Directorate of Distance Education

UNIVERSITY OF JAMMU

JAMMU

SELF LEARNING MATERIAL

FOR

M.COM SEMESTER - IV

STRATEGIC COST MANAGEMENT

M.COM-IV SEMESTER	**UNIT : 1-IV**
COURSE NO. M.COM-FE416	**LESSON NO. 1 TO 20**

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DIRECTORATE OF DISTANCE EDUCATION
UNIVERSITY OF JAMMU

M.COM. FOURTH SEMESTER (NCBCS)

FINANCE GROUP

STRATEGIC COST MANAGEMENT

(Elective Course)

Course: M.COM-FE416	**Max. Marks: 100 Marks**
Credit: 4	**External: 80 Marks**
Time: 3.00 Hrs	**Internal: 20 Marks**

(Syllabus for the examination to be held in May 2021, 2022, 2023)

OBJECTIVE: To make the students familiar with how to provide an effective and lucid theoretical analysis of cost and management accounting concepts.

UNIT-III: BUDGETING AND BUDGETING CONTROL **117-154**

Budgeting and budgetary control; Forecasts vs. Budgets; Functional budgets; Fixed and Flexible budgeting; Zero based budgeting; Programme budgeting and performance budgeting; Target and Life cycle costing.

UNIT-IV: RESPONSIBILITY ACCOUNTING AND GREEN ACCOUNTING **155-189**

Meaning, definitions, features and objectives of responsibility accounting, steps involved in responsibility accounting; Responsibility centres; Social Cost-Benefit Analysis; Meaning of green accounting; Benefits of green accounting; Limitations of green accounting; Need for adoption of green accounting; Laws related to green accounting; Opportunities in green accounting; Green accounting in India and the way forward.

BOOKS RECOMMENDED

1. Introduction to Management Accounting, Horngren, Sundem Stratton, Prentice Hall, Publisher.
2. Management Accounting, Atkusan Kapak, Pearson Publication
3. Management Accounting, James Jiamtalvo-Wiley Publication
4. International Accounting, Shirin Rathore, Prentice Hall Publication
5. Management Accounting, I.M. Pandey, Vikas Publishing House
6. Management Accounting, SP Gupta, Sahitaya Bhawan Publication
7. Management Accounting, Harsen and Mowen, Thompson
8. Advanced Cost and Management Accounting, V.K. Saxena & C.D. Vashist, S. Chand & Sons Publications.

NOTE FOR PAPER SETTING:

The paper consists of two sections. Each section will cover the whole of the syllabus without repeating the question in the entire paper.

Section A: It will consist of eight short answer questions, selecting two from each unit. A candidate has to attempt any six and answer to each question shall be within 200 words. Each question carries four marks and total weightage to this section shall be 24 marks.

Section B: It will consist of six essay type questions with answer to each question within 800 words. One question will be set atleast from each unit and the candidate has to attempt four. Each question will carry 14 marks and total weightage shall be 56 marks.

MODEL QUESTION PAPER

Section A: Attempt any six questions. Each question carries 4 marks. Answer to each question should be within 200 words.

1. What are the roles of management accountant in a firm?
2. Differentiate between cost accounting and management accounting.
3. Discuss the weaknesses of absorption costing.
4. How does Activity based costing differ from absorption costing?
5. What does the term Zero based budgeting mean? Write its features.
6. Explain various budgetary controls.
7. Why did the need arise for green accounting?
8. Explain responsibility accounting. Write various step involved in responsibility accounting.

Section B: Attempt any four questions. Each question carries 14 marks. Answer to each question should be within 800 words.

1. Discuss in detail the importance of cost accounting. Explain various methods of costing.
2. Explain cost volume profit analysis. Write various assumptions of Break-Even Point analysis.
3. How did Zero based budgeting evolve? Why Zero-based budgeting is preferable over other budgeting types?
4. What is the difference between Programme budgeting and Performance budgeting?
5. Discuss in detail various laws pertaining to green accounting. Write the benefits of green accounting to society.
6. What do you understand by the term responsibility accounting? Write its features and objectives.

UNIT-I **LESSON-1**

MEANING, DEFINITIONS, NATURE AND SCOPE OF MANAGEMENT ACCOUNTING

STRUCTURE

1.1 INTRODUCTION

Management Accounting comprises of two words 'Management' and 'Accounting'. It is the study of managerial aspects of accounting. The emphasis of management accounting is to redesign accounting in such a way that it is helpful to the management of the organisation in formation of policies, control of execution and appreciation of effectiveness. It is that system of accounting which helps management in carrying out its functions more effectively.

The term 'Management Accounting' was first used in 1950 by a team of accountants visiting U.S.A. under the auspices of Anglo-American Council on Productivity. The terminology of cost accountancy had no reference to the world management accountancy before the report of this study group. The complexities of business environment have necessitated the use of management accounting for planning, co-ordinating and controlling functions of management.

A small undertaking with a local character is generally managed by the owner himself. The owner is in touch with day-to-day working of the enterprise and he plans and coordinates the activities himself. The use of simple accounting enables the preparation of profit and loss account and balance sheet for determining profitability and assessing financial position of the enterprise. All informational needs for managerial purposes are met by simple financial statements. Since, the owner is both the decision-maker and implementer of such decisions, he does not feel the necessity of any communication system and no additional information is required for managerial purposes. The evolution of joint stock company form of organisation has resulted in large-scale production and separation of ownership and management.

The introduction of professionalism in management has brought in the division of organisation into functional areas and delegation of authority and decentralisation of decision-making. The decision-making no more remains a matter of intuition. It requires the evolution of information system for helping management in planning and assessing the results. The accounting information is required as a guide for future. The management is to be fed with precise and relevant information so as to enable it in performing managerial functions effectively and efficiently.

1.2 OBJECTIVES

The main objectives of this lesson to make you :

- Know about the meaning of Management Accounting.
- Understand the various objectives of Management Accounting.
- Know the various definitions of Management Accounting given by Renounced Authors.
- Understand the Nature of Management Accounting.
- Know about scope of Management Accounting.

1.3 MEANING AND DEFINITIONS OF MANAGEMENT ACCOUNTING

Management accounting refers to the practice of identifying, measuring, analysing, interpreting, and communicating financial information to managers to enable them to take informed and prudent managerial decisions for achieving organization's goals. The primary purpose of management accounting is to help internal users in taking well informed management decisions.In other words, management accounting deals with the presentation of information so that it is helpful to management. Management will like to base its policy decisions on some information and the information should be presented according to the needs of management. The main emphasis of this definition is on presentation of information and it does not include in its purview the collection of it. It is the process of preparing reports about business operations that help managers make short-term and long-term decisions. It helps a business pursue its goals by identifying, measuring, analysing, interpreting and communicating information to managers. It helps managers within a company make decisions.

According to Robert N. Anthony, "Management Accounting is concerned with accounting information that is useful to management."

Anthony associates management accounting with accounting information and its utility to management. The financial information should be collected, complied and presented to management in such a way that it is helpful in solving various problems.

According to Anglo-American Council on Productivity, "Management Accounting is the presentation of accounting information in such a way as to assist management in the creation of policy and the day-to-day operation of an undertaking."

According to T.G.Rose, "Management Accounting is the adaption and analysis of accounting information and its diagnosis and explanation in such a way as to assist management."

According to this definition, management accounting adapts financial information. The information is selected, classified and analysed in such a way that it helps the management in carrying out various operations systematically and efficiently. The information is made more useful by giving details and explanation.

1.4 OBJECTIVES OF MANAGEMENT ACCOUNTING

The primary objective of management accounting is to enable management to maximise profits or minimise losses. This is done through the presentation of statements in such a way that management is able to take correct policy decisions. The following are the objectives of management accounting:

a) Planning and Policy Formulation:

The object of management accounting is to supply necessary data to the management for formulating plans. Planning is essentially related to taking decisions for future. It also includes forecasting, setting goals and deciding alternative courses of action. Management accountant prepares statements of past results and gives estimations for the future. He also gives his assessment of various facts and gives his preference for a particular alternative. The figures supplied and opinion given by the management accountant help management in planning and policy formation.

b) Helpful in Controlling Performance:

Management accounting devices like standard costing and budgetary control are helpful in controlling performance. The work is divided into different units and separate goals are set up for each unit. The performance of every unit is made the responsibility of a particular person. The required authority for getting the work done is also delegated to the concerned persons. The actual results are compared with predetermined objectives. The management is able to find out the deviations and take necessary corrective measures. Different departmental heads are associated with preparing budgets and setting upgoals. The management accountant acts as a co-ordinating link between different departments and he also monitors their performance to the top management. The management is able to control performance of each and every individual with the help of management accounting devices.

c) Helpful in Organising:

Organising is related to the establishment of relationship among different individuals in the concern. It also includes the delegation of authority and fixing of responsibility. Management accounting is connected with the establishment of cost centres, preparation of budgets, preparation of cost control accounts and fixing of responsibility for different functions. All these aspects are helpful in setting up an effective and efficient organisational framework.

d) Helpful in Interpreting Financial Information:

The main object of management accounting is to present financial information to the management in such a way that it is easily understood. Financial information is of a technical nature and managerial personnel may not be able to understand the significance and utility of various financial statements. Management accountant explains these statements to the management in a simple language. If necessary, he uses statistical devices like charts, diagrams, index numbers, etc. so that the information is easily followed.

e) Motivating Employees:

Management accounting helps the management in selecting best alternatives of doing the things. Targets are laid down for the employees. They feel motivated in achieving their targets and future incentives may be given for improving their performance.

f) Helpful in Making Decisions:

The management has to take certain important decisions. A decision may have to be taken about the expansion or diversification of production. There may be a question of replacement of labour with machine or introduction of latest technological devices. Management accountant prepares a report on the feasibility of various alternatives and makes an assessment of their financial implications. The information provided by the accountant helps management in selecting a suitable alternative and taking correct decisions.

g) Reporting to Management:

One of the primary objectives of management accounting is to keep the management fully informed about the latest position of the concern. This helps management in taking proper and timely decisions. The management is kept informed through regular financial and other reports. The performance of various departments is also regularly communicated to the top management.

h) Helpful in Co-ordination:

Management accounting provides tools which are helpful in coordinating the activities of different sections or departments. Co-ordination is done through functional budgeting. Management accountant acts as a co-ordinator and reconciles the activities of different sections

i) Helpful in Tax Administration:

The complexities of tax system are increasing every day. Management accounting helps in assessing various tax liabilities and depositing correct amount of taxes with the concerned authorities. Various tax returns are to be filed under different tax laws. Tax administration is carried on with the advice and guidance of the management accountant.

1.5 NATURE OF MANAGEMENT ACCOUNTING

The nature of management accounting is discussed as follows:

a) **Use of Special Techniques and Concepts:**

Management accounting uses special techniques and concepts to make accounting data more useful. The techniques usually used include financial planning and analysis, standard costing, budgetary control, marginal costing, project appraisal, control accounting, etc. The type of technique to be used will be determined according to the situation and necessity.

b) **Taking Important Decisions:**

Management accounting helps in taking various important decisions. It supplies necessary information to the management which may base its decisions on it. The historical data is studied to see its possible impact on future decisions. The implications of various alternative decisions are also taken into account while taking important decisions.

c) **Achievement of Objectives:**

In management accounting, the accounting information is used in such a way that it helps in achieving organisational objectives. Historical data is used for formulating plans and setting up objectives. The recording of actual performance and comparing it with targeted figures will give an idea to the management about the performance of various departments. In case there are deviations between the standards set and actual performance of various departments corrective measures can be take at once. All this is possible with the help of budgetary control and standard costing.

d) No Fixed Norms Followed:

In financial accounting certain rules are followed for preparing different accounting books. On the other hand, no specific rules are followed in management accounting. Though the tools of management accounting are the same but their use differes from concern to concern. The analysis of data depends upon the person using it. The deriving of conclusions also depends upon the intelligence of the management accountant. Every concern uses the figures in its own way. The presentation of figures will be in the way which suits the concern most. So every concern has its own rules and by rules for analysing the data.

e) Increase in Efficiency:

The purpose of using accounting information is to increase efficiency of the concern. The efficiency can be achieved by setting up goals for each department or section. The performance appraisal will enable the management to pin point efficient and inefficient spots. An effort is made to take corrective measures so that efficiency is improved. The constant review of working will make the staff cost-conscious. Everyone will try to control on one's own part.

f) Supplies Information and not Decision:

The management accountant supplies information to the management. The decisions are to be taken by the top management. The information is calssifiedinthe manner in which it is required by the management. Management accountant is only to guide and not to supply decisions. The data is to be used by management for taking various decisions. How is the data to be utilised will depend upon the calibre and efficiency of the management.

g) Concerned with Forecasting:

The management accounting is concerned with the future. It helps the management in planning and forecasting. The historical information is used to plan future course of action. The information is supplied with the object to guide management for taking future decisions.

1.6 SCOPE OF MANAGEMENT ACCOUNTING

Management accounting is a new approach to accounting. It provides techniques for the interpretation of accounting data. It also helps in developing realistic approach to future course of action. The main aim is to help management in its functions of planning, directing and controlling. Management accounting is related to a number of fields. At the Seventh International Conference of Accountants held in Amsterdern in 1957, the main emphasis was on Cost Accounting, Budgetary Control, Materials Control, Interim Reporting, Deternination of the most efficient and economical accounting system, special cost and economic studies and assisting management in interpreting financial data. The following facts of management accounting are of a great significance and form the scope of this subject.

a) Financial Accounting:

Financial Accounting deals with the historical data. The recorded facts about an organisation are useful for planning the future course of action. Though planning is always for the future but still it has to be based on past and present data. The control aspect too is based on financial data. The performance appraisal is based on recorded facts and figures. So, management accounting is closely related to financial accounting.

b) Cost Accounting:

Cost Accounting provides various techniques for determining cost of manufacturing products or cost of providing service. It uses financial data for finding out cost of various jobs, products or processes. The system of standard costing, marginal costing, differential costing and opportunity costing are all helpful to the management for planning various business activities.

Cost accounting also helps in finding out economical and non-economical fields of production. The efficiency of different departments is judged by setting up standards and finding out variances. So, cost accounting is an essential part of management accounting.

c) Financial Management:

Financial management is concerned with the planning and controlling of the financial resources of the firm. It deals with raising of funds and their effective utilisation. Its main aim is to use business funds in such a way that earnings are maximised. Finance has become so much important for every business undertaking that all managerial activities are connected with it. Financial viability of various proposition influence decision on them. Although, financial management has emerged as a separate subject, management accounting includes and extends to the operation of financial management also.

d) Budgeting and Forecasting:

Budgeting means expressing the plans, policies and goals of the enterprise for a definite period in future. The targets are set for different departments and responsibility is fixed for achieving these targets. The comparison of actual performance with budgeted figures will give an idea to the management about the performance of different departments. Forecasting, on the other hand, is a prediction of what will happen as a result of a given set of circumstances. Forecasting is a judgement whereas budgeting is an organisation object. Both budgeting and forecasting are useful for management accountant in planning various activities.

e) **Inventory Control:**

Inventory is used to denote stock of raw materials, goods in the process of manufacture and finished products. Inventory has a special significance in accounting for determining correct income for a given period. Inventory control is significant as it involves large sums. The management should determine different levels of stocks, i.e., minimum level, maximum level, re-ordering level for inventory control. The control of inventory will help in controlling cost of products. Management will need effective inventory control for controlling stocks. Management accountant will guide management as to when and from where to purchase and how much to purchase. So, the study of inventory control will be helpful for taking managerial decisions.

f) **Interpretation of Data:**

The management accountant interprets various financial statements to the management. These statements give an idea about the financial and earning position of the concern. These statements may be studies in comparison to statements of earlier periods or in comparison with the statements of similar other concerns. The significance of these reports is explained to the management in a simple language. If the statements are not properly interpreted then wrong conclusions may be drawn. So interpretation is as important as compiling of financial statements.

g) **Control Procedures and Methods:**

Control procedures and methods are needed to use various factors of production ina most economical way. The studies about cost, relationship of cost and profits are useful for using economic resources efficiently and economically.

h) **Internal Audit:**

Internal audit system is necessary to judge the performance of every department. The actual performance of every department and individual is compared with the pre-determined standards. Management is able to know deviations in performance. Internal audit helps management in fixing responsibility of different individuals.

i) Tax Accounting:

In the present complex tax systems, tax planning is an important part of management accounting. Income statements are prepared and tax liabilities are calculated. The management is informed about the tax burden from central government, state government and local authorities. Various tax returns are to be filled with different departments and tax payments are to be made in time. Tax accounting comes under the purview of management accountant's duties.

j) Office Service:

Management accountant may be required to control an office. He will be expected to deal with data processing, filling, copying, duplicating, communicating, etc. He will be reporting about the utility of different office machines.

1.7 SUMMARY

In this lesson Management Accounting concept has been discussed. Basically, Management Accounting deals with the presentation of information so that it is helpful to management. Management will like to base its policy decisions on some information and the information should be presented according to the needs of management. The main emphasis of this definition is on presentation of information and it does not include in its purview the collection of it.

Further, this lesson throws light on the nature and scope of Management Accounting. In case of Nature of Management Accounting this lesson discussed use of special techniques and concepts, taking important decision, achieving of objective, no fixed norms followed, increase in efficiency, supplies information and not decision and concerned with forecasting. Moreover, the scope of management accounting part discussed about financial accounting, cost accounting, financial management, budgeting and forecasting, inventory control, interpretation of data, control procedure and methods, internal audit, tax accounting and office service.

1.8 GLOSSARY

- **Management Accounting:** It is concerned with accounting information that is useful to management
- **Financial Management:** It is concerned with the planning and controlling of the financial resources of the firm.

1.9 SELF ASSESSMENT QUESTIONS

1. Define Management Accounting.

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   ____

2. Explain the following term and under scope of management accounting:

   a) Financial Accounting

   b) Cost Accounting

   c) Financial Management

   ____

   ____

3. How can you explain that motivating employees is one of the objectives of management accounting?

   ____

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1.10 LESSON END EXERCISE

1. What is management accounting, Discuss the various objectives of management accounting.
2. Explain the nature and scope of management accounting.
3. 'Management Accounting is the presentation of accounting information in such a way as to assist management in the creation of policy and in the day to day operations of the undertaking'. Elucidate this statement.
4. Write a short note on the origin or emergence of management accounting.

1.11 SUGGESTED READINGS

- Management Accounting, Gupta, Sharma and Gupta, Kalyani Publishers.
- Management Accounting, Harsen and Mowen, Thompson.
- Introduction to Management Accounting, Horngren, Sundem, Stratton, Prentice Hall, Publisher.
- Management Accounting, SP Gupta, Sahitaya Bhawan Publication.

UNIT-I	LESSON-2

FUNCTIONS, ROLE AND TECHNIQUES OF MANAGEMENT ACCOUNTING

STRUCTURE

2.1 INTRODUCTION

Management Accounting is a part of accounting. It has developed out of the need for making more and more of accounting for taking managerial decisions. Management accounting is assigned the functions of classifying presenting and interpreting data in such a way that it helps management in controlling and running the enterprise in an efficient and economical manner.

2.2 OBJECTIVES

After going through this lesson you will be able :

- to know the various functions of Management Accounting.
- to understand the role of Management Accounting.
- to understand the difference between Management Accounting and Financial Accounting.
- to understand the management accounting conventions.

2.3 FUNCTIONS OF MANAGEMENT ACCOUNTING

Some of the functions of management accounting are given as follows:

a) Planning and Forecasting:

Management fixes various targets to be achieved by the business in near future. Planning and forecasting are essential for achieving business objectives. One of the important functions of the management accounting is to help management in planning for short-term and long-term periods and also in making forecasts for the future. Management accountants use various techniques such as budgeting, standard costing, marginal costing, fund flow statements, probability and trend ratios, etc., for fixing targets. These techniques are useful in planning various activities. So management accounting tools are useful in planning and forecasting.

b) Modification of Data:

Management accounting helps in modifying accounting data. The information is modified in such a way that it becomes useful for the management. If sales data is required, it can be classified according to product, area, season-wise, type of customers and time taken for getting payments, etc. Similarly, if production figures are needed, these can be classified according to product, quality, time taken by the manufacturing processes, rate of production, etc. the modification of data in similar groups makes the data more understandable and useful. Management accountant classifies and modifies information according to the requirements of the management.

c) Financial Analysis and Interpretation:

Management accountant undertakes the job of presenting financial data in a simplified way. Financial data is generally collected and presented in a technical way. Top managerial executives may lack technical knowledge. Management accountant analyses and interprets financial data in a simple way and presents it in a non-technical language. He gives facts and figures about various policies and evaluates them in monetary terms. He gives his opinion about various alternative courses of action so that it becomes easy for the management to take a decision.

d) Facilitates Managerial Control:

Management accounting is very useful in controlling performance. All accounting efforts are directed towards control of the enterprise. The standard of various departments and individuals are set-up. The actual performance is recorded and deviations are calculated. It enables the management to assess the performance of everyone in the organisation. Performance evaluation is possible through standard costing and budgetary control which are an integral part of management accounting.

e) Communication:

Management accounting establishes communication within the organisation and with the outside world. The management accountant prepares reports for the benefit of different levels of management and employees. The activities of the concern are communicated to outsiders such as bankers, investors, creditors, government agencies etc. the filing of various tax returns is also entrusted to the accountant.

f) Use of Qualitative Information:

The field of management accounting is not restricted to the use of monetary data only. It collects and uses qualitative information also. While preparing a production budget, management accountant may not only use past production figures, but he may rely on the assessment of persons dealing with production, productivity reports, consumer surveys and many other business documents. The use of qualitative information is as helpful as monetary information. Management can assess various aspects of a plan before finalising it.

g) Co-ordination:

The co-ordination among different departments is essential for smooth running of the concern. Management accountant acts as a co-ordinator among different financial departments through budgeting and financial reports. The targets and performances of different departments are communicated to them from time to time.it helps to increase the efficiency of various sections thereby increasing profitability of the concern.

h) Helpful in taking Strategic Decision:

Management accounting helps in taking strategic decisions. It supplies analytical information regarding various alternatives and the choice of management is made easy. These decisions may be regarding seasonal or temporary stoppage of production, replacement decisions, expansion or diversification of works and a correct decision is taken.

i) Supplying Information to Various Levels of Management:

Every management level needs accounting information for decisions making and policy execution. Top management takes boarder decisions and leaves day-to-day decisions for the lower levels of management. Management accountant feeds information to different levels of management so that further decisions are taken. The supply of adequate information at the proper time will increase efficiency of the management.

2.4 ROLE OF MANAGEMENT ACCOUNTING

The following points will highlight the roles of management accountant in decision-making process of the organisation. The Various roles are:

1. Stewardship Accounting

Management accountant designs the frame-work of cost and financial accounts and prepares reports for routine financial and operational decision-making.

2. Long-term and Short-term Planning

Management accountant plays an important role in forecasting future business and economic events for making future plans i.e., long-term plans, strategic management accounting, formulating corporate strategy, market study etc.

3. Developing Management Information System (MIS):

The routine reports as well as reports for long-term decision-making are forwarded to managerial personnel at all levels to take corrective action at the right time. The management accountant also uses these reports for taking important decisions.

4. Maintaining Optimum Capital Structure:

Management accountant has a major role to play in rising of funds and their application. He has to decide about maintaining a proper mix between debt and equity. Raising of funds through debt is cheaper because of tax benefits. However, it is risky as because interest on debt has to be paid whether the firm earns adequate profits or not. Management accountant has, therefore, to maintain an optimum capital structure and give due consideration to various cost of capital theories, leverage and possibility of trading on equity.

5. Participating in Management Process:

The management accountant occupies a pivotal position in the organisation. He performs a staff function and also has line authority over the accountant and other employees in his office. He educates executives on the need for control information and on the ways of using it. He shifts relevant information from the irrelevant and reports the same in a clear form to the management and sometime to interested external parties.

6. Control:

The management accountant analyses accounts and prepares reports e.g., standard costs, budgets, variance analysis and interpretation, cash and fund flow analysis, management of liquidity, performance evaluation and responsibility ac-counting etc. for control.

