SECTION - B

FUNDAMENTALS OF COST ACCOUNTING

FUNDAMENTALS OF COST ACCOUNTING 4

This Module includes:

4.1 Meaning, Definition, Significance of Cost Accounting, its relationship with Financial Accounting

4.2 Application of Cost Accounting for Business Decisions

4.3 Definition of Cost, Cost Centre, Cost Unit and Cost Drivers

4.4 Classification of Costs (with Reference to Cost Accounting Standard 1)

4.5 Ascertainment of Cost and Preparation of Statement of Cost and Profit (Cost Sheet)

FUNDAMENTALS OF COST ACCOUNTING

Module Learning Objectives:

After studying this Module, the students will be able to –

- Understand fundamental concepts of Cost Accounting
- Understand the role of Cost Accounting in decision making.
- Learn the criteria for classifying the costs.
- Learn preparation of the Statement of Cost and Profit.

Meaning, Definition, Significance of Cost Accounting, its Relationship with Financial Accounting

4.1

- **Evolution of Cost Accounting:**

Every modern business has to make its way through keen competition, uncertainty and risks. Quick changes in social and economic environment also create impact upon the businesses. Changes in political outlook of the government of the country also require adjustment in the business policies. Thus, a modern business becomes more and more complex in nature.

In old times the business concerns were small in size; there was no keen competition; necessity of adjustment in business outlook due to changes in social, economic and political outlook was rare and the owner/ owners of the business could maintain personal contact with the business and gather all information relating to the business whenever necessary. The present-day business is, however, large in size, complex in character and is under keen competition. So, information relating to the business in detail, appropriate management policy on the basis of detailed information and proper execution of such policies can only bring about success.

The traditional Financial Accounting fails to furnish all information necessary for managing a modern business successfully. Thus, as a branch of Financial Accounting, Cost Accounting has evolved and made rapid progress during the last few decades. This branch of accounting, with its developing techniques and procedures, has been rapidly expanding in the fields of its application. In recent years, another aspect of accounting, called Management Accounting, has been developed and is being employed in many concerns.

Where Financial accounting limits its activities in determining the financial result of trading during a given period of time and stating the financial position as on the closing date of the period, Cost Accounting takes the responsibility of generating information for controlling operations with a view to maximizing efficiency and hence profit, and Management accounting takes the duty of assisting the management with information for planning and decision making.

It is well known that the double entry system of accounting was initiated in 1494. Since then, till the after period of Industrial Revolution cost accounting remained as a small branch of financial accounting. The need for information on internal operation and the competitive business environment ushered by the Industrial revolution acted as catalyst in the development cost accounting. Firms, such as textile mills and railroads, were compelled to devise internal administrative procedures to coordinate the various operations involved in the performance of the basic activity of conversion of raw materials into finished goods by textile mills and the transportation of passengers and freight by the railroads. During 1880s, the newly formed mass distribution and mass production enterprises adapted the internal accounting reporting systems of the railroads to their own organizations. But all these along with the adaptations were exclusively focussed on direct labour and direct material (prime costs). The scientific management movement6 provided a major impetus to the further development of cost accounting practices. The period 1880 - 1925 saw the development of complex product designs and the emergence of multi activity diversified corporations like Du Pont, General Motors etc. It was during this period that scientific management was developed which led the accountants to convert physical

standards into Cost Standards, the latter being used for variance analysis and control. During the World War I and II the social importance of Cost Accounting grew with the growth of each country's defence expenditure. In the absence of competitive markets for most of the material required for war, the governments in several countries placed cost-plus contracts under which the price to be paid was cost of production plus an agreed rate of profit. The reliance on cost estimation by parties to defence contracts continued after World War II.

- **Development of Cost Accounting Profession in India**

In India, prior to independence, there were a few Cost Accountants, and they were qualified mainly from I.C.M.A. (now CIMA) London. During the World War II, the need for developing the profession in the country was felt, and the leadership of forming an Indian Institute was taken by some members of Defence Services employed at Kolkata. However, with the enactment of the Cost and Works Accountants of India Act, 1959, the Institute of Cost and Works Accountants of India (presently, The Institute of Cost Accountants of India) was established at Kolkata. The profession assumed further importance in 1968 when the Government of India introduced Cost Audit under section 233(B) of the Companies Act, 1956. At present it is under Section 148 of the Companies Act, 2013.

