.

All of these typical problems are resolved by a cloud accounting system. Software is available for all types of businesses, from sole proprietorships to multinational corporations, making it a sensible choice for practically any company in any sector.

12.8 ACTIVITY

1) Discuss with some of your friends who are studying or practicing the accounting profession. Have a general talk with them and note down what they have observed as recent trends in the accounting profession.

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2) Take Annual Reports of some Limited companies and find out how much of space they spend in providing non-financial information?

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12.9 TEST YOUR UNDERSTANDING

1. Briefly Explain the recent developments in the area of accounting.

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2. Explain the Qualitative characteristics of Cloud Accounting.

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12.10 LET'S SUM UP

As you can see, technological advancements have brought about a lot of changes in the accounting industry, most of which are positive. This implies that you can anticipate more effective bookkeeping as well as the capacity to decide wisely about conducting business using optimised financial data.

12.11 KEY TERMS

- **Accounting:** Accounting is the process of recording, classifying, summarizing and interpreting the financial transactions of a business or an individual, in terms of money, in a set of books accurately and systematically in order to obtain necessary information.
- **Accounting Standards: The** Accounting Standards describe the accounting principles, the valuation techniques and methods of applying the accounting principles in the preparation and presentation of financial statements so that they may give a true and fair view. It will provide uniformity and reduce the financial conflicts between different groups of society.
- **Social Accounting:** Social accounting is the accounting of costs and benefits to the society on account of business activities of the organisation; for the purpose of communicating, it to the interested parties. Social accounting is also known as Social Responsibility accounting or social and environment accounting, corporate social reporting, non-financial accounting.
- **Human Resource Accounting (HRA):** Human Resource Accounting (HRA) is a new branch of accounting. HRA means accounting for people as the Organisational resources. It is the measurement of the cost and value of people to organisations. It involves measuring costs incurred by private firm and public sectors to recruit, select, hire and train and develop employees and judge their economic value of the organisation.
- **Environment Accounting:** Environment Accounting or Green Accounting is the subset of accounting purpose is to incorporate both economic and environmental information. It can be conducted at the corporate level or at the level of a national economy.
- **Cost Accounting**: Cost accounting deals with ascertaining cost of product or service of the business. Cost accounts also helps business in fixing the price of the product or to make the quotation for supply of the product.
- **Management Accounting**: Management accounting is the branch of accounting that helps the management of the business in managing the functions of the business. Management accounting generate accounting information related to position of funds in the business, cost of the business, assets and liabilities of the business.

12.12 REVIEW QUESTIONS

1. What is human resource accounting? Or state the meaning of human resource accounting.

2. Give the meaning of environmental accounting.
3. What is Social Accounting?
4. Briefly explain the need for international accounting standards or state the significance of accounting standards.
5. What is environmental accounting? State its needs.
6. What is human resource accounting? explain the different methods of human resource accounting.
7. Explain various Branches of Accounting.
8. Explain various qualitative characteristics of Green Accounting.

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