7. Decision-Making:

Management accountant provides necessary information to management in taking short-term decisions e.g., optimum product mix, make-or-buy, lease or buy, pricing of product, discontinuing a product etc. and long-term decisions e.g., capital budgeting, investment appraisal, project financing etc.

However, the job of management accountant is limited to provision of required information in a comprehensive as well as reliable form to the management for decision-making purposes. But the actual decision-making responsibility lies with the management. In other words, neither the management accountant nor the internal accounting reports can make the decisions for the management.

2.5 DIFFERENCE BETWEEN MANAGEMENT ACCOUNTING AND FINANCIAL ACCOUNTING

Management accounting and financial accounting are two branches of the accounting information system of business enterprises. Financial accounting is concerned with the recording of day-to-day transactions of the business. These transactions are classified according to their nature. These transactions enable the concern to find out profit and loss for a particular period and financial position of the concern is also judged on a particular date through profit and loss account and balance sheet respectively. On the other hand, management accounting uses financial accountants and taps other sources of information too. The accounts are used in such a way that they are helpful to the management in planning and forecasting various policies. Thus, financial accounting has a significant influence on management accounting. Further, the principles of financial accounting are equally useful in management accounting also. It should also be noted that management accounting is only an off-shoot of financial accounting. Both financial and management accounting are complementary and are necessary in running the concern efficiently.

Despite the close relationship, there are certain points of distinction between financial accounting and management accounting. The main points of distinction between financial and management accounting are discussed as below:

S. No.	Points of Distinction	Financial Accounting	Management Accounting
1.	Objective	The objective is to record various transactions and to know the financial position and to find out profit and loss at the end of the financial year.	The main objective is to provide information to management for formulating policies and plans.
2.	Nature	It is mainly concerned with historical data. It records only those transactions which have already taken place.	It deals with projection of data for the future. It uses historical data only for taking decisions for the future.

3	Subject Matter	It is concerned with assessing the results of the business as a whole.	It deals separately with different units, departments and cost centres.
4.	Legal Compulsion	The preparation of financial accounts is compulsory in certain undertakings while these are necessity in others.	It is not compulsory. It is only a service function and is helpful in administration of the business.
5.	Precision	In financial accounting only actual figures are recorded with perfect accuracy and precision.	In management accounting, no emphasis is given to actual figures, the approximate figures are considered more useful.
6.	Reporting	Financial reports are prepared not only for the benefit of the concern but also for outsiders.	Management accounting reports are meant for internal use only.
7.	Description	It records only those transactions which can be measured in monetary terms.	It uses both monetary and non-monetary events of information.
8.	Quickness	Reporting of financial accounting is slow and time consuming.	Reporting of management accounting is very quick.

9.	Accounting Principles	It is governed by generally accepted principle and conventions.	No set principles are followed in management accounting.
10.	Period	Financial accounts are prepared for the particular period.	It supplies information from time to time during the whole year.
11.	Publications	Financial statements are published for the benefit of the public.	Management accounting statements are not published.
12.	Audit	Financial accounts can be got audited. Under company law, audit is compulsory.	Management accounts cannot be audited.

2.6 MANAGEMENT ACCOUNTING CONVENTIONS

Many principles have been tried and then some suitable conventions are developed which become helpful in day-to-day working of the business. The conventions are the outcomes of various trials and errors practised in the business. The subject of management accounting is in the process of development. Many tools and techniques are applied in recording, analysing and interpreting financial statements. Some conventions have been established in management accounting and they are helpful in maintaining the records smoothly and making the statements more useful to the management.

Some of these conventions are discussed as follows:

a) The procedures and methods to be followed for keeping and analysing financial statements should have consistency. It enables to keep the figures comparable. Utility of statements will be reduced if the methods are frequently changed.

b) The principles should be such that all possible losses should be taken into account. On the other hand, profit should be considered only when they have actually accrued.

c) Only normal cost should be considered while finding out costs of the products. The cost of the product should reflect cost under normal situation. Abnormal cost may arise due to obsolescence or idle capacity due to less demand.

d) The convention of the objectivity should be followed while recording financial statements. There should be no room for human bias or prejudice. There should not be a choice left to the accountant while making records.

e) The measuring rod of efficiency of a concern should be a return on capital employed. It should be consistently used so that a comparison is possible in the figures of different years. A comparison in performance is possible not only among equal size concerns but also among different size concerns.

f) Standard forms should be used for recording cost data. It will enable a comparison of costs among different units.

g) The cists should be divided into controllable and uncontrollable costs. Controllable costs are those which can be kept under control by the efforts of the management. Uncontrollable costs are affected by the outside reasons such as increase in price of materials, upward revision of labour rates by the government, etc. An increase in controllable costs will enable the management to fix responsibility and take corrective measures.

h) The aim of management should be to utilise resources of the concern in the be possible way. The use of various processes and methods should enable the achievement of the object.

i) The principles of revaluation accounting should be used to keep the data up to date. Due to inflationary situation, various assets are not shown at real values. Revaluation accounting is not yet widely used because it effects objectivity of accounts.

2.7 TOOLS AND TECHNIQUES OF MANAGEMNT ACCOUNTING

A number of tools and techniques are used to supply the information required by the management. Only one technique can not satisfy all managerial needs.

The tools and techniques used in management accounting are discussed as follows:

1. Financial Policy and Accounting:

Every concern has to take a decision about the sources of raising funds. The funds can be raised either through the issue of share capital or through the raising of loans. Again a decision is to be taken about the type of capital, i.e., equity share capital or preference share capital. Preference share capital can be sub-divided into a number of types. The second decision concerns the raising of loans. Whether the loans should be long term or short-term is again a matter of policy. The proportion between share capital and loans should be long-term or short term is again a matter of policy. The proportion between share capital and loans should also be decided. All these decisions are very important and management accounting provides techniques for financial planning.

Tax planning is another aspect where management is helped by the management accountant. He tries to use various rules and regulations for the benefit of the organisation.

2. Analysis of Financial Statements:

The analysis of financial statements is meant to classify and present the data in such a way that it becomes useful for the management. The meaning and significance of the data is explained in a non-technical language. The techniques of financial analysis include comparative financial statements, ratios, funds flow statements, trends analysis, etc.

3. Historical Cost Accounting:

The system of recording actual cost data on or after the date when it has been incurred is known as historical cost accounting. The actual cost is compared to the standard cost and it gives an idea about the performance of the concern. Though costing is important but by itself its utility is limited.

4. Budgetary Control:

it is a system which uses budgets as a tool for planning and control. The budgets of all functional departments are prepared in advance. The budgets are based on historical data and future possibilities. The actual performance is recorded and compared with pre-determined targets. Management is able to assess the performance of each and every person in the organisation. The timing of budgets and findings out deviations is an important tool for planning and controlling.

5. Standard Costing:

Standard costing is an important technique for cost control purposes. In standard costing system, costs are determined in advance. The determination of standard cost is based on a systematic analysis of prevalent conditions. The actual costs are recorded and compared with standard costs. The variances if any, are analysed and their reasons are ascertained. Standard costing helps to enhance the efficiency of the concern and also 'management by exception'.

6. Marginal Costing:

This is a method of costing which is concerned with changes in costs resulting from changes in the volume of production. Under this system, cost of product is divided into marginal (variable) and fixed cost. The latter part of cost (fixed) is taken as fixed and is recorded over a level of production and every additional production unit involves only variable cost. Marginal costing is helpful for measurement of profitability of different lines of production, different departments and divisions of an enterprise. The decisions about short term utilisation of capacity are also assessed with the help of marginal costing.

7. Decision Accounting:

An important work of management is to take decisions. Decision taking involves a choice from various alternatives. There may be decisions about capital expenditure, whether to make or buy, what price to be charged, expansion or diversification, etc. management accounting calculates financial implications of each alternative course of action and enables management to select the best course of action.

8. Revaluation Accounting:

This is also known a Replacement Accounting. The preservation of capital in the business is the main object of management. The profits are calculated in such a way that capital is preserved in real terms. During periods of rising prices, the value of capital is greatly affected. According to Batty, "Revaluation accounting is used to denote the methods employed for overcoming the problems connected with fixed asset replacement in a period of rising prices."

9. Control Accounting:

Control accounting is not a separate accounting system. Different systems have their control devices and these are used in control accounting. Standard costing and budgetary control can be exercised through variance analysis reports. In control accounting we can use internal check, internal audit, statutory audit and organisation and methods for control purposes.

10. Management Information System:

With the development of electronic devices for recording and classifying data, reporting to management has considerably improved. The data planning co-ordination and control is supplied to the management.

Feedback of information and responsive actions can be used as control techniques.

2.8 SUMMARY

The function of management accounting plays a vital role in this dynamic business world. This lesson discussed the various functions of management accounting, which help the company to run their business efficiently. Further this lesson has described the seven roles of management accountant in decision-making process of the organisation, i.e., Stewardship Accounting; Long-term and Short-term Planning; Developing Management Information System (MIS); Maintaining Optimum Capital Structure; Participating in Management Process; Control and Decision-making.

2.9 GLOSSARY

- **Stewardship Accounting:** Management accountant designs the frame-work of cost and financial accounts and prepares reports for routine financial and operational decision-making is called stewardship accounting.
- **Management Information System (MIS):** It is the routine reports as well as reports for long-term decision-making are forwarded to managerial personnel at all levels to take corrective action at the right time.
- **Controllable Cost:** Controllable costs are those which can be kept under control by the efforts of the management.
- **Uncontrollable Cost:** Uncontrollable costs are affected by the outside reasons such as increase in price of materials, upward revision of labour rates by the government, etc.
- **Historical Cost Accounting**: The system of recording actual cost data on or after the date when it has been incurred is known as historical cost accounting.

- **Revaluation Accounting**: Revaluation accounting is used to denote the methods employed for overcoming the problems connected with fixed asset replacement in a period of rising prices.

2.10 SELF-ASSESSMENT QUESTIONS

1. Discuss the following terms:

a) Decision Making

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b) Planning and Forecasting

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c) Management Information System

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2. Define the term Financial Accounting.

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3. What is historical cost of accounting?

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4. Explain financial policy and accounting as a technique of management accounting.

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2.11 LESSON END EXERCISE

1. Enlist the various functions of management accounting.
2. The managerial roles of accounting are to provide long and short term planning, developing management information system, maintaining optimum capital structure and decision making. Discuss.
3. Differentiate between Management Accounting and Financial Accounting.
4. Discuss briefly the various conventions of Management Accounting.
5. What is management accounting? Discuss various techniques of management accounting.

2.12 SUGGESTED READINGS

- Management Accounting, Gupta, Sharma and Gupta, Kalyani Publishers.
- Management Accounting, Harsen and Mowen, Thompson.
- Introduction to Management Accounting, Horngren, Sundem, Stratton, Prentice Hall, Publisher.
- Management Accounting, SP Gupta, Sahitaya Bhawan Publication.

UNIT-I **LESSON-3**

MEANING, NATURE AND DIFFERENCE BETWEEN COST ACCOUNTING AND MANAGEMENT ACCOUNTING

STRUCTURE

3.1 INTRODUCTION

Cost Accounting is the application of costing and cost accounting principles, methods and techniques to the science, art and practice of cost control and the ascertainment of profitability. It includes the presentation of information derived there form for purposes of managerial decision-making. Thus, *cost accountancy is the science, art and practice of a cost accountant*. It is *science* because it is a body of systematic knowledge having certain principles which a cost accountant should possess for proper discharge of his responsibilities. It is an *art* as it requires the ability and skill with which a cost accountant is able to apply the principles of cost accountancy to various managerial problems. *Practice* includes the continuous efforts of accost accountant in the field of cost accountancy. Such efforts also include the presentation of information for the purpose of managerial decision-making and keeping statistical records.

The terms 'Costing' and 'Cost Accounting' are often used interchangeably. But there is a little difference between the two. Costing simply means cost finding by any process or technique. The Chartered Institute of Management Accountant (CIMA) has defined costing as – "The techniques and processes of ascertaining cost." Cost Accounting is a formal system of accounting for costs in the books of accounts by means of which cost of products and services are ascertained and controlled.

3.2 OBJECTIVES

The main objectives of this lesson are:

- To know the meaning of Cost Accounting.
- To know the differences in Costing, Cost Accounting and Cost Accountancy
- To know the various objectives of Cost Accounting.
- To Understand the Nature of Cost Accounting.

- To know the difference between Cost Accounting and Management Accounting.

3.3 MEANING OF COST ACCOUNITNG

Costing is specialised branch of accounting. It has been developed because of limitations of financial accounts. In the present day, it is absolutely necessary that a business concern should operate its activities with utmost efficiency and at the lowest cost. The need for determination and control of costs necessitated new set of principles of accounting and thus emerged 'cost accounting' as a specialised branch of accounting.

The term 'cost' has a wide variety of meanings. Different people use this term in different senses for different purposes. For example, while buying a book, you generally ask, 'how much does it cost'? Here the word cost means price. But in management terminology, the term cost refers to expenditure and not the price. For our purposes, cost is not the same as price. For our purposes, cost is not the same as price. The costing terminology of the **Institute of Cost and Works Accountants, London** defines cost as "the amount of expenditure (actual or notional) incurred on or attributable to a given things," thus, cost refers to something that must be sacrificed to obtain a particular thing.

Costing is the technique and process of ascertaining. It consists of the principles and rules which are used for ascertaining the costs of products and services. In the words of **Harold J. Wheldon,** "costing is the classifying and appropriate allocation of expenditure for the determination of cost of products or services and for the presentation of suitably arranged data for purposes of control and guidance of the management." In simple words, costing is a systematic procedure of determining the unit cost of product/service.

The costing terminology of **I.C.M.A., London** defines cost accounting as "the process of accounting for cost from the point at which expenditure is incurred or committed to the establishment of its ultimate relationship with cost centres and cost units. In its widest usage, it embraces the preparation of statistical data, the application of cost control methods and the ascertainment of the profitability of activities carried out or planned."

3.2.1 Cost Accounting in Indian Context:

The application of Cost Accounting methods in Indian industries was felt from the beginning of the 20th century.

The following factors have accelerated the system of cost accounting in our country:

a) Increased awareness of cost consciousness by Indian industrialists with a view to ascertain costs more accurately for each product or job.

b) Growing competition among manufacturers led to fixation of prices at a lower level, so as to attract more customers.

c) Government economic policy emphasizing on planned economy.

d) Increased Government control over pricing led the Indian manufacturers to give more importance to the installation of cost accounts.

e) The establishment of National Productivity Council in 1958 and a statutory body viz., Institute of Cost and Works Accountants of India.

By realising importance of Cost Accounting techniques, benefits available to the industries, Government of India has made compulsory the maintenance of cost accounts to most of the industries in the corporate sector. For development of cost accounting profession in India, Government passed an Act viz. "Cost and Works Accountants Act, 1959, and established a statutory institute styled as – "Institute of Cost and Work Accountant of India".

The Companies Act, 1956 has been amended and provision has been made to make it obligatory to industries to maintain the Cost Accounting records. Besides this, Government made 'Cost Audit' compulsory to these industries.

During the last 50 years, Cost Accounting emerged as an important tool to the management for improving efficiency and the profitability of the organisation, with increasing complexities in business for efficient management, costing data became important and hence the importance of Cost Accounting is increasing day-by-day.

3.2.2 Evolution of Cost Accounting

Cost accounting has come into being because of industrial development and due to the following reasons:

a) **No classified cost figures:** Financial Accounting does not provide classified cost figures for products, process and departments, etc. to ascertain cost.

b) **No fixation of selling price:** Financial Accounting does not fix the selling price.

c) **No identification of reasons for variation in cost:** It is not possible from Financial Accounts to ascertain the reasons for the variation in cost of any two or more periods.

d) **No classification of expenses:** Financial accounting does not classify expenses into direct and indirect, controllable and uncontrollable expenses.

e) **No analysis of causes of losses:** Financial accounting does not analyse losses- owing to wastage of materials, ideal time etc. to control cost of material labour and overheads.

f) **No standards for evaluation:** Standards are needed for the measurement of operational efficiency and performance evaluation. Financial accounting does not provide such standards.

g) **No cost data for managerial decisions:** Financial accounting does not provide cost data for taking various managerial decisions.

All the above limitations of financial accounting have been overcome by cost accounting.

3.2.2 Costing, Cost Accounting and Cost Accountancy

In practice, the terms 'costing' and 'cost accounting' are used interchangeably. However, costing should not be confused with cost accounting. Costing refers to the technique and process of ascertaining costs. The technique consists of the principles and rules for determining the cost of products and services.

The technique is, however, dynamic and changes with the change of time. The process of costing is the day-to-day routine of ascertaining costs. Cost accounting, on the other hand, is defined as the process of accounting for cost from the point at which expenditure is incurred or committed.

The process continues till the establishment of its ultimate relationship with cost centre or cost unit. It is that specialised branch, of accounting which involves classification, accumulation, allocation, absorption and control of costs. Costing can be carried out by the process of arithmetic, by means of memorandum statements or by the methods of integral accounts.

But cost accounting denotes the formal mechanism by means of which costs are ascertained and data are provided for various purposes of management. Cost accountancy is a wide term which includes several subjects such as costing, cost accounting, cost control, budgetary control and cost audit.

The Chartered Institute of Management Accountants, London, defines cost accountancy as "the application of costing and cost accounting principles, methods and techniques to the science, art and practice of cost control. It includes the presentation of information derived therefrom for the purposes of managerial decision-making."

Here, science includes the body of systematic knowledge a cost accountant should possess for proper discharge of his responsibilities. Art includes the ability and skill with which a cost accountant applies his cost accountancy background and knowledge to the problems of cost ascertainment, cost control and ascertainment of profitability.

Practice includes the continuous efforts of a cost accountant in the field of cost accountancy. Such efforts also include the presentation of information for the purpose of managerial decision-making and keeping statistical records.

Financial accounting is largely concerned with financial statements for external use by investors, creditors, labour unions, financial analysts, government agencies, and other interest groups.

It involves recording, classification, and analysis of business transactions in a subjective manner according to nature of expenditure so as to facilitate preparation of profit and loss account and balance sheet for showing the results of the business operations as a whole. It is these published financial statements which are generally the basis for investment decisions by the shareholders, lending decisions by banks and financial institutions and credit decisions by vendors.

3.4 OBJECTIVES OF COST ACCOUNTING

The main objectives of costing are:

1. **Analysis and Ascertainment of Costs:**

The main object of costing is to ascertain the cost of each product, process, department, service or operation. For the ascertainment of costs it involves further the study, analysis and classification of costs such as prime cost, production cost, etc. Various methods, systems and techniques of costing have been developed for the purpose of recording and determining costs.

2. **Presentation of Costs for Cost Reduction and Cost Control:**

Another important objective of costing is to control and reduce costs. Unless efficiently controlled, costs have tendency to increase and cross the limits. Properly collected cost data helps in controlling and maintaining costs at the lowest. The right and appropriate cost information is made available to the right man, who needs them, at the right time and in a proper form. The best results are obtained by laying down the standard costs and then comparing the actual with the standards so as to take necessary corrective action for the future.

3. Planning and Decision Making:

Cost accounting has developed beyond its traditional function of cost determination and cost control. It has now developed as a tool in the hands of the management for planning and taking crucial decisions like pricing of product, introduction of a new product in the market, make or buy decisions, expansion or contraction, replacement of machinery, shut down decisions, wages compensation plan, choice among various alternatives, etc.

3.5 NATURE OF COST ACCOUNTING

The nature of cost accounting can be identified as under:

a) Specialized Branch of Accounting:

Cost accounting is a specialized branch of Accounting which covers collection, classification, recording, apportionment, determination and control of cost. Though cost accounting is considered as a branch of financial accounting, it is one of the important branch of knowledge. It is an organised body of knowledge consisting of its own principles, concepts and conventions. These principles and rules vary from industry to industry.

b) Art and Science both:

Cost accounting is considered as a science because it is a body of systematic knowledge relating to not only cost accounting but relating to a wide variety of subjects such as law, office practice and procedure, data processing, production and material control, etc. It is necessary for a cost accountant to have intimate knowledge of all these field of study in order to carry on day-to-day activities. But it is to be admitted that it is not a perfect science as in the case of natural science. It has its own principles and rules, which are followed on regular basis and in a systematic manner.

Cost accounting is an art in the sense it requires the ability and skill on the part of cost accountant in applying the principles methods and techniques of cost accountancy to various management problems. These problems include the ascertainment of cost control of costs, ascertainment of profitability etc.

c) **Recognized as a Profession:**

As cost accounting is a specialized branch of knowledge, it is recognized as a profession also. The Institute of Cost and Works Accountant of India provides professional assistance to cost accountants and frames the rules for their professional working and approach.

In recent years cost accounting has become one of the important professions which have become more challenging. This view is evident from two facts. First, the setting up of various professional bodies such as National Association of Accountants (NAA), the Institute of Cost and Management Accountant U.K., the Institute of Cost and Works Accounts in India and such other professional bodies both in developed and developing countries have increased the growing awareness of costing profession among the people. Secondly, a large number of students have enrolled in these institutes to obtain costing degrees and membership for earning their livelihood.

d) **Determination of various Components of Total Cost:**

It ascertains cost of products and services through the process accumulation, classification, analysis and recording.

e) **Application of Statistical Data of computing profit and cost:**

The extensive use of this system involves application of statistical data.

f) **Helpful to Management:**

This system provides information and measures for control and guidance for various level of management.

3.6 DIFFERENCE BETWEEN COST ACCOUNTING AND MANAGEMENT ACCOUNTING

The purpose of cost accounting is not merely ascertainment of cost, it is also performance evaluation and management decision-making. Management uses cost data to minimise the costs and evaluate the performance as a basis for decision making. It is for this reason that most of the cost accounting concepts are also used in management accounting. Although there is some overlapping in the areas of cost accounting and management accounting, the two are not synonymous. Management accounting connotes a much wider field than cost accounting. The function of management accounting is much more than simply the accumulation of cost data. However, both cost and management accounting systems are complementary in nature. In the absence of a well established costing system the cost data will not be available and management accounting system cannot function efficiently. The following are the main points of distinction between cost and management accounting:

BASIS	COST ACCOUNTING	MANAGEMENT ACCOUNTING
Objective	The objective of cost accounting is to record the cost of producing a product or providing a service. The cost is recorded product wise or unit wise.	The purpose of management accounting is to provide information to the management for planning and co-ordinating the activities of the business.
Scope	Cost accounting deals primarily with cost ascertainment.	The scope of management accounting is very wide. It includes financial accounting, cost accounting, budgeting, tax planning, reporting to management and interpretation of financial data.

Nature	Cost accounting uses both past and present figures.	Management accounting is generally concerned with the projection of figures for future. The policies and plans are prepared for providing future guidelines.
Data used	In cost accounting only those transactions are taken which can be expressed in figures. Only quantitative aspect is recorded in cost accounting	Management accounting uses both quantitative and qualitative information.
Development	The development in cost accounting is related to industrial revolution. Financial accounting could not satisfy information needs of management. Cost accounting was thus evolved as a supplementary accounting method. Cost accounting was able to provide information not only about cost structure but also for planning and decision making.	Management accounting has developed only in the last thirty years. Management accounting and cost accounting are both complementary subjects.
Principles followed	Certain principles and procedures are followed for recording costs of different products. The same rules are applicable at different times too.	No specific rules and procedures are followed in reporting management accounting. The information is prepared and presented as is required by the management.

3.7 SUMMARY

This lesson discussed that cost accounting is the application of costing and cost accounting principles, methods and techniques to the science, art and practice of cost control and the ascertainment of profitability. It includes the presentation of information derived the reform for purposes of managerial decision-making. Thus, cost accountancy is the science, art and practice of a cost accountant. It also discussed the differences in costing, cost accounting and cost accountancy. Further, this lesson discussed the nature of cost accounting and distinguishes between cost and management accounting.

3.8 GLOSSARY

- **Cost:** It is the amount of expenditure incurred on or attributable to a given things
- **Cost Accounting:** It is to record the cost of producing a product or providing a service. The cost is recorded product wise or unit wise.
- **Management Accounting:** It provides information to the management for planning and co-ordinating the activities of the business.
- **Ascertainment of Cost:** It means to ascertain the cost of each product, process, department, service or operation.

3.9 SELF-ASSESSMENT QUESTIONS

1. What is cost accounting?

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2. Discuss the nature of cost accounting.