- **Meaning of a Few Important Terms**

a) Meaning of 'Cost'

Cost is defined as the expenditure (actual or notional) incurred on or attributable to a given product or service. It can also be described as the resources that have been sacrificed or must be sacrificed to attain a particular objective. In other words, cost is the amount of resources used for something which must be measured in terms of money.

For example, cost of preparing a wooden chair is the amount incurred on the elements like material, labour and other expenses. Similarly cost of offering any services like banking is the amount of expenditure for offering that service. Thus, cost of production or cost of service can be calculated by ascertaining the resources used for the production or services.

CIMA Official Terminology defines cost either as a noun or as a verb.

The term 'cost' as a noun refers to the amount of cash or cash equivalent paid or the fair value of other consideration given to acquire an asset at the time of its acquisition or construction.

The term 'cost' as a verb refers to the process to ascertain the cost of a specified thing or activity.

b) Meaning of 'Costing'

CIMA Official Terminology specifically states that the use of the term costing is not recommended except with a qualifying adjective, for example standard costing. The term is used in the following connotations; batch costing, continuous operation costing, contract costing, job costing, service costing, specific order costing, absorption costing and marginal costing.

Thus, it is important to note that the term 'costing' is only to be used as a qualifying adjective.

In general, Costing is a technique and process of ascertaining costs. This technique consists of principles and rules which govern the procedure of ascertaining the cost of products/services. The process of costing includes routines of ascertaining costs by historical or conventional costing, standard costing or marginal costing.

c) Meaning of 'Cost Accounting'

CIMA Official Terminology defines cost accounting as the process of gathering of cost information and its attachment to cost objects, the establishment of budgets, standard costs and actual costs of operations,

processes, activities or products; and the analysis of variances, profitability or the social use of funds. Thus, cost accounting encompasses the following;

(i) One of the main purposes of cost accounting is gathering of cost information related to cost objects. This cost information is then suitably presented to the management which aids them in their decision-making process.

(ii) Nuances of cost accounting includes the process of cost accumulation through which the cost of operations, processes or activities or products is calculated. Establishment of standard cost and variance analysis are important aspects.

(iii) Computation profitability which pivots around fixation of selling price is an important aspect of cost accounting.

d) Meaning of 'Cost Accountancy'

Cost Accountancy is the academic discipline of cost accounting and is defined as 'the application of costing and cost accounting principles, methods and techniques to the science and art and practice of cost control and the ascertainment of profitability as well as presentation of information for the purpose of managerial decision making.'

Four particular points summarizes the above-mentioned definition.

(i) The application of the costing and cost accounting principles is encompassed in cost accountancy.

(ii) This application is with specific purpose and that is for the purpose of cost control and ascertainment of profitability.

(iii) Cost accounting is a combination of art and science; it is a science as it has well defined rules and regulations, it is an art as application of any science requires art and it is a practice as it has to be applied on continuous basis and is not a one time exercise.

(iv) Cost accountancy merely caters to the need of the cost information need of the management which facilitate decision making.

Scope of Cost Accounting

The scope of cost accountancy is very wide and includes the following:

(i) Cost Ascertainment

It deals with the collection and analysis of expenses, the measurement of production of the different product at the different stages of manufacturing and the linking up of production with the expenses. In fact, the varying procedures for the collection of expenses give rise to the different systems of costing as historical or actual costs, estimated costs, standard costs etc. Again, the varying procedures for the measurement of production have resulted in different methods of costing such as specific order costing, operation costing etc. For linking up of production with the expenses the different techniques of costing such as marginal cost technique, the total cost technique, direct cost technique etc., have been evolved.