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3. Cost accounting is both art as well as science. Explain.

4. Define the term cost accounting given by **Harold J. Wheldon.**

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3.10 LESSON END EXERSISE

1. Explain the term 'Cost Accounting' and discuss the nature of cost accounting.
2. How does management accounting differ from cost accounting?
3. What are the various objective of cost accounting?
4. Differentiate Costing, Cost Accounting and Cost Accountancy.

3.11 SUGGESTED READINGS

1. Management Accounting, Batty, J., Fourth Edition.
2. Management Accounting, Anthony, Robert N
3. Advanced Cost of Management Accounting, V. K. Saxena and C.D. Vashist. S. Chand and Sons.
4. Management Accounting, Gupta, Sharma and Gupta, Kalyani Publishers.
5. Management Accounting, Harsen and Mowen, Thompson.
6. Introduction to Management Accounting, Horngren, Sundem, Stratton, Prentice Hall, Publisher.
7. Management Accounting, SP Gupta, Sahitaya Bhawan Publication.

UNIT-I **LESSON-4**

TECHNIQUES, IMPORTANCE, ADVANTAGES AND LIMITATIONS OF COST ACCOUNTING

STRUCTURE

4.1 INTRODUCTION

Costing is the technique and process of ascertaining costs. It consists of the principles and rules which are used for ascertaining the costs of products and services. Cost accounting is the steering wheel which keeps the organisation on steady path of prosperity. It is a useful tool of control and has practical utility not to the management but also to employees, creditors, bankers, government and the society. Cost accounting has developed beyond its traditional function of cost determination and cost control.it has now developed as a tool in the hands of the management for planning and taking crucial decisions like pricing of products, introduction of a new product in the market, make or buy decisions, expansion or contraction, replacement of machinery, etc. It also provides reliable cost data in regard to material, labour, overhead and other expenses.

4.2 OBJECTIVES

The main objectives of this lesson are:

- To know the techniques of Cost Accounting.
- To know the importance of Cost Accounting.
- To Understand the Advantages and Disadvantages of Cost Accounting

4.3 TECHNIQUES OF COST ACCOUNTING

The various techniques of Cost Accounting are:

1. **Marginal Costing:**

It is the ascertainment of marginal cost differentiating between fixed cost and variable cost. The ascertainment by differentiating between fixed costs and variable costs, of marginal costs and of the effect on profit of changes in volume or type of output.

2. **Standard Costing:**

The preparation and use of standard costs, their comparison with actual costs and the analysis of variance to their causes and points of incidence. This permits the management to investigate the reasons for these variances and take necessary corrective action.

3. **Direct Costing:**

It is a practice of charging all direct costs into, variable and fixed cost relating to operations process or products leaving all other cost to be written off against profits in which they arise.

4. **Absorption Costing:**

Absorption costing is also referred to as full costing. It is a costing technique in which all manufacturing cost (fixed and variable) are considered as cost of production and are used in determining the cost of goods manufactured and inventories. The fixed production costs are treated as part of the actual production costs.

5. **Uniform Costing:**

It is the use of the same costing principles and practices for common control or comparison of cost by different business units. CIMA has defined uniform costing as "the use by several undertakings of the same costing principles and or practices." This helps to compare the performance one business with the other and to derive the benefit of anyone's better experience and performance.

6. **Budgetary Control:**

A Budget is used for controlling and co-ordination of business operations. A Budget is a quantitative or financial statement prepared for definite period of time. Budgetary control is a use of comprehensive system of budgeting to aid management in carrying out its functions of planning, coordinating, and controlling operations. A budgetary control is one of the important tools of control.

4.4 IMPORTANCE OF COST ACCOUNTING

Cost accounting is 'the steering wheel keeps the organisation on steady path of prosperity'. It is a useful tool of control and has practical utility not to the management but also to employees, creditors, bankers, government and the society. Cost accounting helps the management in carrying out its functions, i.e., planning, organising, controlling, decision-making, budgeting and pricing efficiently by providing cost information to the management. The importance of costing to the management is as follows:

a) Cost accounting provides reliable cost data in regard to materials, labour, overhead and other expenses.

b) It helps in price fixation.

c) It provides information on which estimates and tenders are based.

d) It helps in channelizing production on right lines.

e) It guides future production policies and thus helps in planning.

f) It helps in determining profitable and unprofitable activities.

g) Cost accounting increases efficiency and reduces wastages and costs.

h) Cost accounting helps management in periods of trade depression and competition by determining actual cost of the product.

i) It provides cost data for comparison in different periods.

j) Costing aids in inventory control.

k) It is a useful tool of managerial control and helps in cost reduction and cost control.

4.5 ADVANTAGES OF COST ACCOUNTING

The various advantages of cost accounting are:

a) Cost Accounting is an Aid to Management

Cost accounting helps the management in carrying out its functions, i.e., planning, organising, controlling, decision-making, budgeting and pricing efficiently by providing cost information to the management.

b) Advantages to Employees:

An efficient costing system reduces cost and increases the profits of a concern thus ensuring greater security of service and increased wages to the employees. Cost accounting also helps in introducing incentive wage schemes and bonus plans which bring more reward to efficient employees.

c) Advantages to the Creditors, Investors and Bankers:

Creditors, investors, bankers and others who lend money to the business are also benefited by the introduction of cost accounting in a concern. It enables the creditors, bankers and investors to judge the financial position and solvency of a concern by providing reliable cost data. Cost accounting thus helps bankers and others in evaluating the performance of a customer. The various cost reports can be analysed before lending money to a concern. A concern having a good costing system can attract more investors than a concern without an efficient system of costing.

d) Advantages to the government and the society:

Cost accounting increases the efficiency of a concern, reduces costs and increases its profits. Thus, it promotes the overall economic development of the country. Better and cheaper goods are made available to the public. With the reduction in wastages and increase in profits the revenue of the Government in the form of taxes is increased. The techniques of costing are also useful in preparing national plans.

4.6 LIMITATIONS OF COST ACCOUNTING

Cost accounting, despite its many advantages to various parties, suffers from certain deficiencies or limitations. Some of the important deficiencies and limitation of cost accounting are given as follows:

a) It is not an independent system of accounts.

b) It is based largely on estimates like absorption of indirect expenses or apportionment of expenses on estimate basis.

c) There is a scope for subjectivity on items like depreciation, valuation of closing stock, etc.

d) It does not take into consideration all items of expenses and incomes, e.g., items of purely financial nature such as interest, finance charges, discount and loss of shares and debentures, etc.

e) Cost accounting systems is very complex and it require a lot of work on the front end, and constant adjustments need to be made for improvements.

f) Cost accountant often charges exorbitant fees for their services. Therefore, many small companies cannot afford to have regular cost accountant.

4.7 SUMMARY

This lesson briefly discussed marginal costing, standard costing, direct costing, absorption costing, uniform costing and budgetary costing which are the various techniques used in cost accounting. In the present dynamic and complex business world, cost accounting has become an important part of management. This lesson also elaborates the advantages and disadvantages of cost accounting.

4.8 GLOSSARY

- **Marginal Costing:** It is the ascertainment of marginal cost differentiating between fixed cost and variable cost.
- **Uniform Costing:** It is the use of the same costing principles and practices for common control or comparison of cost by different business units.
- **Absorption Costing:** It is also referred to as full costing. It is a costing technique in which all manufacturing cost are considered as cost of production and are used in determining the cost of goods manufactured and inventories.

4.9 SELF-ASSESSMENT QUESTIONS\

1. How cost accounting is benefit for creditors, investors and bankers?

2. Explain the following terms:

   a) Marginal Costing

   b) Absorption Costing

   c) Budgetary Costing

   d) Standard Costing

4.9 LESSON END EXERSISE

1. What are the various advantages of cost accounting ?
2. Describe the limitations of cost accounting and point out how management accounting helps in overcoming them.
3. Discuss briefly the importance of cost accounting.

4.10 SUGGESTED READINGS

1. Management Accounting, Batty, J., Fourth Edition.
2. Management Accounting, Anthony, Robert N
3. Advanced Cost of Management Accounting, V. K. Saxena and C.D. Vashist. S. Chand and Sons.
4. Management Accounting, Gupta, Sharma and Gupta, Kalyani Publishers.
5. Management Accounting, Harsen and Mowen, Thompson.
6. Introduction to Management Accounting, Horngren, Sundem, Stratton, Prentice Hall, Publisher.
7. Management Accounting, SP Gupta, sahitaya Bhawan Publication.

UNIT-I **LESSON-5**

METHODS, ELEMENTS, BASES OF ASCERTAINING COSTS AND OVERHEADS

STRUCTURE

5.1 INTRODUCTION

Costing is the classifying and appropriate allocation of expenditure for the determination of cost of products or services and for the presentation of suitably arranged data for purposes of control and guidance of the management. Costing is specialised branch of accounting. It has been developed because of limitations of financial accounts. In the present day, it is absolutely necessary that a business concern should operate its activities with utmost efficiency and at the lowest cost. The need for determination and control of costs necessitated new set of principles of accounting and thus emerged 'cost accounting' as a specialised branch of accounting. Cost accounting as the process of accounting for cost from the point at which expenditure is incurred or committed to the establishment of its ultimate relationship with cost centres and cost units. In its widest usage, it embraces the preparation of statistical data, the application of cost control methods and the ascertainment of the profitability of activities carried out or planned.

5.2 OBJECTIVES:

After analysing this lesson, the students will be able to:

- Know the various methods of costing
- Understand the elements of costs.
- Understand the Bases of ascertaining cost
- Know the overheads under costing

5.3 METHODS OF COSTING

The methods to be used for the ascertainment of cost of production differ from industry to industry. It primarily depends on the manufacturing process and also on the methods of measuring the departmental output and finished products. Basically there are two methods of costing, i.e.,

(a) Specific Order Costing

Specific Order Costing is the category of basic costing methods applicable where the work consists of separate jobs, batches or contracts each of which is authorised by a specific order or contract. Job costing, batch costing and contract costing are included in this category.

(b) Operation Costing

Operation Costing is the category of basic costing methods applicable where standardized goods or services result from a sequence of repetitive and more or less continuous operations or process to which costs are charged before being averaged over units produced during the period.

All these methods are discussed briefly as under:

1. Job Costing:

Under this method, costs are collected and accumulated for each job, work order or project separately. Each job can be separately identified; so it becomes essential to analyse the cost according to each job. A job card is prepared for each job for cost accumulation. This method is applicable to printers, machine tool manufacturers, foundries and general engineering workshops.

2. Contract Costing:

When the job is big and spread over long periods of time, the method of contract costing is used. A separate account is kept for each individual contract. This method is used by builders, civil engineering contractors, constructional and mechanical engineering firms etc.

3. Batch Costing:

This is an extension of job costing. A batch may represent a number of small orders passed through the factory in batch. Each hatch is treated as a unit of cost and separately costed. The cost per unit is determined by dividing the cost of the batch by the number of units produced in a batch. This method is mainly applied in biscuits manufacture, garments manufacture and spare parts and components manufacture.

4. Process Costing:

This is suitable for industries where production is continuous, manufacturing is carried on by distinct and well defined processes, the finished products of one process becomes the raw material of the subsequent process, different products with or without by-products are produced simultaneously at the same process and products produced during a particular process are exactly identical.

As finished products are obtained at the end of each process, it will be necessary to ascertain not only the cost of each process but also cost per unit at each process. A separate account is opened for each process to which all expenditure incurred thereon is charged.

The cost per unit is obtained by averaging the expenditure incurred on the process during a certain period. Hence, this is known as average costing. As the products are manufactured in a continuous process, this is also known as continuous costing. Process costing is generally followed in Textile Industries, Chemical Industries, Tanneries, Paper Manufacture etc.

5. One Operation (Unit or Output) Costing:

This is suitable for industries where manufacture is continuous and units are identical. This method is applied in industries like mines, quarries, oil drilling, breweries, cement works, brick works etc. In all these industries there is natural or standard unit of cost. For example, a barrel of beer in breweries, a tonne of coal in collieries, one thousand of bricks in brickworks etc.

The object of this method is to ascertain the cost per unit of output and the cost of each item of such cost. Here cost accounts take the form of cost sheets prepared for a definite period. The cost per unit is determined by dividing the total expenditure incurred during a given period by the number of units produced during that period.

6. Service (or Operating) Costing:

This is suitable for industries which render services as distinct from those which manufacture goods. This is applied in transport undertakings, power supply companies, municipal services, hospitals, hotels etc. This method is used to ascertain the cost of services rendered.

There is usually a compound unit in such undertakings, e.g., tonne kilometre (transport undertaking), kilowatt-hour (power supply) and patient day (hospitals).

7. Farm Costing:

It helps in calculation of total cost and per unit cost of various activities covered under farming. Farming activities cover agriculture, horticulture, animal husbandry (i.e., rearing of live-stocks), poultry farming, pisciculture (i.e., rearing of fish), dairy, sericulture (i.e. silkworm breeding), nurseries for growing and selling of seedlings and plants and rearing of fruits and flowers.

Farm costing helps to improve the farming practices to reduce cost of production, to ascertain the profit on each line of farming activity which ensures better control by management and to obtain loans from banks and other financial institutions as they give loans on the basis of proper cost accounting records.

8. (Multiple) Operation Costing:

Multiple operation method of manufacture consists of a number of distinct operations. It refers to conversion cost i.e., cost of converting the raw materials into finished goods. This method takes into consideration the rejections in each operation for calculating input units and cost. The different operations in machine screw are—stamps, knurl, thread and trim. The cost per unit is determined with reference to final output.

9. Multiple Costing:

It represents the application of more than one method of costing in respect of the same product. This is suitable for industries where a number of component parts are separately produced and subsequently assembled into a final product. In such industries each component differs from the others as to price, material used and process of manufacture undergone. So it will be necessary to ascertain the cost of each component.

For this purpose, process costing may be applied. To ascertain the cost of the final product batch costing may be applied. This method is used in factories manufacturing cycles, automobiles, engines, radios, typewriters, aeroplanes and other complex products. This method has been dropped from the latest CIMA Terminology.

5.4 ELEMENTS OF COST

The elements that constitute the cost of manufacture are known as the elements of cost. Such element of cost is divided into three categories. In a manufacturing concern, raw materials are converted into a finished product with the help of labour and other service units. They are Material, Labour and Expenses.

Again, these elements of cost are divided into two categories such as Direct Material and Indirect Material, Direct Labour and Indirect Labour, Direct Expenses and Indirect Expenses. All direct material, direct labour and direct expenses are added to get prime cost. Likewise all indirect material, indirect labour and indirect expenses are added to get overhead. Again, overhead is divided into four categories. They are factory overhead, administration overhead, selling overhead and distribution overhead.

a) **Direct Material:** It refers to material out of which a product is to be produced or manufactured. The cost of direct material is varying according to the level of output. For example: Milk is the direct material of butter.

b) **Indirect Material:** It refers to material required to produce a product but not directly and does not form a part of a finished product. For example: Nails are used in furniture. The cost of indirect material is not varying in direct proportion of product.

c) **Direct Labour:** It refers to the amount paid to the workers who are directly engaged in the production of goods. It varies directly with the output.

d) **Indirect Labour:** It refers to the amount paid to the workers who are indirectly engaged in the production of goods. It does not vary directly with the output.

e) **Direct Expenses:** It refers to the expenses that are specifically incurred by the company to produce a product. A product cannot be produced without incurring such expenses. It varies directly with the level of output.

f) **Indirect Expenses:** It refers to the expenses that are incurred by the organization to produce a product. But, these expenses cannot be easily found out accurately. For example: Power used for production.

g) **Overhead:** It is the combination of all indirect materials, indirect labour and indirect expenses.

h) **Factory Overhead:** It is otherwise called Production Overhead or Works Overhead. It refers to the expenses that are incurred in the production place or within factory premises. For example: Indirect material, rent, rates and taxes of factory, canteen expenses etc.

i) **Administration Overhead:** It is otherwise called Office Overhead. It refers to the expenses that are incurred in connection with the general administration of the company. For example: Salary of administrative staff, postage, telegram and telephone, stationery etc.

j) **Selling Overhead:** It refers to all expenses incurred in connection with sales. For example: Salary of sales department staff, travelers' commission, advertisement etc.

k) **Distribution Overhead:** It refers to all expenses incurred in connection with the delivery or distribution of goods and services from the producer to the consumer. For example: Delivery van expenses. loading and unloading, customs duty, salary of deliverymen etc.

5.5 BASES OF ASCERTAINING COST

Cost ascertainment is the process of determining costs on the basis of actual data. Hence, the computation of historical cost is cost ascertainment while the computation of future costs is cost estimation. It refers to methods and processes involved in calculating cost actually incurred on the basis of actual data shown in cost records. It involves computation of historical cost i.e. the cost which has already been incurred. Different methods are there to ascertain cost depending upon the needs of individual methods like job costing, contract costing, process costing, operating costing etc. It is useful to calculate actual cost so that inefficiencies, scrap can be eliminated but it cannot be used for price quotations for tenders, measuring performance efficiency etc. In case a concern has a sound costing system, the ascertained costs will greatly help the management in the process of estimation of rational accurate costs which are necessary for a variety of purposes stated above. Moreover, the ascertained cost may be compared with the pre-determined costs on a continuing basis and proper and timely steps be taken for controlling costs and maximizing profits.

5.6 OVERHEADS

Overhead costs refer to all indirect expenses of running a business. These on-going expenses support your business but are not linked to the creation of a product or service. Calculating overhead costs is not just important for budgeting but also determining how much the business should charge for a service or product to make a profit. For example, if you have a service-based business, then apart from the direct costs of providing the service, you will also incur overhead costs such as rent, utilities and insurance.

While overhead costs are not directly linked to profit generation, they are still necessary as they provide critical support for the profit-making activities. The overhead costs depend on the nature of the business. For example, a retailer's overhead costs will be widely different from a freelancer. Some examples of overhead costs are: Rent, Utilities, Insurance, Office supplies, Travel, Advertising expenses, Accounting and legal expenses, Salaries and wages, Depreciation, Government fees and licenses and Property taxes.

Overhead costs can include fixed monthly and annual expenses such as rent, salaries and insurance or variable costs such as advertising expenses that can vary month-on-month based on the level of business activity. Some organizations also split up these costs into manufacturing overheads, selling overheads and administrative overhead costs. While administrative overhead includes costs front office administration and sales, manufacturing overhead is all of the costs that a manufacturing facility incurs, other than direct costs. Direct costs required to create products and services, such as direct labour and materials, are excluded from overhead costs. Businesses have to take into account both overhead costs as well as the direct expenses to calculate the long-term product and service prices. Doing so allows the business to earn profit on a long-term basis.

5.7 SUMMARY

There are two broad method to measure cost accounting, i.e., specific order costing and operating costing. The elements of cost are further divided into two categories such as Direct Material and Indirect Material, Direct Labour and Indirect Labour, Direct Expenses and Indirect Expenses. All direct material, direct labour and direct expenses are added to get prime cost. Likewise all indirect material, indirect labour and indirect expenses are added to get overhead. Again, overhead is divided into four categories. They are factory overhead, administration overhead, selling overhead and distribution overhead. This lesson also discussed the base of ascertaining cost and overheads

5.8 GLOSSARY

- **Direct Material:** It refers to material out of which a product is to be produced or manufactured.
- **Indirect Material:** It refers to material required to produce a product but not directly and does not form a part of a finished product.
- **Direct Labour:** It refers to the amount paid to the workers who are directly engaged in the production of goods.

- **Indirect Labour:** It refers to the amount paid to the workers who are indirectly engaged in the production of goods.
- **Direct Expenses:** It refers to the expenses that are specifically incurred by the company to produce a product.
- **Indirect Expenses:** It refers to the expenses that are incurred by the organization to produce a product.
- **Overhead:** It is the combination of all indirect materials, indirect labour and indirect expenses.
- **Factory Overhead:** It refers to the expenses that are incurred in the production place or within factory premises.
- **Administration Overhead:** It refers to the expenses that are incurred in connection with the general administration of the company.
- **Selling Overhead:** It refers to all expenses incurred in connection with sales
- **Distribution Overhead:** It refers to all expenses incurred in connection with the delivery or distribution of goods and services from the producer to the consumer.

5.9 SELF-ASSESSMENTQUESTIONS

1. Explain the following terms:

   a) Job Costing

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   b) Branch Costing

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   ____

   c) Multiple Costing

d) Contract Costing

2. What is Costing?

5.10 LESSON END EXERSISE

1. Briefly discuss the various methods of Costing
2. What is cost? Discuss the various elements of costs.
3. Explain Bases of ascertaining costs.

5.11 SUGGESTED READINGS

1. Management Accounting, Batty, J., Fourth Edition.
2. Management Accounting, Anthony, Robert N
3. Advanced Cost of Management Accounting, V. K. Saxena and C.D. Vashist. S. Chand and Sons.
4. Management Accounting, Gupta, Sharma and Gupta, Kalyani Publishers.
5. Management Accounting, Harsen and Mowen, Thompson.
6. Introduction to Management Accounting, Horngren, Sundem, Stratton, Prentice Hall, Publisher.
7. Management Accounting, SP Gupta, Sahitaya Bhawan Publication.

UNIT-II **LESSON-6**

ACTIVITY BASED COSTING AND MANAGEMENT SYSTEM

STRUCTURE

6.1 INTRODUCTION

Activity Based Costing (ABC) was first defined in the late 1980s by Kaplan and Bruns. It can be considered as the modern alternative to absorption costing, allowing managers to better understand product and customer net profitability. This provides the business with better information to make value-based and therefore more effective decisions.

6.2 OBJECTIVES

After studying this lesson, the students will be able to:

- Understand the concept of Activity Based Costing.
- Understand Activity Based Costing Process Flow
- Know how Activity Based Costing is used.
- Familiar with the various problems with Activity Based Costing

6.3 ACTIVITY BASED COSTING AND ACCOUNTING SYSTEM

ABC focuses attention on cost drivers, the activities that cause costs to increase. Traditional absorption costing tends to focus on volume-related drivers, such as labour hours, while activity-based costing also uses transaction-based drivers, such as number of orders received. In this way, long-term variable overheads, traditionally considered fixed costs, can be traced to products.

Activity-based costing provides a more accurate method of product/ service costing, leading to more accurate pricing decisions. It increases understanding of overheads and cost drivers; and makes costly and non-value adding activities more visible, allowing managers to reduce or eliminate them. ABC enables effective challenge of operating costs to find better ways of allocating and eliminating overheads. It also enables improved product and customer profitability analysis. It supports performance management techniques such as continuous improvement and scorecards.

6.4 THE ACTIVITY BASED COSTING PROCESS FLOW

Activity-based costing is best explained by walking through its various steps. They are:

a) **Identify costs:**

The first step in ABC is to identify those costs that we want to allocate. This is the most critical step in the entire process, since we do not want to waste time with an excessively broad project scope. For example, if we want to determine the full cost of a distribution channel, we will identify advertising and warehousing costs related to that channel, but will ignore research costs, since they are related to products, not channels.

b) **Load secondary cost pools**:

Create cost pools for those costs incurred to provide services to other parts of the company, rather than directly supporting a company's products or services. The contents of secondary cost pools typically include computer services and administrative salaries, and similar costs. These costs are later allocated to other cost pools that more directly relate to products and services. There may be several of these secondary cost pools, depending upon the nature of the costs and how they will be allocated.

c) **Load primary cost pools**:

Create a set of cost pools for those costs more closely aligned with the production of goods or services. It is very common to have separate cost pools for each product line, since costs tend to occur at this level. Such costs can include research and development, advertising, procurement, and distribution. Similarly, you might consider creating cost pools for each distribution channel, or for each facility. If production batches are of greatly varying lengths, then consider creating cost pools at the batch level, so that you can adequately assign costs based on batch size.

d) **Measure activity drivers:**

Use a data collection system to collect information about the activity drivers that are used to allocate the costs in secondary cost pools to primary cost pools, as well as to allocate the costs in primary cost pools to cost objects. It can be expensive to accumulate activity driver information, so use activity drivers for which information is already being collected, where possible.

e) **Allocate costs in secondary pools to primary pools:**

Use activity drivers to apportion the costs in the secondary cost pools to the primary cost pools.

f) **Charge costs to cost objects:**

Use an activity driver to allocate the contents of each primary cost pool to cost objects. There will be a separate activity driver for each cost pool. To allocate the costs, divide the total cost in each cost pool by the total amount of activity in the activity driver, to establish the cost per unit of activity. Then allocate the cost per unit to the cost objects, based on their use of the activity driver.

g) **Formulate reports:**

Convert the results of the ABC system into reports for management consumption. For example, if the system was originally designed to accumulate overhead information by geographical sales region, then report on revenues earned in each region, all direct costs, and the overhead derived from the ABC system. This gives management a full cost view of the results generated by each region.

h) **Act on the information:**

The most common management reaction to an ABC report is to reduce the quantity of activity drivers used by each cost object. Doing so should reduce the amount of overhead cost being used.

6.5 HOW ACTIVITY-BASED COSTING IS USED

The fundamental advantage of using an ABC system is to more precisely determine how overhead is used. Once you have an ABC system, you can obtain better information about the following issues:

a) **Activity Costs:**

   ABC is designed to track the cost of activities, so you can use it to see if activity costs are in line with industry standards. If not, ABC is an excellent feedback tool for measuring the on-going cost of specific services as management focuses on cost reduction.

b) **Customer profitability:**

   Though most of the costs incurred for individual customers are simply product costs, there is also an overhead component, such as unusually high customer service levels, product return handling, and cooperative marketing agreements. An ABC system can sort through these additional overhead costs and help you determine which customers are actually earning you a reasonable profit. This analysis may result in some unprofitable customers being turned away, or more emphasis being placed on those customers who are earning the company its largest profits.

c) **Distribution cost:**

   The typical company uses a variety of distribution channels to sell its products, such as retail, Internet, distributors, and mail order catalogues. Most of the structural cost of maintaining a distribution channel is overhead, so if you can make a reasonable determination of which distribution channels are using overhead, you can make decisions to alter how distribution channels are used, or even to drop unprofitable channels.

d) **Make or buy:**

   ABC provides a comprehensive view of every cost associated with the in-house manufacture of a product, so that you can see precisely which costs will be eliminated if an item is outsourced, versus which costs will remain.

e) **Margins:**

With proper overhead allocation from an ABC system, you can determine the margins of various products, product lines, and entire subsidiaries. This can be quite useful for determining where to position company resources to earn the largest margins.

f) **Minimum price:**

Product pricing is really based on the price that the market will bear, but the marketing manager should know what the cost of the product is, in order to avoid selling a product that will lose a company money on every sale. ABC is very good for determining which overhead costs should be included in this minimum cost, depending upon the circumstances under which products are being sold.

g) **Production facility cost:**

It is usually quite easy to segregate overhead costs at the plant-wide level, so you can compare the costs of production between different facilities.

6.6 PROBLEMS WITH ACTIVITY BASED COSTING

Many companies initiate ABC projects with the best of intentions, only to see a very high proportion of the projects either fail or eventually lapse into disuse. There are several reasons for these issues, which are:

a) **Cost Pool Volume:**

The advantage of an ABC system is the high quality of information that it produces, but this comes at the cost of using a large number of cost pools – and the more cost pools there are, the greater the cost of managing the system. To reduce this cost, run an on-going analysis of the cost to maintain each cost pool, in comparison to the utility of the resulting information. Doing so should keep the number of cost pools down to manageable proportions.

b) Installation Time:

ABC systems are notoriously difficult to install, with multi-year installations being the norm when a company attempts to install it across all product lines and facilities. For such comprehensive installations, it is difficult to maintain a high level of management and budgetary support as the months roll by without installation being completed. Success rates are much higher for smaller, more targeted ABC installations.

c) Multi-department Data Sources:

An ABC system may require data input from multiple departments, and each of those departments may have greater priorities than the ABC system. Thus, the larger the number of departments involved in the system, the greater the risk that data inputs will fail over time. This problem can be avoided by designing the system to only need information from the most supportive managers.

d) Project Basis:

Many ABC projects are authorized on a project basis, so that information is only collected once; the information is useful for a company's current operational situation, and it gradually declines in usefulness as the operational structure changes over time. Management may not authorize funding for additional ABC projects later on, so ABC tends to be "done" once and then discarded. To mitigate this issue, build as much of the ABC data collection structure into the existing accounting system, so that the cost of these projects is reduced; at a lower cost, it is more likely that additional ABC projects will be authorized in the future.

e) Reporting of Unused Time:

When a company asks its employees to report on the time spent on various activities, they have a strong tendency to make sure that the reported amounts equal 100% of their time. However, there is a large amount of slack time in anyone's work day that may involve breaks, administrative meetings, playing games on the Internet, and so forth. Employees usually mask these activities by apportioning more time to other activities. These inflated numbers represent misallocations of costs in the ABC system, sometimes by quite substantial amounts.

f) **Separate Data Set:**

An ABC system rarely can be constructed to pull all of the information it needs directly from the general ledger. Instead, it requires a separate database that pulls in information from several sources, only one of which is existing general ledger accounts. It can be quite difficult to maintain this extra database, since it calls for significant extra staff time for which there may not be an adequate budget. The best work-around is to design the system to require the minimum amount of additional information other than that which is already available in the general ledger.

g) **Targeted Usage:**

The benefits of ABC are most apparent when cost accounting information is difficult to discern, due to the presence of multiple product lines, machines being used for the production of many products, numerous machine setups, and so forth – in other words, in complex production environments. If a company does not operate in such an environment, then it may spend a great deal of money on an ABC installation, only to find that the resulting information is not overly valuable.

6.7 SUMMARY

Activity Based Costing (ABC) considered as the modern alternative to absorption costing, allowing managers to better understand product and customer net profitability. This provides the business with better information to make value-based and therefore more effective decisions. There are various process of Activity Based Costing (ABC).

How does ABMS operate?

Identification and Analysis:

Identification refers to finding and listing a company's important business activities - especially since companies are typically involved in number of activities on regular basis. Recognising activities that have the most important influence on finances is an important step in activity - based management system.

The next immediate step is identification of cost drivers for each activity, based on the costs incurred during the activity. Cost drivers are the factors that cause of an activity to vary.

Evaluation and Value-Chain Analysis:

The manager also needs to calculate the cost of each activity by appropriating all the indirect and direct costs related to the activity. This is known as activity-based costing and is a method used to assign the costs of each activity according to actual consumption, based on overhead expenses incurred during the activity. At the same time, the value generated by each activity must also be quantified so that it can be compared to the cost and allow for an evaluation of the activity. This is referred to as value-chain analysis, which is an analysis of the value added by a particular activity.

6.8 GLOSSARY

- **Activity Based Costing:** It provides the business with better information to make value-based and therefore more effective decisions.
- **Accounting System:** An accounting system is the system used to manage the income, expenses, and other financial activities of a business.

- **Distribution Cost:** Distribution Cost, also known as distribution expenses, are costs that are incurred to deliver your product from the production unit to the end user.

6.9 SELF-ASSESSMENT QUESTIONS

1. What is the full form of ABC?

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2. Define the term ABC.

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3. Who first defined the term Activity Based System?

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4. In which year Activity Based System was introduced?

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5. Define the term Accounting System.

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6.10 LESSON END EXERCISE

1. What is Activity Based Costing? Explain the uses of Activity Based Costing.
2. Discuss the various problems or issues in Activity Based Analysis.
3. What is accounting system? How it differ from ABC?

4. Briefly discuss the process or steps of Activity Based Costing.

6.11 SUGGESTED READINGS

1. Management Accounting, Batty, J., Fourth Edition.
2. Management Accounting, Anthony, Robert N
3. Advanced Cost of Management Accounting, V. K. Saxena and C.D. Vashist. S. Chand and Sons.
4. Management Accounting, Gupta, Sharma and Gupta, Kalyani Publishers.
5. Management Accounting, Harsen and Mowen, Thompson.
6. Introduction to Management Accounting, Horngren, Sundem, Stratton, Prentice Hall, Publisher.
7. Management Accounting, SP Gupta, sahitaya Bhawan Publication.

ABSORPTION COSTING

STRUCTURE

7.1 INTRODUCTION

An analytical study of the behaviour of overheads in relation to changes in volume of output reveals that there are some items of cost which tend to vary directly with the volume of output whereas, there are others which remain unaffected by variations in the volume of output. The former class of costs represent the variable overheads and the latter fixed overheads. Besides, there are certain items of costs which are partly fixed and partly variable and are known as semi-variable or semi-fixed costs.

The volume of output fluctuates from one period of time to another due to seasonal and other factors. But fixed costs (including fixed portion of semi-variable costs) being same during each period, fluctuations occur in unit cost of products produced during different periods, thus necessitating comparison of costs from one period of time to another. To obviate this uneven incidence of fixed costs on units of output, fixed costs are treated as period costs and excluded from product costs. Again, once certain facilities are installed, so long as there is no change in the installed capacities, certain costs (i.e., fixed costs) will have to be incurred whether or not the facilities are being used at all or to whatever extent the facilities are used. From this standpoint also, there is justification of excluding fixed costs from product costs.

7.2 OBJECTIVES:

Upon successful completion of this lesson, the students should be able to:

- Learn the concept of Absorption Costing
- Understand the various features of Absorption Costing
- Understand how cost equation has been calculated.
- Know the uses or merits of Absorption Costing.
- Know the defects and weaknesses of Absorption Costing.

7.3 MEANING OF ABSORPTION COSTING

Absorption costing also known as 'full costing' is a conventional technique of ascertaining cost. It is the process of charging all costs both variable and fixed to operations, processes and products. It is the oldest and widely used technique of ascertaining cost. Under this technique of costing, cost is made up of direct costs plus overhead cost absorbed on some suitable basis. Under this technique, cost per unit remains same only when the level of output remains same. But when the level of output changes the cost per unit also changes because of the presence of fixed cost which remains constant. The change in cost per unit with a change in the level of output in absorption costing technique poses a problem to the management in taking managerial decisions. Absorption costing is useful if there is only on product, there is no inventory and overhead recovery rate is based on normal capacity instead of actual level of activity.

It is the conventional and most widely used technique of ascertaining cost. CIMA, London, defines absorption costing as "the practice of charging all costs both fixed and variable to operation, processes or products." Under this technique product cost is made up of all direct costs (i.e., direct material, direct labour, direct expenses and variable factory overhead) plus fixed factory overheads absorbed at a predetermined ate on the basis of normal capacity. The administration, selling and distribution overheads are treated as period costs and hence, are written off against the income for the period in which they incurred.

7.4 FEATURES OR CHARACTERISTICS OF ABSORPTION COSTING

The basic features of absorption costing are as follows:

a) All variable manufacturing costs and fixed factory overheads are treated as product costs and hence charged to products, processes or operations.

b) All administration, selling and distribution overheads are treated as period costs and hence are written off against the profits of the period in which they are incurred.

c) As fixed factory overheads are included in unit cost, the value of closing inventory includes fixed factory/production overheads.

d) Under absorption costing, cost per unit remains same only if there is no change in the level of output. However, in case the level of output changes, the cost per unit also changes because of the presence of fixed costs.

7.5 COST EQUATION

A cost equation is a mathematical formula that business firms use to estimate the predicted expenses associated with the production and sale of a certain amount of goods. The formula typically incorporates constant overhead costs as well as variable costs that depend on the volume of sales. To use the cost equation, business firms input sales volume in place of the equation's variable and solve for the cost of production

Under this technique of costing, the following proforma is used for the ascertainment of profit:

INCOME STATEMENT

	Rs.	Rs.
Sales		xxx
Less: Cost of Goods Manufactured		
Direct Material	xxx	
Direct Labour	xxx	
Factory Overheads:		
Variable	xxx	
Fixed (at actual production basis)	xxx	
Add: Value of Opening Stock	xxx	
	xxx	
Less: Value of Closing Stock at Current Cost	xxx	
Add: Underabsorption or less Overabsorption of fixed factory Overheads	xxx	xxx
Gross Profit		xxx
Less: Administration, Selling & Distribution Expenses:		
Fixed	xxx	
Variable	xxx	
		xxx
Net Income or Profit		xxx

Problem 1: Following data relates to XYZ company:

Normal capacity 40,000 units per month

Variable cost per unit Rs. 6

Actual production 44,000 units

Sales 40,000 units @ Rs. 15 per unit

Fixed manufacturing overheads Rs. 1,00,000 per month or Rs. 2.50 per unit at normal capacity.

Other fixed expenses Rs. 2.40,000 per month.

Prepare Income Statement under absorption costing.

Solution 1:

INCOME STATEMENT

	Rs.	Rs.
Sales (40,000 x Rs. 15)		6,00,000
Less: Cost of Goods Manufactured:	2,64,000	
Variable cost @Rs. 6 per unit for 44,000 units	1,10,000	
Fixed manufacturing overheads @ Rs. 2.50 for 44,000	3,74,000	
	34,000	
Less: Closing Inventory 4,000/44,000 x Rs. 3,74,000)	3,40,000	
Less: Overabsorption of fixed manufacturing overheads (Rs. 1,10,000 – Rs. 1,00,000)	10,000	
		3,30,000
Gross Profit		2,70,000
		2,40,000
Less: Other Fixed Expenses:		
		30,000
Net Income		

Problem 2:

From the following information, prepare income statement under absorption costing.

Normal capacity	1,00,000 units
Units produced	1,10,000 units

Opening Stock	5,000 units
Units sold	1,05,000 units
Selling price per unit	Rs. 30
Direct material cost per unit	Rs. 6
Direct labour cost per unit	Rs. 5
Variable factory overheads per unit	Rs. 4
Fixed manufacturing overheads	Rs. 2,00,000
Variable administration, selling and distribution overheads	Rs. 2 per unit sold
Fixed administration, selling and distribution overhead	Rs. 1,00,000

SOLUTION: 2

Income Statement Under Absorption Costing

Particulars	Rs.	Rs.
A. Sales (1,05,000 x 30)		31,50,000
B. Cost of Goods Sold:		
Direct material Cost (1,10,000 x 6)	6,60,000	
Direct labour cost (1,10,000 x 5)	5,50,000	
Variable factory overheads (1,10,000 x 4)	4,40,000	
Fixed manufacturing overheads (1,10,000 x 2)	2,20,000	
[Fixed manufacturing overheads absorption rate		
$=2,00,000 \div 1,00,000 = 2$]	18,70,000	
Add: Opening Stock (5,000 x 17)	85,000	
	19,55,000	
Less: Closing Stock (10,000 x 17)	1,70,000	
	17,85,000	
Less: Over-absorbed fixed manufacturing overheads		
(2,20,000 – 2,00,000)	20,000	17,65,000
C. Gross Profit (A - B)		13,85,000
D. Administration, selling and distribution		
overheads:	2,10,000	
Variable (1,05,000 x 2)	1,00,000	3,10,000
Fixed		10,75,000
E. Net Income or Profit (C - D)		

7.6 USES / MERITS OF ABSORPTION COSTING

Following are the main uses and merits of absorption costing:

a) It suitably recognises the importance of including fixed manufacturing costs in product cost determination and framing a suitable pricing policy. In fact all costs (fixed and variable) related to production should be charged to units manufactured. Price based on absorption costing ensures that all costs are covered. Price are well regulated where full cost is the basis.

b) It will show correct profit calculation in case where production is done to have sales in future (e.g., seasonal sales) as compared to variable costing.

c) It helps to conform with accrual and matching concepts which require matching cost with revenue for a particular period.

d) It has been recognised by various bodies as FASB (USA), ASC (UK), ASB (India) for the purpose of preparing external reports and for valuation of inventory.

e) It avoids the separation of costs into fixed and variable elements which cannot be done easily and accurately.

f) It discloses inefficient or efficient utilisation of production resources by indicating under-absorption or over-absorption of factory overheads.

g) It helps to make the managers more responsible for the costs and services provided to their centres/departments due to correct allocation and apportionment of fixed factory overheads.

h) It helps to calculate the gross profit and net profit separately in income statement.

7.7 DEFECTS / DEMERITS OF ABSORPTION COSTING

Following are the defects / demerits of absorption costing:

a) **Difficulty in comparison and control of cost:**

Absorption costing is dependent on level of output, so different unit costs are obtained for different levels of output. An increase in the volume of output normally results in reduced unit cost and a reduction in output results in an increased cost per unit due to the existence of fixed expenses. This makes comparison and control of cost difficult.

b) **Not helpful in managerial decision:**

Absorption costing is not very helpful in taking managerial decisions such as selection of suitable product mix, whether to buy or manufacture, whether to accept export order or not, choice of alternatives, the minimum price to be fixed during the depression, number of units to be sold to earn a desired profit etc.

c) **Cost vitiated because of fixed cost included in inventory valuation:**

In absorption costing, a portion of fixed cost is carried forward to the next period because closing stock is valued at cost of production which is inclusive of fixed cost.

d) **Fixed cost inclusion in cost not justified:**

Many accountants argue that fixed manufacturing, administration and selling and distribution overheads are period costs and do not produce further benefits and therefore, should not be included in the cost of product.

e) **Apportionment of fixed overheads by arbitrary methods:**

The validity of product costs under this technique depends on correct apportionment of overhead costs. But in practice many overhead costs are apportioned by using arbitrary methods which ultimately make the product costs inaccurate and unreliable.

f) Not helpful for preparation of flexible budget:

In absorption costing no distinction is made between the fixed and variable costs. It is not possible to prepare flexible budget without making this distinction.

7.9 SUMMARY

Absorption costing is the conventional and most widely used technique of ascertaining cost. It is the practice of charging all costs both variable and fixed to operations, processes or products. Under this technique, product cost is made up of all direct costs (i.e., direct material, direct labour, direct expenses and variable factory overheads) plus fixed factory overheads absorbed at a predetermined rate on the basis of normal capacity. This lesson also discussed the uses and defects of absorption costing. Absorption costing is useful if there is only on product, there is no inventory and overhead recovery rate is based on normal capacity instead of actual level of activity.

7.10 GLOSSARY

- **Absorption Costing:** Absorption costing refers to a method of costing to account for all the costs of manufacturing. The management uses this method to absorb the costs incurred on a product.
- **Under-absorption:** If the overhead absorbed is lower than the actual overheads incurred during the accounting period, it is called under absorption.
- **Over-absorption:** If the overheads absorbed are higher than the actual overheads incurred, it is called over absorption.

7.11 SELF-ASSESSMENTQUESTIONS

1. Define the term Absorption Costing.

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2. What is over-absorption?

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3. What is under-absorption?

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4. Give any two features of absorption costing.

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7.11 LESSON END EXERCISE

1. What is Absorption Costing? Explain the features or Characteristics of Absorption Costing.
2. Discuss the merits and demerits of Absorption Costing.
3. Give a proforma for ascertainment of income under absorption costing.
4. Prepare income statements under Absorption Costing from the following information relating to the year 2019-2020.

   Opening Stock = 1,000 units valued at Rs.70,000 including variable cost of Rs. 50 per unit.

   Fixed Cost = Rs. 1,20,000

   Variable Cost = Rs. 60 per unit

   Production = 10,000 units

   Sales = 7,000 units @ Rs. 100 unit.

   Stock is valued on the basis of FIFO.
5. Your computer has a production capacity of 12,500 units and normal

capacity utilization is 80%. Opening inventory of finished goods on 1-1-2020 was 1,000 units. During the year ending 31-12-2020, it produced 11,000 units while it sold only 10,000 units.

Standard variable cost per unit is Rs. 6.50 and standard fixed factory cost per unit is Rs. 1.50. total fixed selling and administration overhead amounted to Rs. 10,000. The company sells its product at Rs. 10 per unit.

Prepare Income Statements under Absorption Costing.

7.12 SUGGESTED READINGS

1. Management Accounting, I.M. Pandey, Vikas Publishing House.
2. Advanced Cost of Management Accounting, V. K. Saxena and C.D. Vashist. S. Chand and Sons.
3. Management Accounting, Gupta, Sharma and Gupta, Kalyani Publishers.
4. Management Accounting, Harsen and Mowen, Thompson.
5. Introduction to Management Accounting, Horngren, Sundem, Stratton, Prentice Hall, Publisher.
6. Management Accounting, SP Gupta, Sahitaya Bhawan Publication.

UNIT-II LESSON-8

COST VOLUME PROFIT SOLUTION

STRUCTURE

8.1 INTRODUCTION

The Cost-Volume-Profit (CVP) analysis is very much useful to management as it provides an insight into the effects and inter-relationship of factors, which influence the profits of the firm. The relationship between cost, volume and profit makes up the profit structure of an enterprise. Hence, the CVP relationship becomes essential for budgeting and profit planning. As a starting point in profit planning, it helps to determine the maximum sales volume to avoid losses, and the sales volume at which the profit goal of the firm will be achieved. As an ultimate objective it helps management to find the most profitable combination of costs and volume. A dynamic management, therefore, uses CVP analysis to predict and evaluate the implications of its short run decisions about fixed costs, marginal costs, sales volume and selling price for its profit plans on a continuous basis.

8.2 OBJECTIVES:

After successfully completion of this unit, you will be able to:

- Understand the meaning of Cost Volume Profit Analysis.
- Know the various objective of Cost Volume Profit Analysis.
- Know how to calculate P/V Ratio
- Understand the Variable Cost Equation

8.3 MEANING OF COST VOLUME PROFIT ANALYSIS

Cost-Volume-Profit (CVP) analysis is an analytical tool for studying the relationship between volume, cost, prices, and profits. It is very much an extension, or even a part of marginal costing. It is an integral part of the profit planning process of the firm. However, formal profit planning and control involves the use of budgets and other forecasts, and the CVP analysis provides only an overview of the profit planning process. Besides it helps to evaluate the purpose and reasonableness of such budgets and forecasts.

The three factors of CVP analysis, i.e., costs, volume and profit are interconnected and dependent on one another. For example, profit depends upon sales, selling price to a large extent depends upon cost and cost depends upon volume of production as it is only the variable cost that varies directly with production, whereas fixed cost remains fixed regardless of the volume produced. In cost-volume-profit analysis an attempt is made to analyse the relationship between variations in cost with variations in volume. Cost-Volume-Profit Analysis (or Break-Even Analysis) is a logical extension of marginal costing. It is based on the same principles of classifying the operating expenses into fixed and variable. Now-a-days it has become a powerful instrument in the hands of policy makers to maximise profits.

Earning of maximum profit is the ultimate goal of almost all business undertakings. The most important factor influencing the earning of profit is the level of production (i.e., volume of output). Cost-volume-profit analysis examines the relationship of costs and profit to the volume of business to maximise profits. There may be a change in the level of production due to many reasons, such as competition, introduction of a new product, trade depression or boom, increased demand for the product, scarce resources, change in selling prices of products, etc. In such cases management must study the effect on profit on account of the changing levels of production. A number of techniques can be used as an aid to management in this respect. One such technique is the cost-volume-profit analysis.

The term cost volume profit analysis is interpreted in the narrower as well as broader sense. Used in its narrower sense, it is concerned with finding out the "crisis point", (i.e., break-even point) i.e., level of activity when the total cost equals total sales value. In other words, it helps in locating the level of output which evenly breaks the costs and revenues. Used in its broader sense, it means that system of analysis which determines profit, cost and sales value at different levels of output. The cost-volume-profit analysis establishes the relationship of cost, volume and profits.

8.3.1. Objectives of Cost Volume Profit Analysis

The main objectives of Cost Volume Profit analysis are as follows:

a) This analysis helps to forecast profit fairly and accurately as it is essential to know the relationship between profits and costs on the one hand and volume on the other.

b) This analysis is useful in setting up flexible budget which indicates costs at various levels of activity. We know that sales and variable costs tend to vary with the volume of output. It is necessary to budget the volume first for establishing budgets for sales and variable costs.

c) This analysis assists in evaluation of performance for the purpose of control. In order to review profits achieved and costs incurred, it is necessary to evaluate the effect on cost of changes in volume.

d) This analysis also assists in formulating price policies by showing the effect of different price structures on costs and profits. We are aware that pricing plays an important part in stabilizing and fixing up volumes especially in depression period.

e) This analysis helps to know the amount of overhead costs to be charged to the products at various levels of operation as we know that pre-determined overhead rates are related to a selected volume of production.

f) This analysis makes possible to attain target profit by locating the volume of sales required for such profit and finally achieving such sales volume.

g) This analysis helps management in taking number of decisions like make or buy, suitable sales mix, dropping of a product etc.