(ii) Cost Book Keeping

It involves maintenance of records of all costs incurred from their incurrence to their charge to departments, products and services. Such recording is done on the basis of double entry system. If the cost and financial accounts are kept separately then their reconciliation is also to be done in order to verify the accuracy of both sets of accounts.

(iii) Cost Control

Cost accounting also includes the utilization of cost information for exercising control. It involves a detailed examination of each cost in the light of benefit derived from the incurrence of the cost. Thus, cost is analyzed to recognize whether the current level of costs are satisfactory in the light of standards set in advance.

(iv) Cost Reports

Presentation of cost is the ultimate function of cost accounting. These reports are primarily for use by the management at different levels. Cost Reports forms the basis for planning and control, performance appraisal and managerial decision making.

⊙ Objectives of Cost Accounting

The objectives of cost accounting include the following:

a) To ascertain the cost per unit of the different products manufactured by a business concern.

b) To provide a correct analysis of cost of processes or operations and by different elements of cost.

c) To disclose sources for wastage and to prepare such reports which may be necessary to control such wastage.

d) To provide requisite data and serve as a guide to price fixation of products manufactured or services rendered.

e) To ascertain the profitability of each of the products and advise management as to how these profits can be maximized.

f) To exercise effective control of stocks of raw material, work-in-progress, consumable stores and finished goods in order to minimize the capital locked up in these stocks.

g) To reveal sources of economy by installing and implementing a system of cost control for materials, labour and overheads.

h) To present and interpret data for management planning, decision-making and control.

i) To help in the preparation of budgets and implementation of budgetary control.

j) To organize an effective information system so that different levels of management may get the required information at the right time in right form for carrying out their individual responsibilities in an efficient manner.

k) To guide management in the formulation and implementation of incentive bonus plans based on productivity and cost savings.

l) To organize cost reduction programmes with the help of different departmental managers.

m) To find out profit or loss by identifying with revenues the costs of those products or services by selling which the revenues have been earned.

⊙ Significance of Cost Accounting

a) Cost accounting helps in identifying profitable and unprofitable activities so that steps can be taken to eliminate or reduce those activities from which little or no benefit is obtained or to change the method of production in order to make such activities more profitable.

b) It enables a concern to measure the efficiency and then to maintain and improve it.

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

d) It guides future production policies. It explains the cost incurred and profit made in various lines of business and processes and thereby provides data on the basis of which production can be appropriately planned.

e) It helps in increasing profits by disclosing the sources of loss or waste and by suggesting such controls so that wastages, leakages and inefficiencies of all departments may be detected and prevented.

f) It enables a periodical determination of profits or losses without resort to stock taking.

g) It furnishes reliable data for comparing costs in different periods, for different volumes of output, in different departments and processes and in different establishments. This helps in maintaining costs at the lowest point consistent with the most efficient operating conditions.

h) Cost accounting may help in identifying the exact cause of a decrease or an increase in profit or loss.

i) Cost Accounting discloses the relative efficiencies of different workers and thereby facilitates the introduction of suitable plans of wage payment to reward efficiency and to provide adequate incentive to the less efficient worker.

j) It facilitates the assessment of excise duty and income tax and the formulation of policies regarding industry, export, import, taxation etc. It also facilitates the preparation of national plans for economic development. It provides ready figures for use by the Government for application to problems like price fixation, price control, tariff protection, wage level fixation, payment of dividends or settlement of disputes.

Methods of Costing

The following are the methods of costing.

a. Job Costing

Job costing method is used in firms which work on the basis of job work. There are some manufacturing units which undertake job work and are called as job order units. The main feature of these organizations is that they produce according to the requirements and specifications of the consumers. Each job may be different from the other one. Production is done only on specific order and there is no predetermined production. Because of this situation, it is necessary to compute the cost of each job and hence job costing system is used. In this system, each job is treated separately and a job cost sheet is prepared to find out the cost of the job. The job cost sheet helps to compute the cost of the job in a phased manner and finally arrives at the total cost of production.

b. Batch Costing

It is a method of accounting in which costs are accumulated by batches. Costs are collected as per Batch order number and total costs are divided by the total number in a batch to find out the cost per unit of each batch. It is applicable to toy making industries, biscuit factories, medicine industries etc.