8.3.2 Calculation of P/V Ratio / Cost Volume Profit Solution

Problem 1:

Sales	Rs. 1,00,000
Profit	Rs. 10,000
Variable Cost	70%

Find out:

(i) P/V Ratio

(ii) Fixed Cost

(iii) Sales Volume to earn a Profit of Rs. 40,000

Solution:

Sales = Rs. 1,00,000

Variable Cost = 70%

= 70/100 x 1,00,000 = Rs. 70,000

(i) P/V Ratio = Sales – Variable Cost/ Sales x 100

= 1,00,000 – 70,000/1,00,000 x 100

= 30%

(ii) Contribution = Fixed Cost + Profit

30,000 = Fixed Cost + 10,000 = Rs. 20,000

Fixed Cost = 30,000 – 10,000

(iii) Sales = Fixed Cost + Profit/ PV Ratio

=20,000 + 40,000/30%

= 60,000 x 100/ 30

= Rs. 2,00,000

8.4 VARIABLE COST EQUATION

Following is the variable cost equation:

Total output quantity x variable cost of each output unit = total variable cost

Follow these steps while using this formula to determine company's total variable cost:

1. Identify all variable costs associated with the production of one unit of product. Common variable costs to consider include costs to consider include cost of labour, cost of material and variable overhead costs.
2. Add all variable costs required to produce one unit together to get the total variable cost for one unit of production.

3. Multiply the variable costs for one unit of product by the total number of units produced. The sum of this calculation will give the total variable cost

8.5 SUMMARY

Cost Volume Profit (CVP) analysis provides an insight into the effects and inter-relationship of factors, which influence the profits of the firm. The relationship between cost, volume and profit makes up the profit structure of an enterprise. Hence, the CVP relationship becomes essential for budgeting and profit planning. As a starting point in profit planning, it helps to determine the maximum sales volume to avoid losses, and the sales volume at which the profit goal of the firm will be achieved. As an ultimate objective it helps management to find the most profitable combination of costs and volume. It is very much an extension, or even a part of marginal costing. It is an integral part of the profit planning process of the firm.

8.6 GLOSSARY

- **Cost Volume Profit Analysis:** It is an analytical tool for studying the relationship between volume, cost, prices and profits.
- **P/V Ratio** = Sales – Variable Cost/ Sales x 100
- **Total Variable Cost** = Total Output Quantity x Variable Cost of each Output Unit
- **Contribution** = Fixed Cost + Profit
- **Sales** = Fixed Cost + Profit/ PV Ratio

8.7 SELF-ASSESSMENT QUESTIONS

1. What is cost volume profit analysis?

____

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2. Write any two objectives of CVP.

3. Write the formula of P/V Ratio and fixed cost.

____

____

8.8 LESSON END EXERCISE

1. Sales of a product amounts to 200 units per month at Rs. 10 per unit. Fixed overhead cost is Rs. 499 per month and variable cost is Rs. 6 per unit. There is a proposal to reduce price by 10 percent. Calculate present and future P/V ratio. How many units must be sold to earn the present total profits?

2. The sales turnover and profit during two years were as follows:

Year	SalesRs.	ProfitRs.
2013	1,40,000	15,000
2014	1,60,000	20,000

You are required to calculate:

(i) P/V Ratio

(ii) Sales required to earn a profit of Rs. 40,000

(iii) Profit when sales are Rs. 1,20,000

8.9 SUGGESTED READINGS

1. Management Accounting, I.M. Pandey, Vikas Publishing House.
2. Advanced Cost of Management Accounting, V. K. Saxena and C.D. Vashist. S. Chand and Sons.
3. Management Accounting, Gupta, Sharma and Gupta, Kalyani Publishers.
4. Management Accounting, Harsen and Mowen, Thompson.

5. Introduction to Management Accounting, Horngren, Sundem, Stratton, Prentice Hall, Publisher.
6. Management Accounting, SP Gupta, sahitaya Bhawan Publication.

UNIT-II LESSON-9

BREAK- EVEN POINT

STRUCTURE

9.1 INTRODUCTION

The study of cost-volume profit analysis is often referred to as 'break-even analysis' and the two terms are used interchangeably by many. This is so, because break-even analysis is the most widely known form of cost-volume-profit analysis. The term 'break-even analysis' is used in two senses, i.e., narrow sense and broad sense. In narrow senses, it refers to a technique of determining that level of operations where total revenues equal total expenses, i.e., the point of no profit, no loss. In its broad sense, break-even analysis refers to the study of relationship between costs, volume and profit at different level of sales or production.

9.2 OBJECTIVES:

After completion of this lesson, you will able to:

- Know the meaning of Break-Even Point
- Know the various assumptions of Break-Even Point
- Understand how to calculate Break-Even Point
- Know the advantages and disadvantages of Break-Even Chart

9.2 MEANING OF BREAK-EVEN POINT

The break-even point may be defined as that point of sales volume at which total revenue is equal to total cost. It is a point of no profit, no loss. A business is said to break-even when its total sales are equal to its total costs. The break-even point refers to that level of output which evenly breaks the costs and revenues and hence the name. At this point, contribution, i.e., sales minus marginal cost equals the fixed costs and hence this point is often called as '**Critical Point'** or **'Equilibrium Point'** or **'Balancing Point'** or **'no profit, no loss'**. If production/sales is increased beyond this level, there shall be profit to the organisation and if it is decrease from this level, there shall be loss to the organisation.

9.3 ASSUMPTIONS OF BREAK-EVEN POINT

The break-even point is based upon the following assumptions:

a) All elements of cost, i.e., production, administration and selling and distribution can be segregated into fixed and variable components.

b) Variable cost remains constant per unit of output irrespective of the level of output and thus fluctuates directly in proportion to changes in the volume of output.

c) Fixed cost remains constant at all volumes of output.

d) Selling price per unit remains unchanged or constant at all levels of output.

e) Volume of production is the only factor that influences cost.

f) There will be no change in the general price-level.

g) There is only one product or in case of multi-products, the sales mix remains unchanged.

h) There is synchronisation between production and sales.

9.4 CALCULATION OF BREAK-EVEN POINT

Break-even point can be stated in the form of an equation:

Sales revenue at break-even point = Fixed Costs + Variable Costs

The break-even point can be calculated by the following methods:

I. The Algebraic Formula Method

II. Graphic or Chart Method

I. Algebraic formula method for calculating the Break-even Point

In this case the break-even point can be calculated in terms of:

a) Units of Sales Volume.

b) Budget total or in terms of money value.

c) As a percentage of estimated capacity.

a) Break-even Point in Units of Sales Volume:

As the break-even point is the point of no profit no loss, it is that level of output at which the total contribution equals the total fixed costs. It can be calculated with the help of following formula:

Break-Even Point = Fixed Costs / Selling price per Unit - Variable Cost per unit = Fixed Cost/ Contribution per Unit

Problem 1: From the following information, calculate the break-even point in units and in sales value:

Output	3,000 units
Selling Price per unit	Rs. 30
Variable Cost per unit	Rs. 20
Total Fixed Cost	Rs. 20,000

Solution 1:

Break-Even Point (in units) = Fixed Costs / Selling price per Unit - Variable Cost per unit

= 20,000 / 30-20

= 20,000/10

=2,000 units.

Break-even Point (in sales value) = Fixed Cost x Sales / Sales – variable Cost

Fixed Cost = Rs. 20,000 (given)

Sales = 3,000 x 30 = Rs. 90,000

Variable Cost = 3,000 x 20 = Rs. 60,000

Hence, B.E.P. (in sales value) = 20,000 x 90,000 / 90,000-60,000

= 20,000 x 90,000 / 30,000

= Rs. 60,000

Otherwise, as the B.E.P. is 2,000 units, break-even sales would be:

2,000 x 30 = Rs. 60,000

b) Break-Even Point in terms of budget-total or money value:

At break-even point;

Total Sales = Total Fixed Cost + Total Variable Cost

Or

$$S = F + V$$

(where, S = Sales; F = Fixed Cost and V = Variable Cost)

Or

$$S-V/\ S-V = F/\ S-V$$

Or

$$1 = F/\ S-V$$

Or

$$S \times 1 = F \times S/\ S-V$$

Hence, break-even sales = fixed cost / sales – Variable cost **X** sales

= fixed Cost / contribution X Sales

With the use of P/V Ration, B.E.P. = Fixed Cost/ PV Ration

(as, Contribution / Sales = P/V Ration)

c) Break-even Point as a percentage of estimated capacity:

Break-even point can also be computed as a percentage of the estimated sales or capacity by dividing the break even sales by the capacity sales. For example, if a firm has an estimated capacity of 1,00,000 units of products and its break-even point is reached at 50,000 units, then the break-even point is at 50% of capacity (1,00,000/50,000). If information as to total contribution at full capacity is available, the break-even point as a percentage of estimated capacity can be found as under:

Break-Even Point (as % age of capacity) = Fixed Costs / Total Contribution

Problem 2:

The fixed cost amount to Rs. 50,000 and the percentage of variable costs to sales is given to be 66%. If 100% capacity sales are Rs. 3,00,000, find out the break-even point and the percentage sales when it occurred. Determine profit at 80% capacity.

Solution 2:

Percentage of variable cost to sales is 66 x 2/3 i.e., 200/3

Therefore, percentage of contribution to sales is 100 – 200/3 = 100/3

P/V Ration = contribution /Sales x 100

100/3 x 1/100 x 100 = 100/3 = 33 x 1/3%

Break even sales = Fixed Cost/PV Ratio

= 50,000/ 33 x 1/3%

= 50,000/100 x 300

= Rs. 1,50,000

100% Capacity Sales = Rs. 3,00,00

Hence, B.E.P. occurs at 1,50,00/3,00,00 x 100 = 50% capacity

Profit at 80% Capacity

At 100% Capacity Sales are Rs. 3,00,00

Therefore, 80% capacity sales 3,00,000 x 80/100 = Rs. 2,40,000

Total Contribution at 80% capacity = 2,40,000 x 100/3 x 1/100

= Rs. 80,000

Fixed Expenses = Rs. 50,000

Profit at 80% capacity = Rs. 30,000

II. Graphic or Chart Method

The break-even point can also be computed graphically. A break-even chart is a graphical representation of marginal costing. The break-even chart 'Portrays a pictorial view of the relationships between costs, volume and profit.' It shows the break-even point and also indicates the estimated profit or loss at various levels of output. The break-even point and indicated in the chart is the point at which the total cost line and the total sales line intersect. The below diagram or graph shows the break-even point.

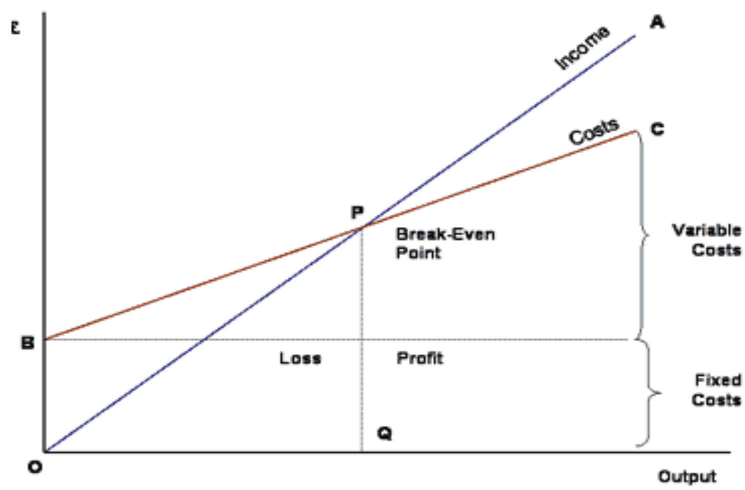

Fig. 9.1

In the diagram above, 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.

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.

Examples of fixed costs:

- Rent and rates
- Depreciation
- Research and development
- Marketing costs (non- revenue related)
- Administration costs

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.

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.

Semi-Variable Costs

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.

9.6 ADVANTAGES OF BREAK-EVEN CHARTS

Computation of break-even point or presentation of cost, volume and profit relationship by way of break-even charts has the following advantages:

a) Information provided by the break-even chart is in a simple form and is clearly understandable even to a layman. The whole idea of the problem is presented at a glance.

b) The break-even chart is very useful to the management for taking managerial decisions because the chart studies the relationship of cost, volume and profit at various level of output. The effects of changes in fixed cost and variable costs at various levels of output and that of changes in the selling price on the profits can be depicted very clearly by way of break-even charts.

c) The break-even charts help in knowing and analysing the profitability of different products under various circumstances.

d) A break-even chart is very useful for forecasting (the costs and profits), planning and growth.

e) The break-even chart is a managerial tool for control of costs as it shows the relative importance of fixed cost in the total cost of a product.

f) Besides determining the break-even point, profits at various levels of output can also be determined with the help of break-even charts.

g) The break-even charts can also be used to study the comparative plant efficiencies of business.

9.7 DISADVANTAGES OF BREAK-EVEN CHART

Despite many advantages, a break-even chart suffers from the following limitations:

a) A break-even chart is based upon a number of assumptions, which may not hold good under all circumstances. For example, fixed costs do not remain constant after a certain level of activity, variable costs do not always vary in direct proportion to changes in the volume of output because of the laws of diminishing and increasing returns, selling prices do not remain the same for ever and for all levels of output due to competition and changes in the general price level, etc.

b) A break-even chart provides only limited information. We have to draw a number of charts to study the effects of changes in the fixed costs, variable costs and selling prices on the profitability. In such cases, it becomes rather more complicated and difficult to understand.

c) Break-even charts present only cost-volume profit relationships but ignore other important considerations such as the amount of capital investment, marketing problems and government policies etc.

d) A break-even chart does not suggest any action or remedies to the management as a tool of management decisions.

e) More often, a break-even chart presents only a static view of the problem under consideration.

9.8 SUMMARY

Break-even point in narrow senses refers to a technique of determining that level of operations where total revenues equal total expenses, i.e., the point of no profit, no loss. And in broad sense, break-even analysis refers to the study of relationship between costs, volume and profit at different level of sales or production. The break-even point may be defined as that point of sales volume at which total revenue is equal to total cost. It is a point of no profit, no loss. A business is said to break-even when its total sales are equal to its total costs.

9.9 GLOSSARY

- **Break-Even Point:** Break-even point may be defined as that point of sales volume at which total revenue is equal to total cost. It is a point of no profit, no loss.
- **Break-Even Chart:** A break-even chart is a graphical representation of marginal costing. It indicates the estimated profit or loss at various levels of output

9.10 SELF-ASSESSMENT QUESTIONS

1. What is Break-Even Point?

 ____

 ____

2. Write any two limitations of Break-Even Chart.

 ____

 ____

9.11 LESSON END EXERCISE

1. From the following information, ascertain by how much the value of sales must be increased by the company to break-even:

Sales	Rs. 3,00,000
Fixed Cost	Rs. 1,50,000
Variable Cost	Rs. 2,00,000

2. Calculate:

 (i) The amount of fixed expenses

 (ii) The number of units to break-even

(iii) The number of units to earn a profit of Rs. 40,000.

The selling price per unit can be assumed ar Rs. 100.

The company sold in two successive periods 7,000 units and 9,000 units and has incurred a loss of Rs. 10,000 and earned Rs. 10,000 as profit respectively.

1. Break-down of cost per unit at an activity level of 10,000 units of Zenith Razors is as follows:

	Rs.
Raw Materials	10
Direct expenses	8
Chargeable expenses	2
Variable overheads	4
Fixed overheads	6
Total cost per unit	30
Selling price	32
Profit per unit	2

How many units must be sold to break-even?

9.12 SUGGESTED READINGS

1. Management Accounting, I.M. Pandey, Vikas Publishing House.
2. Advanced Cost of Management Accounting, V. K. Saxena and C.D. Vashist. S. Chand and Sons.
3. Management Accounting, Gupta, Sharma and Gupta, Kalyani Publishers.
4. Management Accounting, Harsen and Mowen, Thompson.

5. Introduction to Management Accounting, Horngren, Sundem, Stratton, Prentice Hall, Publisher.
6. Management Accounting, SP Gupta, sahitaya Bhawan Publication.

UNIT-II LESSON-10

MULTI PRODUCTSITUATION AND ALTERNATE CHOICE DECISIONS

STRUCTURE:

10.1 Introduction

10.2 Objectives

10.3 Multi Product Situation (Break-Even Point)

10.3.1. Calculation of Multi Product Situation

10.4 Alternate Choice Decision

10.5 Summary

10.6 Glossary

10.7 Self-Assessment Questions

10.8 Lesson End Exercise

10.9 Suggested Readings

10.1 INTRODUCTION

Performing a break-even analysis for these multi-product businesses is more complex because each product has a different selling price, a different variable cost, and, ultimately, a different contribution margin. We must also proceed under the assumption that the sales mix remains constant; if it does change, the CVP analysis must be revised to reflect the change in sales mix. For the sake of clarity, we will also assume that all costs are companywide costs, and each product contributes toward covering these companywide costs.

10.2 OBJECTIVES

The main objectives of this lesson are:

- To understand the multi product situation
- To know how to calculate multi product situtation
- To understand alternate choice decision

10.3 MULTI PRODUCT SITUATION (BREAK-EVEN POINT)

Up to this point in our CVP analysis, we have assumed that a company only sells one product, but we know that, realistically, this is not the case. Most companies operate in a multi-product environment, in which they sell different products, manufacture different products, or offer different types of services. Companies price each one of their products or services differently, and the costs associated with each of those products or services vary as well. In addition, companies have limited resources, such as time and labour, and must decide which products to sell or produce and in what quantities, or which services to offer in order to be the most profitable. These profitability considerations are often what contribute substance to a sales mix decision.

In order to perform a break-even analysis for a company that sells multiple products or provides multiple services, it is important to understand the concept of a sales mix. A sales mix represents the relative proportions of the products that a company sells—in other words, the percentage of the company's total revenue that comes from product A, product B, product C, and so forth. Sales mix is important to business owners and managers because they seek to have a mix that maximizes profit, since not all products have the same profit margin. Companies can maximize their profits if they are able to achieve a sales mix that is heavy with high-margin products, goods, or services. If a company focuses on a sales mix heavy with low-margin items, overall company profitability will often suffer.

Performing a break-even analysis for these multi-product businesses is more complex because each product has a different selling price, a different variable cost, and, ultimately, a different contribution margin. We must also proceed under the assumption that the sales mix remains constant; if it does change, the CVP analysis must be revised to reflect the change in sales mix. For the sake of clarity, we will also assume that all costs are companywide costs, and each product contributes toward covering these companywide costs.

10.3.1 Calculation of Break-Even Point (Multi Product Situation)

Problem 1:

From the following information of a company producing three products, you are required to calculate:

(a) Composite P/V ratio and

(b) Composite Break-Even Point

Product	Sales Revenue	Variable
X	Rs. 20,000	Rs. 10,000
Y	Rs. 40,000	Rs. 14,000
Z	Rs. 60,000	Rs. 36,000

Fixed costs Rs. 50,000

Solution 1:

Product	Sales Revenue (Rs.)	Variable Cost (Rs.)	Contribution (S-V)	P/V Ratio (C/5 x 100)
X	20,000	10,000	10,000	50%
Y	40,000	14,000	26,000	65%
Z	60,000	36,000	24,000	40%
Total	1,20,000	60,000	60,000	50%

(a) Composite P/V Ratio = Total Contribution/ Total Sales x 100
= 60,000/1,20,000 x 100
= 50 %

(b) Composite Break-Even Point (in sales value) = Total Fixed Cost/ Composite P/V ratio
= 50,000/50%
= Rs. 1,00,000

10.4 ALTERNATE CHOICE DECISIONS

Sometimes the management has to choose from among alternative methods of production, eg., machine work or hand work. The same product may be produced either by employing Machine No. 1 or Machine No. 2 and the management may be confronted with the problem of choosing one among them. In such circumstances, technique of managerial costing can be applied and the method which gives the highest contribution can be adopted keeping of marginal costing can be applied and the method which gives the highest contribution can be adopted keeping in view, of course, the limiting factor.

Problem 2:

Product ‘A’ can be manufactured either by machine X or machine Y. Machine X can produce 50 units of ‘A’ per hour and machine Y, 100 units per hour. Total machine hours available are 2000 hours per annum. Taking into account the following cost data, determine the profitable method of manufacture.

	Per Unit of Product 'A'	
	Machine X	Machine Y
	Rs.	Rs.
Direct Material	8	10
Direct Wages	12	12
Variable Overheads	4	4
Fixed Overheads	5	5
	29	31
Selling Price	30	30

Solution 2:

Probability Statement				
			Machine X Rs.	Machine Y Rs.
Selling Price Per Unit			30	30
Less: Material Cost:	Rs.	Rs.		
Direct Material	8	10		
Direct Wages	12	12		
Variable Overhead	4	4	24	26
Contribution Per Unit			6	4
Output Per Hour			50 Units	100 Units
Contribution Per Hour			Rs. 300	Rs. 400
Total Machine Hours (per annum)			2000	2000
Total Contribution			Rs. 6,00,000	Rs. 8,00,000
Hence, production of Machine Y is more profitable				

10.5 SUMMARY

The break-even point may be defined as that point of sales volume at which total revenue is equal to total cost. It is a point of no profit, no loss. A business is said to break-even when its total sales are equal to its total costs. In this lesson we discussed about how to calculate multi-product situation in break-even point, P/V Ratio and alternate choice decision.

10.6 GLOSSARY

- **P/V Ratio:** Total Contribution/ Total Sales x 100
- **Break-Even Point:** Total Fixed Cost/ Composite P/V ratio

10.7 SELF-ASSESSMENT QUESTIONS

1. What is the formula to calculate:

   a) Break-Even Point

   ____

   ____

   b) P/V Ratio

   ____

   ____

10.8 LESSON END EXERCISE

1. From the following information of XYZ company producing four products, you are required to calculate:

(a) Composite P/V ratio and

(b) Composite Break-Even Point

Product	Sales Revenue	Variable
A	Rs. 10,000	Rs. 8,000
B	Rs. 30,000	Rs. 12,000

C	Rs. 50,000	Rs. 25,000
D	Rs. 60,000	Rs. 30,000

Fixed costs Rs. 40,000

2. Product 'A' can be manufactured either by machine X or machine Y. Machine X can produce 70 units of 'A' per hour and machine Y, 1500 units per hour. Total machine hours available are 3000 hours per annum. Taking into account the following cost data, determine the profitable method of manufacture.

	Per Unit of Product 'A'	
	Machine X	Machine Y
	Rs.	Rs.
Direct Material	10	12
Direct Wages	14	16
Variable Overheads	6	6
Fixed Overheads	7	7
	37	41
Selling Price	40	

10.9 SUGGESTED READINGS

1. Management Accounting, I.M. Pandey, Vikas Publishing House.
2. Advanced Cost of Management Accounting, V. K. Saxena and C.D. Vashist. S. Chand and Sons.
3. Management Accounting, Gupta, Sharma and Gupta, Kalyani Publishers.
4. Management Accounting, Harsen and Mowen, Thompson.
5. Introduction to Management Accounting, Horngren, Sundem, Stratton, Prentice Hall, Publisher.
6. Management Accounting, SP Gupta, Sahitaya Bhawan Publication.

UNIT-III LESSON-11

BUDGETING AND BUDGETING CONTROL

STRUCTURE

11.1 INTRODUCTION

A budget is the monetary or/and quantitative expression of business plans and policies to be pursued in the future period of time. The term budgeting is used for preparing budgets and other procedures for planning, co-ordination and control of business enterprise. **According to CIMA, Official Terminology,** "A budget is a financial and/or quantitative statement prepared prior to a defined period of time, of the policy to be pursued during that period of the purpose of attaining a given objective." In the words of **Crown and Howard,** "A budget is a pre-determined statement of management policy during a given period which provides a standard for comparison with the results actually achieved."

11.2 OBJECTIVES:

The main objectives of this lesson are to make you :

- Understand the meaning of Budgetary Control
- Know the difference between Budget, Budgeting and Budgetary Control
- Know the differences in forecast and budgets.

11.3 MEANING AND NATURE OF BUDGETARY CONTROL

Budgetary control is the process of determining various budgeted figures for the enterprises for the future period and then comparing the budgeted figures with the actual performance for calculating variances, if any. First of all budgets are prepared and then actual results are recorded. The comparison of budgeted and actual figures will enable the management to find out discrepancies and take remedial measures at a proper time. The budgetary control is a continuous process which helps in planning and co-ordination. It provides a method of control too. A budget is a means and budgetary control is the end-results.

According to Brown and Howard, "Budgetary control is a system of controlling costs which includes the preparation of budgets, co-ordinating the department and establishing responsibilities, comparing actual performance with the budgeted and acting upon results to achieve maximum profitability," Weldon characteristics budgetary control as 'planning in advance of the various functions of a business so that the business as a whole is controlled'.

J. Batty defines it as "A system which uses budgets as a means of planning and controlling all aspects of producing and/or selling commodities and services," Welsch relates budgetary control with day-to-day control process. According to him, "Budgetary control involves the use of budget and budgetary reports, throughout the period to co-ordinate, evaluate and control day-to-day operations in accordance with the goals specified by the budget".

From the above given definitions it is clear that budgetary control involves the following:

a) The objects are set by preparing budgets

b) The business is divided into various responsibility centres for preparing various budgets.

c) The actual figures are recorded.

d) The budgeted and actual figures are compared for studying the performance of different cost centres.

e) If actual performance is less than the budgeted norms, a remedial action is taken immediately.

Thus, the three cardinal features of budgetary control are:

i. Planning

ii. Co-ordination, and

iii. Control

11.3.1 Budget, Budgeting and Budgetary Control

A budget is a blue print of a plan expressed in quantitative terms. Budgeting is technique for formulating budgets. Budgetary control, on the other hand, refers to the principles, procedures and practices of achieving given objectives through budgets.

Rowland and William have differentiated the three terms as: "Budgets are the individual objectives of a department, etc., whereas budgeting may be said to be the act of building budgets. Budgetary control embraces all and in addition includes the science of planning the budgets to effect an overall management tool for the business planning and control."

11.3.2 Objectives of Budgetary Control

Budgetary control is essential for policy planning and control. It also acts as an instrument of co-ordination. The main objectives of budgetary control are as follows:

a) To ensure planning for future by setting up various budgets. The requirements and expected performance of the enterprise are anticipated.

b) To co-ordinate the activities of different department.

c) To operate various cost centres and departments with efficiency and economy.

d) Elimination of wastes and increase in profitability.

e) To anticipate capital expenditure for future.

f) To centralise the control system.

g) Correction of deviations from the established standards.

h) Fixation of responsibility of various individuals in the organisation.

11.4 FORECASTS vs BUDGETS

Forecasting may be needed for future planning or budgeting but it cannot be confused with the later. Forecasts are only will-educated guesses or inferences as to what the future may be. The management has to make predictions while preparing plans for the future.

According to Henry Fayol, father of modern management, the entire plan is made up of series of separate plans called forecasts. Forecasting provides a logical basis for preparing the plans/budgets. The actual performances of the past, the present situation and likely trends in the future are considered while preparing budgets. A budget is the monetary or/and quantitative expression of business plans and policies to be pursued in the future period of time.

The difference between forecasting and budgeting can be summarised as below:

1. Forecasts are merely well-educated estimates or inferences about the future probable events, whereas a budget relates to planned events and is the quantitative expression of business plans and policies to be pursued in the future.
2. Budgeting begins where forecasting ends. In fact. Forecasting provides the logical basis for preparing the budgets.
3. A budget provides a standard for comparison with the results actually and thus, is an important control device for the management, while a forecast represents merely a probable event over which no control can be exercised.

11.5 SUMMARY

Budgetary control is the process of determining various budgeted figures for the enterprises for the future period and then comparing the budgeted figures with the actual performance for calculating variances, if any. First of all budgets are prepared and then actual results are recorded. The comparison of budgeted and actual figures will enable the management to find out discrepancies and take remedial measures at a proper time. The budgetary control is a continuous process which helps in planning and co-ordination. It provides a method of control too. A budget is a means and budgetary control is the end-results.

11.6 GLOSSARY

- **Budget:** A budget is a blue print of a plan expressed in quantitative terms

- **Budgeting:** Budgeting is technique for formulating budgets
- **Budgetary Control:** Budgetary control refers to the principles, procedures and practices of achieving given objectives through budgets.

11.7 SELF-ASSESSMENT QUESTIONS

1. What is budgetary control?

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2. Explain the term Budget, Budgeting and Budgetary Control.

____

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11.8 LESSON END EXERCISE

1. Define the term Budgetary Control. Discuss nature of Budgetary Control.
2. Differentiate Budget, Budgeting and Budgetary Control.
3. What are the objectives of Budgetary Control.
4. Briefly discuss the difference between Forecast vs. Budgets

11.9 SUGGESTED READINGS

1. Management Accounting, I.M. Pandey, Vikas Publishing House.
2. Advanced Cost of Management Accounting, V. K. Saxena and C.D. Vashist. S. Chand and Sons.
3. Management Accounting, Gupta, Sharma and Gupta, Kalyani Publishers.
4. Management Accounting, Harsen and Mowen, Thompson.

5. Introduction to Management Accounting, Horngren, Sundem, Stratton, Prentice Hall, Publisher.
6. Management Accounting, SP Gupta, Sahitaya Bhawan Publication.

UNIT-III **LESSON-12**

FUNCTIONAL BUDGET, FIXED AND FLEXIBLE BUDGETING

STRUCTURE

12.1 INTRODUCTION

A budget is a tool that helps us to identify expected income and expenses over a particular period. Budget refers to an official statement containing an estimation of revenue and expenses over a specified future period of time and is usually compiled and re-evaluated on a periodic basis. Budget can be prepared for a particular department within a firm, for a whole firm on a standalone basis. In other words, it is a financial document used to project future incomes and expenditures prepared by individuals or organisations that aim to stay within certain financial constriants.

12.2 OBJECTIVES:

After completion of this lesson, you will be able to:

- Understand the meaning of functional budget.
- Know the meaning of fixed and flexible budget.
- Know the difference between Fixed and Flexible Budget.

12.3 FUNCTIONAL BUDGET

Functional budgets provide an opportunity for companies to scrutinize individual aspects of the organization. Below we will examine three key functional budgets; sales, production and cash budgets to consider how they can improve planning and control within a business.Functional budgets address spending and revenue for a particular function -- such as a department or process -- within a business. Examples of functional budgets include budgets for functions such as production, sales, business development and materials purchasing.Functional Budget is that budget which is associated with the functions of an organization. For examples: Sales budget, Production budget, Labour budget, Cost budget, Overhead budget, Capital expenditure budget and Cash budget etc.

12.3.1 Types of Functional Budgets

a) Sales budgets

It is the first budget which is an estimate of expected sales during the budget period. It is also known as the backbone of the organization. The sales budget is the starting point in budgeting the other budgets are based on Sales budget. The sales manager is responsible for preparing the sales budget. The procedure of sales budget is as:

(i) Data for past Sales. The sales budget is based on past sales figures into the account. The sales of the last many years speak about ups or downs in the Sale values.

(ii) Production budget. The production budget is based on the sales budget. Once the sales quantity and values are determined, then arises the problem of how much to produce to meet the budget sales. The production budget is an estimate of the quantity of goods that must be produced during the budget period. While preparing production budget, the sales forecast, stock of closing stock and opening stock, plant capacity, purchase of other related part are taken into account.

b) Production Cost Budget

Production cost budget shows in detail the estimated cost of carrying out the production plans as per the production budget. It represents the cost of various elements of production cost such as material, labour, and overheads fixed or variables and semi-variables. The cost can be expressed as a product or department-wise.

c) Purchase Budget

Purchase budget is concerned with purchases for the period of the budget. It is referred to the purchase of raw materials, fixed assets, services like electricity and gas etc. The main object of the purchase budget is to formulate a plan which will allow all purchases at a minimum cost.

d) Labour Cost Budget

Labour Cost Budget lays emphasis the labour requirements to meet the demand of the company during the budget period. The labour cost budget always focuses on Direct and Indirect labour cost. The labour requirements are referred to the Personnel Department who is responsible for selection, training and promotion.

e) Promotion Overhead Budget

This budget represents the forecast of all production overheads to be incurred during the budget period. The factory overheads are classified as fixed, variable and semi-variable. While preparing this budget, consideration showed to be given to the level of equality likely to be achieved.

f) Capital Expenditure Budget

This budget indicates the plans for addition in Capital expenditure (acquiring fixed assets) improvement in old Assets and replacement of fixed assets. These may be: Plant addition, new building, land and such as plants.

g) Cash Budget

Cash budget represents the cash requirements of the business during the budget period. It compares the estimated Cash Receipts and estimated Cash payments of the company during the budget period. It ensures that sufficient cash is available when required.

h) Master Budget

This budget combines all functional budget into one harmonious unit. It is a summary plan of overall proposed operations developed by management for the company, covering a specific period. It is a summary budget incorporating its functional budgets which is finally approved, adopted and employed. This budgeting contains the details of sales budget, production budget, cash budget etc. When it is complete, the budget committee will review all the details and if approved, it will be submitted to the board of directors. Once it is accepted and approved it becomes the target for the company during a specific period to achieve the desired target.

12.4 FIXED AND FLEXIBLE BUDGET

12.4.1 Fixed Budget

The fixed budgets are prepared for a given level of activity, the budget is prepared before the beginning of the financial year. If the financial year starts in January then the budget will be prepared a month or two earlier, i.e., November to December. The changes in expenditure arising out of the anticipated changes will not be adjusted in the budget. There is a difference of about twelve months in the budgeted and actual figures.

According to ICWA London, "Fixed budget is a budget which is designed to remain unchanged irrespective of the level of activity actually attained." Fixed budgets are suitable under static conditions. If sales, expenses and costs can be forecasted with greater accuracy then this budget can be advantageously used.

12.4.2 Flexible Budgets

A flexible budget consists of a series of a series of budgets for different level of activity. Therefore, varies with the level of activity attained. A flexible budget is prepared after taking into consideration unforeseen changes in the conditions of the business. A flexible budget is defined as a budget which by recognising the difference between fixed, semi-fixed and variable cost is designed to change in relation to the level of activity. The flexible budgets will be useful where level of activity changes from time to time. When the forecasting of demand is uncertain and the undertaking operates under conditions of shortage of materials, labour etc., then this budget will be more suited.

12.4.3 Difference between Fixed and Flexible Budget

Basic of Distinction	Fixed Budget	Flexible Budget
Rigidity	A fixed budget remains the same irrespective of changed situations. It remains flexible even if volume of business is changed.	A flexible budget is recast to suit the changed circumstances. Suitable adjustments are made if the situation so demands.

Conditions	A fixed budget assumes that conditions will remain constant.	This budget is changed if level of activity varies.
Cost Classification	In fixed budgets costs are not classified according to their nature.	The costs are studied as per their nature, i.e., fixed variable, semi-variable.
Changes in Volume	If the level of activity changes then budgeted and actual results cannot be compared because of change in basis.	The budgets are redrafted as per the changed volume and a comparison between budgeted and actual figures will be possible.
Forecasting	Forecasting of accurate results is difficult	Flexible budgets clearly show the impact of expenses on operations and it helps in making accurate forecasts.
Cost Ascertainment	Under changed circumstances cost cannot be ascertained.	The costs can be easily ascertained under different levels of activity. This helps in fixing prices.

12.5 SUMMARY

Functional Budget is that budget which is associated with the functions of an organization. For examples: Sales budget, Production budget, Labour budget, Cost budget, Overhead budget, Capital expenditure budget and Cash budget etc. On the other hand, fixed budgets are suitable under static conditions. If sales, expenses and costs can be forecasted with greater accuracy then this budget can be advantageously used. In fixed budgets costs are not classified according to their nature. The flexible budgets will be useful where level of activity changes from time to time. When the forecasting of demand is uncertain and the undertaking operates under conditions of shortage of materials, labour etc., then this budget will be more suited. In case of flexible budget the costs are studied as per their nature, i.e., fixed variable, semi-variable

12.6 GLOSSARY

- **Fixed Budget:** Fixed budget is a budget which is designed to remain unchanged irrespective of the level of activity actually attained.
- **Flexible Budget:** Flexible budget is a budget which by recognising the difference between fixed, semi-fixed and variable cost is designed to change in relation to the level of activity.
- **Functional Budget:** Functional Budget is that budget which is associated with the functions of an organization.

12.7 SELF-ASSESSMENTQUESTIONS

1. Explain the following terms:

   a) Fixed Budget

   ____

   ____

   b) Flexible Budget

   ____

   ____

   c) Functional Budget

   ____

   ____

2. Discuss two types of Functional Budget.

   ____

   ____

12.8 LESSON END EXERCISE

1. What is Functional Budget? Discuss various types of functional Budget.

2. Differentiate between Fixed and Flexible Budget.

3. Discuss the procedure of sales budget.

12.9 SUGGESTED READINGS

1. Management Accounting, I.M. Pandey, Vikas Publishing House.

2. Advanced Cost of Management Accounting, V. K. Saxena and C.D. Vashist. S. Chand and Sons.

3. Management Accounting, Gupta, Sharma and Gupta, Kalyani Publishers.

4. Management Accounting, Harsen and Mowen, Thompson.

5. Introduction to Management Accounting, Horngren, Sundem, Stratton, Prentice Hall, Publisher.

UNIT-III LESSON-13

ZERO BASED BUDGETING

STRUCTURE

13.1 INTRODUCTION

As the name says "Zero-based budgeting" is an approach to plan and prepare the budget from the scratch. Zero-based budgeting starts from zero, rather than a traditional budget that is based on previous budgets.With this budgeting approach, you need to justify each and every expense before adding it to the actual budget. The primary objective of zero-based budgeting is the reduction of unnecessary cost by looking at where costs can be cut.To create a zero base budget involvement of the employees is required. You can ask your employees what kind of expenses the business will have to bear and figure out where you can control such expenses. If a particular expense fails to benefit the business, the same should be axed from the budget.

13.2 OBJECTIVES

The main objectives of this lesson are:

- To know the Meaning of Zero Based Budgeting
- Understand the Advantages of Zero Based Budgeting
- Understand the Disadvantages of Zero Based Budgeting

13.3 MEANING OF ZERO BASED BUDGETING

Zero based budgeting in management accounting involves preparing the budget from the scratch with a zero-base. It involves re-evaluating every line item of cash flow statement and justifying all the expenditure that is to be incurred by the department. Thus, zero-based budgeting definition goes as a method of budgeting whereby all the expenses for the new period are calculated on the basis of actual expenses that are to be incurred and not on the differential basis which involves just changing the expenses incurred taking into account change in operational activity. Under this method, every activity needs to be justified, explaining the revenue that every cost will generate for the company.

Contrary to the traditional budgeting in which past trends or past sales/ expenditure are expected to continue, zero-based budgeting assumes that there are no balances to be carried forward or there are no expenses that are pre-committed. In the literal sense, it is a method for building the budget with zero prior bases. Zero-based budgeting lays emphasis on identifying a task and then funding these expenses irrespective of the current expenditure structure.

Example:

Let us take an example of a manufacturing department of a company ABC that spent $ 10 million last year. The problem is to budget the expenditure for the current year. There are multiple ways of doing so:

The board of directors of the company decides to increase/decrease the expenditure of the department by 10 percent. So the manufacturing department of ABC Ltd will get $ 11 million or $ 9 million depending on the management's decision.

The senior management of the company may decide to give the department the same amount as it got in the previous year without hiring more people in the department, or increasing the production etc. This way, the department ends up getting $ 10 million.

Another way is, as, against the traditional method, management may use zero-based budgeting in which the previous year's number of $ 10 million is not used for calculation. Zero-based budgeting application involves calculating all the expenses of the department and justifying each of these. This reflects the actual requirement of the manufacturing department of company ABC which may be $ 10.6 million.

13.3.1 Advantages of Zero Based Budgeting

a) **Accuracy:** Against the regular methods of budgeting that involve just making some arbitrary changes to the previous year's budget, zero-based budgeting makes every department relook each and every item of the cash flow and compute their operation costs. This to some extent helps in cost reduction as it gives a clear picture of costs against the desired performance.

b) **Efficiency**: This helps in efficient allocation of resources (department-wise) as it does not look at the historical numbers but looks at the actual numbers

c) **Reduction in redundant activities**: It leads to the identification of opportunities and more cost-effective ways of doing things by removing all the unproductive or redundant activities.

d) **Budget inflation**: Since every line item is to be justified, zero-based budget overcomes the weakness of incremental budgeting of budget inflation.

e) **Coordination and Communication**: It also improves coordination and communication within the department and motivates employees by involving them in decision-making.

Although zero-based budgeting merits make it look like a lucrative method, it is important to know the disadvantages listed as under:

13.3.2 Disadvantages of Zero Based Budgeting

a) **Time-Consuming:** Zero-based budgeting is a very time-intensive exercise for a company or government-funded entities to do every year as against incremental budgeting, which is a far easier method.

b) **High Manpower Requirement:** Making an entire budget from the scratch may require the involvement of a large number of employees. Many departments may not have an adequate time and human resource for the same.

c) **Lack of Expertise**: Explaining every line item and every cost is a difficult task and requires training the managers.

13.4 SUMMARY

Zero-based budgeting aims at reflecting true expenses to be incurred by a department or a state. Although time-consuming, this is a more appropriate way of budgeting. At the end of the day, it is a company's call as whether it wants to invest time and manpower in the budgeting exercise to provide more accurate numbers or go for an easier method of incremental budgeting. It goes as a method of budgeting whereby all the expenses for the new period are calculated on the basis of actual expenses that are to be incurred and not on the differential basis which involves just changing the expenses incurred taking into account change in operational activity. Under this method, every activity needs to be justified, explaining the revenue that every cost will generate for the company.

13.5 GLOSSARY

- **Zero Based Budget:** It is a method of budgeting in which all expenses must be justified for each new period. The process of zero-based budgeting starts from a "zero base," and every function within an organization is analysed for its needs and costs.

13.6 SELF-ASSESSMENT QUESTIONS

1. What do you mean by Zero Based Budget?

   ____

   ____

2. Write any two advantages of Zero Based Budget.

   ____

   ____

13.7 LESSON END EXERCISE

1. Discuss Zero Based Budget and explain its advantages and disadvantages.

13.8 SUGGESTED READINGS

1. Management Accounting, I.M. Pandey, Vikas Publishing House.
2. Advanced Cost of Management Accounting, V. K. Saxena and C.D. Vashist. S. Chand and Sons.
3. Management Accounting, Gupta, Sharma and Gupta, Kalyani Publishers.

4. Management Accounting, Harsen and Mowen, Thompson.
5. Introduction to Management Accounting, Horngren, Sundem, Stratton, Prentice Hall, Publisher.
6. Management Accounting, SP Gupta, sahitaya Bhawan Publication.

UNIT-III **LESSON-14**

PROGRAMME BUDGETING AND PERFORMANCE BUDGETING

STRUCTURE

14.1 Introduction

14.2 Objectives

14.3 Meaning of Programme Budgeting

14.3.1 Objectives of Programme Budgeting

14.4 Meaning of Performance Budgeting

14.4.1 Objectives of Performance Budgeting

14.5 Target Cycle Costing

14.5.1 Features of Target Cycle Costing

14.6 Life Cycle Costing

14.6.1 Features of Life Cycle Costing

14.7 Summary

14.8 Glossary

14.9 Self-Assessment Questions

14.10 Lesson End Exercise

14.11 Suggested Readings

14.1 INTRODUCTION

Programme budgeting was first evolved in United States. In Britain it is referred to as 'Output Budgeting'. It is mainly useful to government departments and non-profit organizations. In programme budgeting special emphasis is laid on formulation of different budgets for different programmes.

14.2 OBJECTIVES

The main objectives of this lesson is that you should be able to :

- To know the Meaning and Objectives of Programme Budgeting
- To know the Meaning and objectives of Performance Budgeting
- To understand the Target Cycle Costing
- To know the Features of Target Cycle Costing
- To know the meaning and features of Life Cycle Costing

14.3 MEANING OF PROGRAMME BUDGETING

Programme Budgeting utilizes a planning and budgeting process in an output oriented programme format; which is oriented to its objectives to facilitate developing and evaluating alternatives. Programme budget consist of expected revenues and costs of various products or projects that are termed as the major programmes of the firm. Such a budget can be prepared for each product line or project showing revenues, costs and the relative profitability of the various programmes. Programme budgets are thus, useful in locating areas where efforts may be required to reduce costs and increase revenues. They are also useful in determining imbalances and inadequate in programmes so that corrective action may be taken in future.

14.3.1 Objectives of Programme Budgeting

The main objectives of Programme Budgeting are:

a) Identification of programmes required fulfilling the mission.

b) Identification of programme elements.

c) Allocation of resources to programmes.

d) Utilizing forecast studies analysis-mostly multi-year forecasts are considered in programmed budgeting.

e) Measuring the actual performance of approved programmes and comparing with budget performance

14.4 PERFORMANCE BUDGETING

Performance budget may be defined as a budget based on functions, activities and projects. Performance budgeting may be described as a budgeting system, where under input costs are related to the end results, i.e., performance.

According to the National Institute of Bank Management, Mumbai, the PB is the process of analysing, identifying, simplifying, and crystallizing specific performance objectives of a job to be completed over a period, in the framework of the organizational objectives, the purpose and objectives of the job.

14.3.1 Objectives of Performance Budgeting

a) The performance budget is an instrument through which financial resources are allocated according to purposes and objectives. The costs of various programmes proposed for achieving these objectives are clearly indicated.

b) It also presents data for measuring worth performance of the accomplishment of objectives set under each programme. The focus of attention is not only on expenditure but also on achievement. Both are integral parts of financial planning and expenditure authorization.

14.4 TARGET CYCLE COSTING

Target costing is said to have been developed by Toyota in the 1960s. The practice soon spread to the whole of the Japanese automotive industry and by the 1990s had been adopted by 80% of Japanese manufacturing organisations. The adoption rate in other countries was much slower. There is evidence that Ford was using the principles of target costing in the early 1990s and it has since become more wide spread in other organisations and countries.

The target cost is derived by deducting the profit margin from the market selling price, that is, target cost = selling price minus expected profit margin.

Target cycle costing is not a costing system as such; rather it is an activity which is aimed at reducing the life cycle costs of new products, while ensuring quality, reliability, and other customer requirements, by examining all ideas for cost reduction at the product planning, research and development process. As the definition suggests, it is the early stages of the new product development process where the technique is said to be the most useful.

14.4.1 Features of Target Cycle Costing

a) The price of the product is determined by market conditions. The company is a price taker rather than a price maker.

b) The minimum required profit margin is already included in the target selling price.

c) It is part of management's strategy to focus on cost reduction and effective cost management.

d) Product design, specifications, and customer expectations are already built-in while formulating the total selling price.

e) The difference between the current cost and the target cost is the "cost reduction," which management wants to achieve.

f) A team is formed to integrate activities such as designing, purchasing, manufacturing, marketing, etc., to find and achieve the target cost.

14.5 LIFE CYCLE COSTING

Life cycle costing is not a new concept. According to White and Ostwald(1976), "The life cycle cost of an item is the sum of all funds expended in support of the item from its conception and fabrication through its operation to the end of its useful life." We could extend this definition to explicitly include the cost of recycling materials from the product following the end of its useful life. Life cycle costing is a system that tracks and accumulates the actual costs and revenues attributable to cost object from its invention to its abandonment. Life cycle costing involves tracing cost and revenues on a product by product base over several calendar periods.

The life cycle costs include all costs incurred from the initial concept emerging from the research and development process to the recycling of materials at the end of the products useful life. This often takes place during the mature phase of the sales life cycle as competition moves away from price towards product features and companies adopt extension strategies to prolong the product and sales life cycle. For example, how the mobile cell phone has developed from a device that made telephone calls to be the product it is today, and the business sectors that have developed because of the device. It may not be possible to anticipate the additional functionality and modifications at the initial design phase, but there needs to be a recognition that the concept of life cycle costing should be considered when making product modifications, just as much as at the initial new product development stage.