c. Process Costing

Some of the products like sugar, chemical etc involve continuous production process and hence process costing method is used to work out the cost of production, The meaning of continuous process is that the input introduced in the process I travels though continuous process before finished product is produced. The output of process I becomes input of process II and the output of process II becomes input of the process III. If there is no additional process, the output of process III will be the finished product. In process costing, cost per process is worked out and per unit cost is worked out by dividing the total cost by the number of units. Industries like sugar, edible oil, Chemical are examples of continuous production process and use process costing.

d. Operating Costing

This type of costing method is used in service sector to work out the cost of services offered to the consumers. For example, operating costing method is used in hospitals, power generating units, transportation sector etc. A cost sheet is prepared to compute the total cost and is divided by cost units for working out the per unit cost.

e. Contract Costing

This method of costing is used in construction industry to work out the cost of contract undertaken. For example, cost of constructing a bridge, commercial complex, residential complex, highways etc is worked out by use of this method of costing. Contract costing is actually similar to job costing, the only difference being that in contract costing, one construction job may take several months or even years before they are complete while in job costing, each job may be of a short duration. In contract costing, as each contract may take a long period of completion, the question of computing profit, is to be solved with the help of a well-defined and accepted method.

Following table illustrates appropriate method of costing in different industries.

Sr. No.	Name of industry	Method of costing
1.	Sugar industry	Process costing
2.	Toy making	Batch costing
3.	Steel or cement	Process costing
4.	Bicycle manufacturing	Multiple costing
5.	Steel or cement	Process costing
6.	Aircraft manufacturing	Multiple costing
7.	Printing	Job costing
8.	Hospital	Service/operating
9.	Pharmaceuticals	Process costing
10.	Breweries	Single unit (or) output
11.	Canteen	Operating/service costing
12.	House building	Contract costing
13.	Road transport	Operating/service
14.	Readymade garments	Batch costing
15.	Soft drinks	Process costing
16.	Coal	Single unit or output
17.	Oil refining	Process costing
18.	Brick kiln	Single unit or output
19.	Interior decoration	Job costing
20.	College	Operating/service
21.	Advertising	Job costing
22.	Soap industry	Process costing
23.	Electricity supply	Operating/service

24.	Foundries	Job costing
25.	video/audio manufacturing	Multiple costing
26.	Sub-assembling	Operationg costing

- **Cost Accounting Systems**

Systems and procedures are devised for proper accounting for costs. Such a system is referred as a cost accounting system. The design of such a system varies significantly and depends on the type of the product/ service of the organisation. As such six types of cost accounting system may be identified. These are listed as under.

a. Historical Costing

In this type of costing system, the costs are ascertained only after they have been incurred. The main objective of it is to ascertain costs that have been incurred in past. It is the process of accumulation of costs after they are incurred in a systematic manner. The historical costs are used only for post-mortem examination of actual costs incurred and it would be too late to control. The actual figures can be compared only when the standards of performance exist.

b. Absorption Costing

Under the 'absorption costing system' all fixed and variable costs are allotted to cost units and total overheads are absorbed according to activity level. In absorption costing system, fixed manufacturing overheads are allocated to products, and these are included in stock valuation. Therefore, valuation of inventories of finished goods and work in progress includes manufacturing fixed cost and transferred to next period. Unlike manufacturing fixed overhead, the administrative overhead, selling and distribution overheads are treated as fixed cost and recorded only when they are incurred. It is a traditional form of cost ascertainment. It is based on the principle that costs should be charged or absorbed to whatever is being costed – be it cost unit, cost centre – on the basis of the benefit received from these costs.

c. Direct Costing

It is a method of costing in which the product is charged with only those costs which vary with volume. Variable or direct costs such as direct material, direct labour and variable manufacturing expenses are examples of costs charged to the product. All indirect costs are charged to profit and loss account of the period in which they arise. Indirect costs are disregarded in inventory valuation. This is similar to marginal cost accounting system where costs are classified into fixed and variable costs. Variable costs are charged to unit cost and the fixed costs attributable to the relevant period are written-off in full against the contribution for that period. Contribution margin indicates the recovery of fixed cost before contributing towards the operational profit. This technique is widely used for internal management purpose for decision making rather than for external reporting.

d. Standard Costing

Under standard costing system, the ascertainment and use of standard costs and the measurement and analysis of variances is done for control purpose. Standard cost is a predetermined cost which is computed in advance of production on the basis of a specification of all the factors affecting costs and used in Standard Costing. Its main purpose is to provide a base for control through Variance Analysis, for valuation of stock and work-in-progress and, Labour Cost and for fixing selling prices etc.

e. Uniform Costing

It is not a distinct method of costing. It is the adoption of identical costing principles and procedures

by several units of the same industry or several undertakings by mutual agreement. It facilitates valid comparisons between organizations and helps in elimination of inefficiencies.

f. Marginal Costing

It is the ascertainment of marginal cost by differentiation between fixed and variable cost. It is used to ascertain the effect of changes in volume or type of output on profit.

Cost Accounting and Financial Accounting

Cost Accounting is a branch of accounting, which has been developed because of the limitations of Financial Accounting from the point of view of management control and internal reporting. Cost accounts and Financial accounts are usually kept independently in organizations. In some respects, these accounts are similar, but they differ in others. The similarities can be summarized as follows:

(i) Both cost accounts and financial accounts are maintained using the double entry system of accounting.

(ii) Recording of transactions, both under the cost accounting system and financial accounting system, is made on the basis of common vouchers, invoices, and documents.

(iii) Both cost accounts and financial accounts disclose the profit or loss of the business.

(iv) Both cost accounts and financial accounts involve the process of matching the costs and revenues of the related activity for the current period.

(v) Both accounting systems keep records of direct costs and indirect costs.

(vi) Both accounting systems enable the business to compare and reconcile trading results.

(vii) In both accounting systems assist managers in deciding on business policy and making managerial decisions.

In spite of the above similarities, they certainly differ from each other. Main difference between Financial Accounting and Cost Accounting are given as under:

Point of distinction	Financial Accounting	Cost Accounting
1. Purpose	It is prepared for providing information about the results of the business activities as a whole for a particular period to the users.	The main purpose of Cost Accounting is to provide information to the management for the proper planning, control and decision making.
2. Form of accounts	These accounts are kept in such a way as to meet the requirements of Companies Act and Income Tax Act.	These accounts are generally kept voluntarily to meet the requirements of the management. But now Companies Act has made it obligatory to keep cost records in some manufacturing industries.
3. Recording	It classifies, records and analyses the transactions in a subjective manner i.e., according to the nature of expenses.	It records the expenditure in an objective manner i.e., according to the purposes for which the costs are incurred.
4. Control	It lays emphasis on the recording aspect without attaching any importance on control.	It provides a detailed system of control for materials, labour and overhead costs with the help of standard costing and budgetary control.
5. Periodicity of reporting	It reports operating results and financial position usually at the end of the year.	It gives information through cost reports to management as and when desired.

6. Analysis of profit	Financial accounts are the accounts of the whole business. They are independent in nature and disclose the net profit or loss of the business as a whole.	Cost Accounting is only a part of the financial accounts and discloses profit or loss of each product, job or service.
7. Reporting of costs	The costs are reported in aggregate in financial accounts	The costs are broken down on a unit basis in cost accounts.
8. Nature of transactions	Financial accounts relate to commercial transactions of the business and include all expenses viz., manufacturing, office, selling and distribution etc.	Cost accounts relate to transactions connected with the manufacture of goods and services and include only those expenses which enter into production.
9. Information	Monetary information is only used (i.e. only monetary transactions are recorded).	Non-monetary information like units is also used (i.e., it deals with monetary as well as non-monetary information).
10. Figures	Financial accounts deal mainly with actual facts and figures.	Cost accounts deal partly with facts and figures and partly with estimates.
11. Reference	In devising or operating a system of financial accounting reference can be made in case of difficulty to the company law, case decisions and to the canons of sound professional practice.	No such reference is possible. Guidance can be had only from a body of convention followed by cost accountants.
12. Relative efficiency	Financial accounts do not provide information on the relative efficiencies of various workers, plants and machinery.	Cost accounts provide valuable information on the relative efficiencies of various plants and machinery.
13. Stock valuation	Stock is valued at cost or market price whichever is less.	Stock is valued at cost
14. Type of science	Financial accounting is a positive science because it is subject to legal rigidity with regard to the preparation of the financial statements	Cost accounting is not only a positive science but also a normative science because it includes techniques of budgetary control and standard costing.