14.5.1 Features of Life Cycle Costing

a) Product life cycle costing involves tracing of costs and revenues of a product over several calendar periods throughout its life cycle.

b) Product life cycle costing traces research and design and development costs and total magnitude of these costs for each individual product and compared with product revenue.

c) Each phase of the product life-cycle poses different threats and opportunities that may require different strategic actions.

d) Product life cycle may be extended by finding new uses or users or by increasing the consumption of the present users.

14.6 SUMMARY

A programme budget is useful in locating areas where efforts may be required to reduce costs and increase revenues. They are also useful in determining imbalances and inadequate in programmes so that corrective action may be taken in future. On the other hand, the performance budget is an instrument through which financial resources are allocated according to purposes and objectives. The costs of various programmes proposed for achieving these objectives are clearly indicated.

14.7 GLOSSARY

- **Programme Budgeting:** It is the budgeting which utilizes a planning and budgeting process in an output oriented programme format; which is oriented to its objectives to facilitate developing and evaluating alternatives.
- **Performance Budgeting:** Performance budget is a budget which is based on functions, activities and projects.
- **Life Cycle Costing:** Life cycle cost of an item is the sum of all funds expended in support of the item from its conception and fabrication through its operation to the end of its useful life.
- **Target Cycle Costing:** The target cost is derived by deducting the profit margin from the market selling price, that is, target cost = selling price minus expected profit margin.

14.8 SELF-ASSESSMENT QUESTIONS

1. What is programme budgeting?

2. Explain the following terms:

   a) Target Cycle Costing.

   b) Life Cycle Costing

3. Define the term 'Performance Budgeting'.

14.9 LESSON END EXERCISE

1. Write a note on Programme and Performance Budgeting.
2. Discuss the objectives of Programme Budgeting.
3. What is target cycle costing? Write the features of target cycle costing.
4. What is performance budgeting? Write the objectives of Performance Budgeting.
5. Explain life cycle costing and discuss the features of life cycle costing.

14.10 SUGGESTED READINGS

1. Management Accounting, I.M. Pandey, Vikas Publishing House.

2. Advanced Cost of Management Accounting, V. K. Saxena and C.D. Vashist. S. Chand and Sons.
3. Management Accounting, Gupta, Sharma and Gupta, Kalyani Publishers.
4. Management Accounting, Harsen and Mowen, Thompson.
5. Introduction to Management Accounting, Horngren, Sundem, Stratton, Prentice Hall, Publisher.
6. Management Accounting, SP Gupta, Sahitaya Bhawan Publication.

UNIT-IV LESSON-15

RESPONSIBILITY ACCOUNTING

STRUCTURE

15.1 INTRODUCTION

The systems of costing like standard costing and budgetary control are useful to management for controlling the costs. In those systems the emphasis is on the devices of control and not on those who use such devices. Responsibility Accounting is a system of control where responsibility is assigned for the control of costs. The persons are made responsible for the control of costs.

Proper authority is given to the persons so that they are able to keep up their performance. In case the performance is not according to the predetermined standards then the persons who are assigned this duty will be personally responsible for it. In responsibility accounting the emphasis is on men rather than on systems.

For example, if Mr. A, the manager of a department, prepares the cost budget of his department, then he will be made responsible for keeping the budgets under control. A will be supplied with full information of costs incurred by his department. In case the costs are more than the budgeted costs, then A will try to find out reasons and take necessary corrective measures. A will be personally responsible for the performance of his department.

15.2 OBJECTIVES

After completion of this unit, the students will be able to

- Understand what the responsibility accounting is.
- Knows the various features of responsibility accounting
- Understand the various objectives of responsibility accounting
- Understand the steps involved in responsibility accounting

15.3 MEANING AND DEFINITIONS OF RESPONSIBILITY ACCOUNTING

Responsibility accounting focuses main attention on responsibility centres. The managers of different activity centres are responsible for controlling the costs of their centres. Information about costs incurred for different activities is supplied to the persons in-charge of various centres. The performance is constantly compared to the standards set and this process is very useful in exercising cost controls. Responsibility accounting is different from cost accounting in the sense that the future lays emphasis on cost control whereas the latter lays emphasis on cost ascertainment.

Definitions:

According to Charles, T. Horngreen, "Responsibility accounting is a system of accounting that recognizes various responsibility centres throughout the organisation and reflects the plans and actions of each of these centres by assigning particular revenues and costs to the one having the pertinent responsibility. It is also called profitability accounting and activity accounting". According to this definition, the organisation is divided into various responsibility centres and each centre is responsible for its costs. The performance of each responsibility centre is regularly measured.

According to Charles T. Horngren, "Responsibility accounting is a system of accounting that recognises various decision centres throughout an organisation and traces costs to the individual managers who are primarily responsible for making decisions about the costs in question."

Responsibility accounting is that type of management accounting that collects and reports both planned actual accounting information in terms of responsibility centres". The emphasis in this definition is on setting the objectives of responsibility centres and then recording the actual performance so that the persons in-charge of various activities are able to assess their performance.

According to Institute of Cost and Works Accountants of India, "Responsibility accounting is a system of management accounting under which accountability is established according to the responsibility delegated to various levels of management and a management information and reporting system instituted to give adequate feedback in terms of the delegated responsibility. Under this system divisions or units of an organisation under a specified authority in a person are developed as responsibility centres and evaluated individually for their performance."

15.4 FEATURES OF RESPONSIBILITY ACCOUNTING

Following are the features of Responsibility Accounting:

1. Inputs and Outputs or Costs and Revenues:

The implementation and maintenance of responsibility accounting system is based upon information relating to inputs and outputs. The physical resources utilized in an organisation; such as quantity of raw material used and labour hours consumed, are termed as inputs. These inputs expressed in the monetary terms are known as costs. Similarly outputs expressed in monetary terms are called revenues. Thus, responsibility accounting is based on cost and revenue information.

2. Planned and Actual Information or Use of Budgeting:

Effective responsibility accounting requires both planned and actual financial information. It is not only the historical cost and revenue data but also the planned future data which is essential for the implementation of responsibility accounting system. It is through budgets that responsibility for implementing the plans is communicated to each level of management. The use of fixed budgets, flexible budgets and profit planning are all incorporated into one overall system of responsibility accounting.

3. Identification of Responsibility Centres:

The whole concept of responsibility accounting is focused around identification of responsibility centres. The responsibility centres represent the sphere of authority or decision points in an organisation. In a small firm, one individual or a small group of individuals, who are usually the owners may possibly manage or control the entire organisation.

However, for effective control, a large firm is, usually, divided into meaningful segments, departments or divisions. These sub- units or divisions of organisation are called responsibility centres. A responsibility centre is under the control of an individual who is responsible for the control of activities of that sub-unit of the organisation.

4. Relationship between Organisation Structure and Responsibility Accounting System:

A sound organisation structures with clear-cut lines of authority—responsibility relationships are a prerequisite for establishing a successful responsibility accounting system. Further, responsibility accounting system must be so designed as to suit the organisation structure of the organisation. It must be founded upon the existing authority- responsibility relationships in the organisation. In fact, responsibility accounting system should parallel the organisation structure and provide financial information to evaluate actual results of each individual responsible for a function.

5. Assigning Costs to Individuals and Limiting their Efforts to Controllable Costs:

After identifying responsibility centres and establishing authority-responsibility relationships, responsibility accounting system involves assigning of costs and revenues to individuals. Only those costs and revenues over which an individual has a definite control can be assigned to him for evaluating his performance.

Responsibility accounting has an appeal because it distinguishes between controllable and uncontrollable costs. Unlike traditional accounting where costs are classified and accumulated according to function such as manufacturing cost or selling and distribution cost, etc. or according to products, responsibility accounting classifies accumulated costs according to controllability.

6. Transfer Pricing Policy:

In a large scale enterprise having decentralized divisions, there is a common practice of transferring goods and services from one segment of the organisation to another. In such situations, there is a need to determine the price at which the transfer should take place so that costs and revenues could be properly assigned.

The significance of the transfer price can well be judged from the fact that for the transferring division it will be a source of revenue, whereas for the division to which transfer is made it will be an element of cost.

7. Performance Reporting:

As stated earlier, responsibility account is a control device. A control system to be effective should be such that deviations from the plans must be reported at the earliest so as to take corrective action for the future. The deviations can be known only when performance is reported.

Thus, responsibility accounting system is focused on performance reports also known as 'responsibility reports', prepared for each responsibility unit. Unlike authority which flows from top to bottom, reporting flows from bottom to top. These reports should be addressed to appropriate persons in respective responsibility centres.

8. Participative Management:

The function of responsibility accounting system becomes more effective if participative or democratic style of management is followed, wherein, the plans are laid or budgets/ standards are fixed according to the mutual consent and the decisions reached after consulting the subordinates. It provides motivation to the workers by ensuring their participation and self-imposed goals.

9. Management by Exception:

It is a well-accepted fact that at successive higher levels of management in the organisational chain less and less time is devoted to control and more and more to planning. Thus, an effective responsibility accounting system must provide for management by exception, i.e., it should focus attention of the management on significant deviations and not burden them with all kinds of routine matters, rather condensed reports requiring their attention must be sent to them particularly at higher levels of management.

15.5 OBJECTIVES OF RESPONSIBILITY ACCOUNTING

The various objectives of responsibility accounting are:

a) Each responsibility centre is given a target, which is communicated to the relevant management level.

b) At the end of the time period, there is a comparison between the target and the actual performance.

c) The variations that are detected in the budgeted plan are examined for fixing responsibility to the centre.

d) Due measures are taken by the top management which is communicated to the responsible personnel.

e) The responsibility for costs does not include the policy costs and various other apportioned costs.

15.6 STEPS INVOLVED IN RESPONSIBILITY ACCOUNTING

1. The organisation is divided into various responsibility centres:

Each responsibility centre is put under the charge of responsibility manager. The managers are responsible for the performance of their department.

2. The targets of each responsibility centre are set in:

The targets or goals are set in consultation with the manager of the responsibility centre so that he may be able to give full information about his department. The goal of the responsibility centres are properly communicated to them.

3. The actual performance of each responsibility centre is recorded:

The actual performance of each responsibility centre is recorded and communicated to the executives concerned and the actual performance is compared with goals set and it helps in assessing the work of these centres.

4. **If the actual performance of a department is less than the standard set, then the variance will be used:**

If the actual performance of a department is less than the standard set, then the variance are conveyed to the top management. The names of those persons who were responsible for that performance are also conveyed so that responsibility may be fixed.

5. **Timely action is taken for corrective measures:**

Timely action is taken to take necessary corrective measures so that the work does not suffer in future. The directions of the top level management are communicated to the concerned responsibility centre so that corrective measures are initiated at the earliest.

15.7 SUMMARY

Responsibility Accounting is a system of control where responsibility is assigned for the control of costs. The persons are made responsible for the control of costs. It is that type of management accounting that collects and reports both planned actual accounting information in terms of responsibility centres". The emphasis in this definition is on setting the objectives of responsibility centres and then recording the actual performance so that the persons in-charge of various activities are able to assess their performance. This lesson also discussed the various steps involved in responsibility accounting.

15.8 GLOSSARY

- **Responsibility Accounting:** Responsibility accounting is that type of management accounting that collects and reports both planned actual accounting information in terms of responsibility centres.
- **Responsibility Accounting System:** Responsibility accounting system must be so designed as to suit the organisation structure of the organisation. It must be founded upon the existing authority-responsibility relationships in the organisation.

15.9 SELF-ASSESSEMNT QUESTIONS

1. Define the term 'Responsibility Accounting' given by 'Institute of Cost and Works Accountants of India'.

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2. Write any objectives of responsibility accounting.

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15.10 LESSON AND EXERCISE

1. What is responsibility accounting? What are the features of responsibility accounting?
2. Discuss the various steps involved in responsibility accounting.
3. Discuss the objectives of responsibility accounting.

15.11 SUGGESTED READINGS

1. Management Accounting, I.M. Pandey, Vikas Publishing House.
2. Advanced Cost of Management Accounting, V. K. Saxena and C.D. Vashist. S. Chand and Sons.
3. Management Accounting, Gupta, Sharma and Gupta, Kalyani Publishers.
4. Management Accounting, Harsen and Mowen, Thompson.
5. Introduction to Management Accounting, Horngren, Sundem, Stratton, Prentice Hall, Publisher.
6. Management Accounting, SP Gupta, Sahitaya Bhawan Publication.

UNIT-IV LESSON-16

RESPONSIBILITY CENTRES

STRUCTURE

16.1 INTRODUCTION

A responsibility centre is a part or subunit of a company in which the manager has some degree of authority and responsibility. The company's detailed organization chart is a logical source for identifying responsibility centres. The most common responsibility centres are the numerous departments within a company. A responsibility centre is an operational unit or entity within an organisation, that is responsible for all the activities and tasks structured for that unit. These centres have their own goal, staffs, objectives, policies and procedures, and financial reports. And are used to balance responsibilities related to expenses incurred, revenue generated, and funds invested to an individual. In a multinational or large corporation, the organization tasks are divided into a subtask, and each task is given to various small division or groups. In this context, all groups in that organization are responsibility centres.

16.2 OBJECTIVES:

The main objectives of this lesson is:

- To understand the Concept of Responsibility Centres
- To understand the types of Responsibility Centres

16.3 CONCEPT OF RESPONSIBILITY CENTERS:

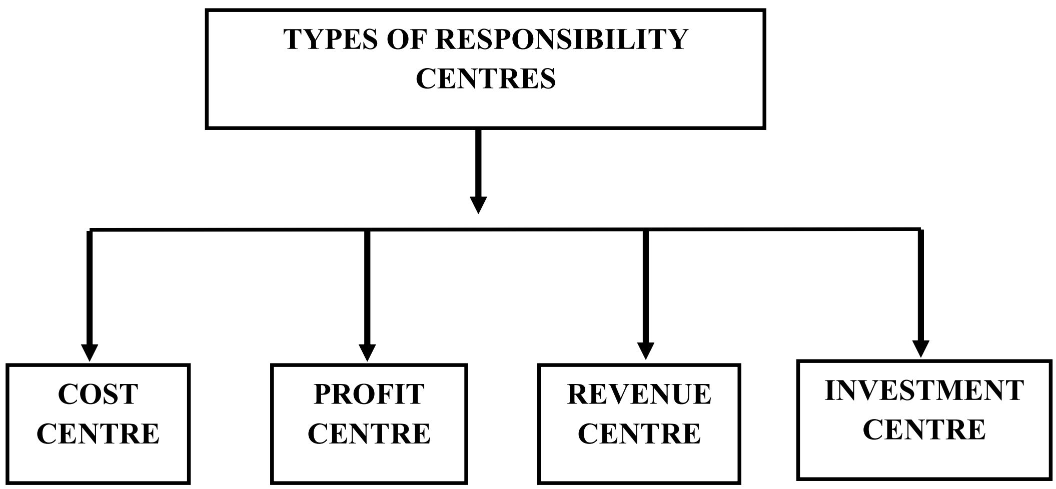
Any organizational or functional unit headed by a manager who is responsible for the activities of that unit is called a responsible centre. The manager is responsible or accountable for the accomplishments of the tasks set in his unit. The total organizational task is divided into sub-tasks, which are performed by different departments. In this sense, all departments in an organization are responsibility centres. All responsibility centres use resources (inputs or costs) to produce something (output or revenues). Typically responsibility is assigned to a revenue, expense, profit and/or investment centre. The decision usually will depend on the activity performed by the organizational unit and on the manner in which inputs and outputs are measured by organizational control system.

Responsibility Centre refers to an operating segment within the firm, lead by the manager who is accountable for its activities, performance and results, in terms of expenditure, profit, and return on investment. A responsibility centre has its own goal and objectives, plans and strategies, policies and procedures. Further, it has a dedicated team or staff who works for the achievement of its goals and performance targets.

As the firm grows and expands, its size, functions, activities and overall structure also change and so, for better management and control over the organization, it is split into various centres and the management assigns the responsibility to the supervisor or manager These centres are termed as responsibility centres.

16.3.1 Types of Responsibility Centres:

The following are the types of responsibility centres:



a) Cost Centre:

The smallest segment of an organization for which a specific accumulation of cost is attempted, is called cost centre. It is that unit of the firm into which the entire factory is divided appropriately. It can be a department or a team, which represent one job, activity, process or machine, whose costs are allocated equitably and practically to cost unit, for the purpose of costing. The performance of the cost centre can be measured against set standards and budgets. Cost centres are created after determining a rational basis, for tracing and attributing the cost of production and a person is authorized to control the centre and is accountable for its performance and cost charged to the centre.

b) Profit Centre:

A type of responsibility centre, which is held accountable for all the production-related activities and the sale of products, and provision of services. Meaning that the managers of the profit centres are not only responsible for the incurrence of expenditure, but also for the generation of revenue. Hence, both inputs and outputs are measured, so as to identify the firm's profitability. The profit centres aim at adopting new ways and implementing such strategies which help in earning more profits on a product, service or activity. Strategic business units are one of the examples of profit centres.

c) Revenue Centre:

Revenue Centre is a uniquely identifiable subunit of the organization which is held accountable for generating revenue for the organization from selling products and rendering services. The efficiency of the revenue centre is evaluated on the basis of its ability to generate sales and not on the costs incurred. The manager of the revenue centre is held responsible for achieving sales targets. A company's sales department is an example of a revenue centre, which is responsible for attaining the sales targets.

d) Investment Centre:

Responsibility Centres which are not just accountable for the profitability of the unit but are authorized to take important decisions concerning the capital investments, such as company's credit policy, monetary policy, inventory policy, etc. The head of the investment centre is held accountable for making decisions regarding investment in the production, advertising and assets. Return on Investment acts as the basis for measuring the performance of the investment centres.

16.4 SUMMARY

A responsibility centre is an operational unit or entity within an organization, that is responsible for all the activities and tasks structured for that unit. These centres have their own goal, staffs, objectives, policies and procedures, and financial reports. Responsibility Centre refers to an operating segment within the firm, lead by the manager who is accountable for its activities, performance and results, in terms of expenditure, profit, and return on investment. A responsibility centre has its own goal and objectives, plans and strategies, policies and procedures.

This lesson also discusses the various types of responsibility centre, which are broadly classified under four heads, i.e., cost centre, profit centre, revenue centre and investment centre.

16.5 GLOSSARY

- **Responsibility Centre:** It is a part or subunit of a company in which the manager has some degree of authority and responsibility.
- **Cost Centre:** The smallest segment of an organization for which a specific accumulation of cost is attempted, is called cost centre.
- **Revenue Centre:** Revenue Centre is a uniquely identifiable subunit of the organization which is held accountable for generating revenue for the organization from selling products and rendering services.
- **Profit Centre:** This is those type of responsibility centre which is held accountable for all the production-related activities and the sale of products, and provision of services.
- **Investment Centre:** Responsibility Centres which are not just accountable for the profitability of the unit but are authorized to take important decisions concerning the capital investments, such as company's credit policy, monetary policy, inventory policy, etc.

16.6 SELF-ASSESSMENT QUESTIONS

1. Define the term responsibility centre.

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2. Explain the following terms:

a) Cost Centre

b) Investment Centre

c) Profit Centre

d) Revenue Centre

16.7 LESSON END EXERCISE

1. What is responsibility centre? What are the various types of responsibility centre?

16.8 SUGGESTED READINGS

1. Management Accounting, I.M. Pandey, Vikas Publishing House.
2. Advanced Cost of Management Accounting, V. K. Saxena and C.D. Vashist. S. Chand and Sons.
3. Management Accounting, Gupta, Sharma and Gupta, Kalyani Publishers.
4. Management Accounting, Harsen and Mowen, Thompson.

5. Introduction to Management Accounting, Horngren, Sundem, Stratton, Prentice Hall, Publisher.
6. Management Accounting, SP Gupta, sahitaya Bhawan Publication.

UNIT-IV **LESSON-17**

SOCIAL COST-BENEFIT ANALYSIS

STRUCTURE

17.1 INTRODUCTION

Social Cost Benefit Analysis (SCBA) is also referred as Economic Analysis (EA). SCBA or EA is a feasibility study of a project from the viewpoint of a society to evaluate whether a proposed project will add benefit or cost to the society. That is, it is an approach that is concerned to judge the economic and social viability of a project especially public expenditure project or donor-led programs. SCBA model is based on the theory of welfare economics, according to which the welfare of a society depends on the aggregate individual utility levels of all members of that society. SCBA had, at first, used for evaluating public investments in the decade of 1960s and 1970s. In those decades, this model had got a good emphasis; because public investments in many countries, especially in developing countries, were immensely increased. Nowadays, SCBA is also becoming important for private project or investment as more often there is a possibility for this kind of projects to bring adverse impact to the society. In the context of planned economies, SCBA aids in evaluating individual projects within the planning framework which spells out national economic objectives and broad allocation of resources to various sectors. In other words, SCBA is concerned with tactical decision making within the framework of broad strategic choices defined by planning at the macro level. The perspectives and parameters provided by the macro level plans serve as the basis of SCBA which is a tool for analysing and appraising individual projects.

17.2 OBJECTIVES

The main objectives of this lesson is:

- To know the Social Cost Benefit Analysis
- To understand the Objectives of Social Cost Benefit Analysis

17.3 MEANING OF SOCIAL COST BENEFIT ANALYSIS

Social Cost Benefit Analysis is also known as economic analysis and is a methodology developed for evaluating investment projects. In other words social cost benefit analysis is concerned with tactical decision making within the framework of broad strategic choices defined by planning at the macro level.

Social cost-benefit analysis has been defined in many ways by various exponents. It is defined "as a methodical and rational process of identifying, evaluating and assessing the benefits (outputs) and costs (inputs) associated with alternative activities which will effec-tively accomplish economic targets and social goals."

Social cost-benefit analysis is a relatively new concept and as such there is a divergence of opinion on various assumptions. It is a kind of economic measurement (by way of analysis) of costs and benefits of the private sectors' social responsibility performance designed in addition to the traditional financial and cost accounting.

According to Michael Alexander, "Social cost benefit analysis is the expression implies a methodology of project evaluation which takes into account costs and benefits beyond the books of accounts".

17.4 OBJECTIVES OF SOCIAL COST BENEFIT ANALYSIS

The objective of social cost-benefit analysis is, in its widest sense, to secure and achieve the value of money in economic life by simply evaluating the costs and benefits of alternative economic choices and selecting an alternative which offers the largest net benefit. Therefore, it can be said that the main focus of Social Cost Benefit Analysis is to determine:

a) Economic benefits of the project in terms of a price (shadow price) that reflect social value.

b) The impact of the project on the level of savings and investments in the society.

c) The impact of the project on the distribution of income in the society.

d) The contribution of the project towards the fulfilment of certain merit wants (self- sufficiency, employment etc).

17.5 SUMMARY

Social cost-benefit analysis is a relatively new concept and as such there is a divergence of opinion on various assumptions. It is a kind of economic measurement (by way of analysis) of costs and benefits of the private sectors' social responsibility performance designed in addition to the traditional financial and cost accounting. . Nowadays, social cost-benefit analysis is also becoming important for private project or investment as more often there is a possibility for this kind of projects to bring adverse impact to the society. In the context of planned economies, social cost-benefit analysis aids in evaluating individual projects within the planning framework which spells out national economic objectives and broad allocation of resources to various sectors. In other words, social cost-benefit analysis is concerned with tactical decision making within the framework of broad strategic choices defined by planning at the macro level.

17.6 GLOSSARY

- **SCBA:** Social cost-benefit analysis is a systematic and cohesive economic tool to survey all the impacts caused by an urban development project.
- **Economic Analysis:** Economic analysis is the study of economic systems. It may also be a study of a production process or an industry.

17.7 SELF-ASSESSMENT QUESTIONS

1. What is the full form of SCBA?

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2. Define the term SCBA.

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3. Discuss any two main objectives of SCBA.

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17.8 LESSON END EXERCISE

1. What is SCBA? Discuss the objectives of SCBA.

17.9 SUGGESTED READINGS

1. Management Accounting, I.M. Pandey, Vikas Publishing House.
2. Advanced Cost of Management Accounting, V. K. Saxena and C.D. Vashist. S. Chand and Sons.
3. Management Accounting, Gupta, Sharma and Gupta, Kalyani Publishers.
4. Management Accounting, Harsen and Mowen, Thompson.
5. Introduction to Management Accounting, Horngren, Sundem, Stratton, Prentice Hall, Publisher.
6. Management Accounting, SP Gupta, Sahitaya Bhawan Publication.

UNIT-IV LESSON-18

GREEN ACCOUNTING

STRUCTURE

18.1 INTRODUCTION

Green accounting was first introduced by economist and Professor Peter Wood in the1980s into common usage. The purpose behind the Green accounting introduction in corporate world is to create awareness about the need of protection of environment and keeping environment greenery. One more reason behind the introduction of Green accounting is to mitigate the damages from the business activities environment and there by contributing to the healthy natural environment which is essential to next generation as well as for the economic development of the country. India's former Environment Minister Mr. Jairam Ramesh first time stressed the need and importance to bring Green Accounting practices to the forefront of accounting in India.

Green accounting is an authoritarian tool for comprehending the role played by the natural environment in the economy. The green accounting concept existence itself will give a message of warning regarding global warming, because continuous exploitation of environment which results environmental degradation which creates global warming and other natural calamities. So for the sake of protection and development of environment would become one of the responsibility of not only governments but also corporate world. Because corporate world is the one factor which is responsible for degradation of environment.

18.2 OBJECTIVES

The main objectives of this lesson is:

- To understand the concept of Green Accounting
- To know the Objectives of Green Accounting
- To understand the Benefits of Green Accounting
- To know the Limitations of Green Accounting
- To understand the Need for Adoption of Green Accounting

18.3 MEANING OF GREEN ACCOUNTING

Green accounting is a new system of accounting which records costs and benefits rendered by the eco system to business concern. Green accounting is also known as environmental accounting. Green accounting also known as natural resources accounting. It is a new system of sustainable accounting, it permits the computation of income for a nation by taking into account the economic damage and depletion in the natural resource base of an economy.

Green Accounting is the identification, collection, estimation, analysis, internal reporting and use of materials and energy now information, environmental cost information, and other cost information for both conventional and environmental decision making within an organisation. For companies that have the goals of saving money, especially environmental costs and reducing environmental impacts Green accounting management system provides essential information for meeting those goals.

18.4 OBJECTIVES OF GREEN ACCOUNTING

The objectives of green accounting are:

a) To identify that part of the gross domestic product that reflects the costs necessary to compensate for the negative impacts of economic growth, that is, the defensive expenditures.

b) To established the linkage of Physical Resource Accounts with Monetary Environmental Accounts.

c) To assessment of Environmental Costs and Benefits.

d) To accounting for the Maintenance of Tangible resources.

e) To elaborate and Measurement of Indicators of Environmentally Adjusted Product and Income

18.5 BENEFITS OR IMPORTANCE OF GREEN ACCOUNTING

Changes in the environment have a negative bearing on not just the Environment but on the economy as a whole. And, it is a well-known fact that changes in the economy have a direct bearing on the changes in any business. It is also important to note that the Gross domestic product of a country can be affected by the environmental and climatic change.

Therefore, it is the best tool for the businesses to understand and manage the potential quid pro quo between traditional economic goals and environmental goals. It also increases the important information available for analysing policy issues, especially when those vital pieces of information are often overlooked.

Hence, we can say that it is necessary for understanding of "better lose the saddle than horse", enterprises designing their accounting system organizations without taking environmental costs into consideration should fulfil this requirement as soon as possible.

18.6 LIMITATIONS OF GREEN ACCOUNTING

a) Green Accounting does not include comprehensive natural resource accounting because regional natural resource accounts are not reflected in the main accounts of the Green Accounting.

b) It focuses on the use of natural resource for economic activities and ignores the flows and transformations within the natural resources.

c) The types of data needed for Green Accounting are not available in the necessary format. Thus lack of data has been one of the main problems in the Green Accounting.

d) Another problem arises when environmental data are directly connected with data of existing national accounts for the preparation of the Green Accounting. They require assigning of environmental pollution loads to the appropriate economic activities. However, the costs of preventing pollution can only be determined if the causes of pollution are identifiable. But the causes of many types of environmental pollution are not clear. If there are several pollution factors which cause environmental damage, the assignment of this damage will be highly arbitrary.

e) Another problem arises when some of the consequences of environmental pollution become visible after a long time. Estimating only the immediate consequences will lead to wrong policy decisions.

f) Unlike the market prices used by the System of National Account, there is no simple justifiable valuation system for the Green Accounting. For different aspects of environmental problems, different valuation problems are used such as prevention and restoration costs and contingent evaluations based on surveys. There are mainly theoretical and arbitrary constructions in Green Accounting.

18.7 NEED FOR ADOPTION OF GREEN ACCOUNTING

a) Practically for developing countries like India, it is a twin problem about saving environment and economic development.

b) As the country economic condition is not very strong, hence it should be improved first.

c) A study by world bank estimated that about 34,000 crores were lost by India due to environmental damage.

d) Company like AT&T are implementing green accounting.

18.8 SUMMARY

Green accounting also known as natural resources accounting. It is a new system of sustainable accounting, it permits the computation of income for a nation by taking into account the economic damage and depletion in the natural resource base of an economy. Green Accounting is the identification, collection, estimation, analysis, internal reporting and use of materials and energy now information, environmental cost information, and other cost information for both conventional and environmental decision making within an organisation. Green accounting identify that part of the gross domestic product that reflects the costs necessary to compensate for the negative impacts of economic growth, that is, the defensive expenditures. It established the linkage of Physical Resource Accounts with Monetary Environmental Accounts and assessment of Environmental Costs and Benefits. It elaborate and Measurement of Indicators of Environmentally Adjusted Product and Income.

18.9 GLOSSARY

- **Defensive Expenditure:** defensive expenditures are expenditures that seek to minimise potential damage to oneself, e.g., insurance.
- **Monetary Environmental Accounts:** It is the identification, collection, analysis and use of two types of information for internal decision making.
- **Tangible Resources:** Tangible resource is one that you can "reach out and touch." It is commonly called as tangible assets or physical assets.

18.10 SELF-ASSESSMENT QUESTIONS

1. Who introduced the Green Accounting?

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2. Define the term 'Green Accounting'

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3. Write any two main objectives of Green Accounting.

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18.11 LESSON END EXERCISE

1. What is Green Accounting? Discuss the objectives of Green Accounting.
2. Write merits and demerits of Green Accounting.
3. Is Green Accounting is important in today's business scenario? If YES how?

4. Explain the needs for adoption of Green Accounting.

18.12 SUGGESTED READINGS

1. Management Accounting, I.M. Pandey, Vikas Publishing House.
2. Advanced Cost of Management Accounting, V. K. Saxena and C.D. Vashist. S. Chand and Sons.
3. Management Accounting, Gupta, Sharma and Gupta, Kalyani Publishers.
4. Management Accounting, Harsen and Mowen, Thompson.
5. Introduction to Management Accounting, Horngren, Sundem, Stratton, Prentice Hall, Publisher.
6. Management Accounting, SP Gupta, sahitaya Bhawan Publication.

UNIT-IV **LESSON-19**

LAWS RELATED TO GREEN ACCOUNTING AND OPPORTUNITIES IN GREEN ACCOUNTING

STRUCTURE

19.1 Introduction

19.2 Objectives

19.3 Conceptual Model of Green Accounting

19.4 Laws Related to Green Accounting

19.5 Opportunities in Green Accounting

19.5.1 Importance of Green Accounting in Business

19.6 Summary

19.7 Glossary

19.8 Self-Assessment Questions

19.9 Lesson End Exercise

19.10 Suggested Readings

19.1 INTRODUCTION

So many laws have been laid down to bind an organisation to full-fill their social responsibility for better development of economy. The fullest possible use of human and environmental resources is a main responsibility of every business. Business organization a lot of environmental resources while conducting its business operations and it has caused numerous which are beyond repair. As time is moving on and less and less environmental resources are left, more and more significant is given to natural resources. This concept is also being adopted by the business sector and they also have certain responsibilities toward society. Green accounting is an accounting which considers environmental factors while conducting accounting process. It has various advantages and that is the reason why green accounting is gaining more recognition every day. Adoption of green accounting by a business organization shows how committed such organization is toward environmental protection. Adverse impact on environment fact has a significant impact on the overall economy which indirectly affects the business environment in which business organizations are working. Enterprises which are environmentally sustainable need to maintain account for their environmental activities to determine the true profit. They should maintain account of its environmental activities impact and its effect to determine its profit.

19.2 OBJECTIVES:

After completion of this lesson, students will able to:

- Know the meaning of Green Accounting.
- Understand the laws related to green accounting
- Understand various opportunities of green Accounting in India
- Know the importance of Green Accounting in Business

19.3 CONCEPTUAL MODEL FOR GREEN ACCOUNTING

This six-step model is prepared to facilitate business organization in accounting and reporting environmental factors in financial statements:

a) Identifying Parameters for Environmental Reporting:

There are various parameters of environment that affect a business organization such as health and safety, energy conservation, sustainability, waste management etc. A business organization should identify the parameters that are affected by its business operations.

b) Defining the Selected Parameter:

The parameters identified in above step should be elaborately described by the business organization and detailed format of the report should be prepared.

c) Specification of Environmental Targets:

Goals should be prepared as per long term and short term environmental goals. It is important to set these goals so prepare an effective and efficient reporting format.

d) Developments of Performance Indicators:

Indicators are the factors on the basis of which organization should assess their own business processes. These indicators can be the standard business practices or standards issued by the government of India. Any deviation from these standards should be reported each and every time.

e) Measurement of Performance Indicators:

Generally there are two types of indicators i.e. qualitative and quantitative. Both of these indicators should be assessed by business organizations to assess the business impact on the environment. For example, pollution created by the organization should be measured in qualitative terms whereas was produced in the manufacturing of products should be measured in quantitative terms.

f) Reporting of Performance Results:

It is the last stage in which reports are prepared and addressed to the regulatory authority. An organization should also include the financial impact of such processes on the basis performance indicators identified by them (Malik and Mittal, 2015).

19.4 LAWS RELATED TO GREEN ACCOUNTING/ ENVIRONMENT LAWS IN INDIA

The need for protection and conservation of environment and sustainable use of natural resources is reflected in the constitutional framework of India and also in the international commitments of India. The Constitution under Part IVA (Art 51A-Fundamental Duties) casts a duty on every citizen of India to protect and improve the natural environment including forests, lakes, rivers and wildlife, and to have compassion for living creatures. Further, the Constitution of India under Part IV (Art 48A-Directive Principles of State Policies) stipulates that the State shall endeavour to protect and improve the environment and to safeguard the forests and wildlife of the country.

Several environment protection legislations existed even before Independence of India. However, the true thrust for putting in force a well-developed framework came only after the UN Conference on the Human Environment (Stockholm, 1972). After the Stockholm Conference, the National Council for Environmental Policy and Planning was set up in 1972 within the Department of Science and Technology to establish a regulatory body to look after the environment-related issues. This Council later evolved into a full-fledged Ministry of Environment and Forests.

Some of the important legislations for environment protection are as follows:

- The National Green Tribunal Act, 2010
- The Air (Prevention and Control of Pollution) Act, 1981
- The Water (Prevention and Control of Pollution) Act, 1974
- The Environment Protection Act, 1986

These important environment legislations have been briefly explained as follows:

1. The National Green Tribunal Act, 2010

The National Green Tribunal Act, 2010 (No. 19 of 2010) (NGT Act) has been enacted with the objectives to provide for establishment of a National Green Tribunal (NGT) for the effective and expeditious disposal of cases relating to environment protection and conservation of forests and other natural resources including enforcement of any legal right relating to environment and giving relief and compensation for damages to persons and property and for matters connected therewith or incidental thereto.

The Act received the assent of the President of India on June 2, 2010, and was enforced by the Central Government *vide* Notification no. S.O. 2569(E) dated October 18, 2010, with effect from October 18, 2010. The Act envisages establishment of NGT in order to deal with all environmental laws relating to air and water pollution, the Environment Protection Act, the Forest Conservation Act and the Biodiversity Act as have been set out in Schedule I of the NGT Act.

Consequent to enforcement of the National Green Tribunal Act, 2010, the National Environment Tribunal Act, 1995 and the National Environment Appellate Authority Act, 1997 stand repealed. The National Environment Appellate Authority established under s 3(1) of the National Environment Appellate Authority Act, 1997stands dissolved, in view of the establishment of the National Green Tribunal under the National Green Tribunal Act, 2010 *vide* Notification no. S.O. 2570(E) dated October 18, 2010.

2. The Air (Prevention and Control of Pollution) Act, 1981

The Air (Prevention and Control of Pollution) Act, 1981 (the "Air Act") is an act to provide for the prevention, control and abatement of air pollution and for the establishment of Boards at the Central and State levels with a view to carrying out the aforesaid purposes. To counter the problems associated with air pollution, ambient air quality standards were established under the Air Act. The Air Act seeks to combat air pollution by prohibiting the use of polluting fuels and substances, as well as by regulating appliances that give rise to air pollution. The Air Act empowers the State Government, after consultation with the SPCBs, to declare any area or areas within the Sate as air pollution control area or areas. Under the Act, establishing or operating any industrial plant in the pollution control area requires consent from SPCBs. SPCBs are also expected to test the air in air pollution control areas, inspect pollution control equipment, and manufacturing processes.

3. The Water (Prevention and Control of Pollution) Act, 1974

The Water Prevention and Control of Pollution Act, 1974 (the "Water Act") has been enacted to provide for the prevention and control of water pollution and to maintain or restore wholesomeness of water in the country. It further provides for the establishment of Boards for the prevention and control of water pollution with a view to carry out the aforesaid purposes. The Water Act prohibits the discharge of pollutants into water bodies beyond a given standard, and lays down penalties for non-compliance. At the Centre, the Water Act has set up the CPCB which lays down standards for the prevention and control of water pollution. At the State level, SPCBs function under the direction of the CPCB and the State Government.

4. The Environment Protection Act, 1986

The Environment Protection Act, 1986 (the "Environment Act") provides for the protection and improvement of environment. The Environment Protection Act establishes the framework for studying, planning and implementing long-term requirements of environmental safety and laying down a system of speedy and adequate response to situations threatening the environment. It is an umbrella legislation designed to provide a framework for the coordination of central and state authorities established under the Water Act, 1974 and the Air Act. The term "environment" is understood in a very wide term under s 2(a) of the Environment Act. It includes water, air and land as well as the interrelationship which exists between water, air and land, and human beings, other living creatures, plants, micro-organisms and property.

19.5 OPPROTUNITIES IN GREEN ACCOUNTING

India has spent the past decade building a growth dynamic that was missing in the earlier quasi-socialist regime. The cumulative impact of the reform process appears to be generating growth, however, it is also desirable to monitor and channel the forces of growth and investment in order to ensure that they truly improve the quality of life for current and future generations, and to manage the economy sustainably, one must also measure it with the lens of sustainability. Furthermore, there is an asymmetry between man made and natural capital in that depreciation in the former reflects in GDP accounts but the latter does not. In this context, it should be recognized that GDP growth is too narrow a measure of economic growth and not a measure of national wealth, and this is why we propose a "Green Accounting" framework for India and its States and Union Territories.

19.5.1 Importance of Green Accounting For Business

Following are the importance of Green Accounting for Business:

1. Poor environmental behaviour can give an adverse effect on an organizations image, which may lead to loss of sales as customers boycott the organizations product.
2. Many governments may impose heavy fines on companies which harm the environment. Companies may also have to pay large amounts to clean up any pollution for which they are responsible.
3. Increasing government regulations on environmental issues such as pollution has increased the cost of compliance of the business.
4. Improving environmental behaviour can reduce cost.
5. Business as corporate citizens has a moral duty to play their part in helping to reduce the harm they do to the environment.

It deals with 3 most important factors:

- People

- Profitability
- Planet

It also deals with the costs and the advantages or benefits an environment brings to a business concern.

a) Sustainable development: meeting the needs of present generation without compromising the needs of future generation.

b) Firms can know about their resources used and when to use them. It helps them to reduce the costs which are related to utilities and waste.

c) Employees even feel good to work for companies which think for society rather than companies which concentrate on earning money.

d) Measuring environmental performance as stakeholders are becoming more interested in the impact that organizations have on the environment.

e) Involving management accountants in longer-term strategic planning for environmental-related issues.

19.6 SUMMARY

The concept of green accounting is relatively new and it is still in its development stage. Not many organizations are aware of important and advantages of this concept and they do not incorporate green accounting in their business. The impact of business organizations on the environment is huge and mostly negative. In near future, it is reasonable to expect that it will become compulsory for all businesses to adopt the concept of green accounting in financial reporting framework. In India green accounting is in preliminary stage. For environmental safety it is necessary that corporate prepare policy, rules and regulations regarding environment control and mention necessary details of environmental aspects in their annual report.

19.7 GLOSSARY

- **Green Accounting:** Green accounting is a type of accounting that attempts to include factor environmental costs into the financial results of operations.
- **Sustainable Development:** It is a development that meets the needs of the present without compromising the ability of future generations to meet their own needs.
- **Performance Indicator:** A performance indicator or key performance indicator is a type of performance measurement. Key performance indicators evaluate the success of an organization or of a particular activity.

19.8 SELF-ASSESSMENT QUESTIONS

1. Write any three conceptual model of Green Accounting

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2. What are the three main important factors of Green Accounting in Business?

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19.9 LESSON END EXERCISE

1. What is Green Accounting? Explain the conceptual model of Green Accounting.
2. Discuss the various opportunities in Green Accounting.
3. What is business? Briefly explain the importance of Green Accounting in business.

19.10 SUGGESTED READINGS

1. Management Accounting, Gupta, Sharma and Gupta, Kalyani Publishers.
2. Management Accounting, Harsen and Mowen, Thompson.
3. Introduction to Management Accounting, Horngren, Sundem, Stratton, Prentice Hall, Publisher.
4. Management Accounting, SP Gupta, sahitaya Bhawan Publication.
5. Management Accounting, I.M. Pandey, Vikas Publishing House.
6. Advanced Cost of Management Accounting, V. K. Saxena and C.D. Vashist. S. Chand and Sons.

UNIT-IV LESSON-20

GREEN ACCOUNTING IN INDIA AND THE WAY FORWARD

STRUCTURE

20.1 INTRODUCTION

Green accounting is a career choice with a big impact. Instead of figuring out how the corporate world can make impressive profit, a green accountant analyses external and internal cost, then this information can be used by companies or government to calculate carbon credits etc. Green accounting goes beyond whistle blowing and government sponsored studies. Many private companies hire environment accounting to evaluate the cost of cutting pollution, including adding in benefits of tax relief for following government regulation or tax credits utilizing government approved equipment, more will be relief from government. Green accounting or environmental accounting is interlinked with two basic functions of management accounting: planning and data collection, reporting. In the case of planning, green accounting uses prevision analysis to measure future impacts on environment, such as target costing or life cycle method. In the second case, environmental data collection and its reporting to management is based on an efficient analysis of data for substantiating decisions. Starting from the above-mentioned considerations, the object of green accounting consists mainly in the identification and measuring of raw material costs and environmentally specific activities and the use of this information for drawing up reports and internal analyses necessary to the company management for making environmental decisions. The aim of green accounting is the acknowledgement and attempt to identify ways of diminishing the negative effects of activities and systems on the environment. Green accounting increases the important information available for analysing policy issues, especially when those vital pieces of information are often overlooked. It is said to only ensure weak sustainability, which should be considered as a step toward ultimately a strong sustainability.

20.2 OBJECTIVES:

After completion of this lesson, students will able to:

- Learn about the Green Accounting in India and the way forward
- Understand the Green Accounting Practices in India

20.3 GREEN ACCOUNTING IN INDIA AND THE WAY FORWARD

In India Union Ministry of Environment is coordinating between the states and the various ministries regarding anti-pollution measures and the environmental protection. Various legislations are also passed in India to ensure the environmental protection. The important laws pertinent to environmental protection in India are as follows:

a) Water (Prevention and Control of Pollution) Act, 1974.

b) Water (Prevention and Control of Pollution) Cess Act, 1977.

c) Air (Prevention and Control of Pollution) Act, 1981.

d) The Forest Conservation Act, 1980.

e) The Environment (Protection) Act, 1986.

f) Hazardous Waste (Management and Handling) Rules, 1989.

g) Public Liability Insurance Act, 1991.

h) The Motor Vehicle Act, 1991.

i) Indian Penal Code.

j) The provision in the Constitution (Article 51A).

k) The Factories Act, 1948.

l) The National Environment Tribunal Act, 1995

m) Indian Fisheries Act, 1987

In 2011, SEBI also mandates listed companies regarding reporting on environmental and social initiative undertaken by them, according to the key principles enunciated in the National Voluntary Guidelines on Social, Environmental and Economic Responsibilities of Business. As per the Companies Act, 2013 for certain class of profitable enterprises it is mandatory to spend some money on social welfare activities and the companies are required to give report regarding company's general state of affair and financial performance regarding conservation of energy and environment. Environmental ministry of India has instructed to provide a statement in relation to the activities that are affecting the environment but very few of such organizations are following such instruction. The main reason behind this negligence is that there is no hard and fast rule for such statement and it is prepared by the business organization on a voluntary basis. The organization that does prepare this statement is giving very basic information through these statements such as:

(i) Machines installed for pollution control in manufacturing unit.

(ii) The general procedure adopted for conservation of natural resources and energy.

(iii) Steps were taken by the business organization to maintain energy-saving processes for business operations.

(iv) Steps were taken for water conservation and protection of natural water resources near the business unit.

(v) The manner in which natural raw material is being conserved in business operations.

20.4 GREEN ACCOUNTING PRACTICE IN INDIA:

The following are the environmental accounting practices in India:

a) The first announcement regarding this green accounting was made in the year 1991.

b) The Ministry of Environment and Forests has proposed that "Every company shall, in the Report of its Board of Directors, disclose briefly the particulars of steps taken or proposed to be taken towards the adoption of clean technologies for prevention of pollution, waste minimization, waste recycling and utilization, pollution control measures, investment on environmental protection and impact of these measures on waste reduction, water and other resources conservation."

c) The Union Ministry of Environment and Forests has issued various instructions in to prepare environment statements.

d) It is mandatory in the country to get an environmental clearance for all new projects that concerns both the Union Ministry of Environment and Forests and the corresponding State Government department of environment. There are various guidelines in this regard and all such projects are expected to obtain environmental and antipollution clearance before they are actually set up.

20.5 SUMMARY

The major purpose of Green accounting is to help businesses understand and manage the potential quid pro quo between traditional economics goals and environmental goals. The countries which are adopting green accounting are Norway, Philippines, Namibia, Chile, USA, and Japan …etc. Green accounting in INDIA is in developing stage. It is one of the best methods to be followed for sustainable development.

Green accounting or environmental accounting is interlinked with two basic functions of management accounting: planning and data collection, reporting. The object of green accounting consists mainly in the identification and measuring of raw material costs and environmentally specific activities and the use of this information for drawing up reports and internal analyses necessary to the company management for making environmental decisions. The aim of green accounting is the acknowledgement and attempt to identify ways of diminishing the negative effects of activities and systems on the environment. Green accounting increases the important information available for analysing policy issues, especially when those vital pieces of information are often overlooked.

20.6 GLOSSARY

- **Green Accounting:** Green accounting is a type of accounting that attempts to include factor environmental costs into the financial results of operations.
- **Environmental Accounting:** Environmental accounting is a subset of accounting proper, its target being to incorporate both economic and environmental information.

20.7 SELF-ASSESSMENT QUESTIONS

1. Define the term Green Accounting.

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2. Explain any two Green Accounting practices in India.

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20.8 LESSON END EXERCISE

1. Discuss the meaning of Green Accounting.
2. What is Green Accounting? How is practicel in India?

20.9 SUGGESTED READINGS

1. Management Accounting, Gupta, Sharma and Gupta, Kalyani Publishers.
2. Management Accounting, Harsen and Mowen, Thompson.
3. Introduction to Management Accounting, Horngren, Sundem, Stratton, Prentice Hall, Publisher.
4. Management Accounting, SP Gupta, sahitaya Bhawan Publication.
5. Management Accounting, I.M. Pandey, Vikas Publishing House.
6. Advanced Cost of Management Accounting, V. K. Saxena and C.D. Vashist. S. Chand and Sons.