Application of Cost Accounting for Business Decisions

4.2

Accounting is often considered as an information processing system that facilitates management decision making. This is true not only for financial accounting but for every branch of accounting. Similar to its other counterparts, cost accounting also discharges its role as an information processing system effectively. The techniques of cost accounting and costing helps the management in every sphere of business decisions. The major applications of cost accounting and costing in facilitating business decisions are discussed below:

a. Classification and sub-division of costs

Costs are collected and classified by various ways in order to provide information to the management for control purposes and to ascertain the profitability of each area of activity. It enables the concern to measure the efficiency and then to maintain and improve it.

b. Control of material, labour and overhead costs

Various inventory control techniques or methods of costing are used to control the material cost. For example, fixation of maximum level helps the management to reduce the over-stocking; use of EOQ helps the Purchase Department to order right quantity. An efficient check on labour and machines is provided by giving detailed information about availability of machine and labour capacity. The work is so planned that no section is overworked and no section remains idle. By classifying the overheads into controllable and uncontrollable or fixed and variable, it helps to control the overhead costs.

Thus, cost accounting provides a detailed control of material, labour and overhead costs.

c. Business Policy

Business policy may require consideration of alternative methods and procedures and this is facilitated by cost information correctly presented. Cost accounting helps the management to take vital decisions such as introduction of new product, selection of optimum product mix, utilization of spare capacity, replacement of existing assets, etc.

d. Budgeting

Two important cost accounting tools for helping managers are budgets and performance reports. Budgets are financial and/or quantitative statements prepared and approved prior to a defined period of time, of the policies to be pursued during that period for the purpose of attaining objectives of the management. Thus, budgets are the formal quantifications of the plans of management. Performance reports measure actual performance and give accounts of comparisons of budgets with actual results which facilitate action against those persons whose performance is less than the performance specified in the budgets. The technique of control through performance reports is technically known as management by exception, which is the practice of concentrating on areas whose performance is not up to the mark as it was planned and ignoring areas that are running smoothly as these were planned.

e. Standards for measuring efficiency

It provides the use of standards to assist management in making estimates and plans for future and to provide the basis for measuring efficiency. Actuals are compared with standards to determine the operating efficiency.

f. Best Use of Limited Resources

Cost Accounting provides the reliable data of costs with regard to materials, wages and other expenses. These help management to get maximum output at the minimum cost by indicating where economies may be affected, waste eliminated and efficiency increased; some of the loss occasioned by reduced turnover and falling prices may be avoided.

g. Price determination

Cost Accounting helps the management to fix the remunerative selling prices of various items of goods under different circumstances. During the period of recession, a businessman has to become very watchful and vigilant in tracking down the concealed inefficiencies and sources of wastage, so that he may reduce the cost of production to the minimum. During depression the businessman has to cut the price to such an extent so as to recover the variable costs. Cost accounting makes the distinction between fixed and variable costs and helps the management in determination of prices. If prices are fixed without cost information, it is possible that prices quoted may be too high or too low.

In line with the above broad principles, cost accounting actively helps the management in making individual business decisions in various areas. Decisions may relate to various problems like -

(i) Whether or not price should be reduced for increased level of sales;

(ii) Whether a change in production should be followed;

(iii) Whether or not factory should operate at full capacity;

(iv) Determination of the most profitable levels of production;

(v) Whether to make or buy a spare part;

(vi) Whether a new product should be introduced in the market;

(vii) Whether the product should be exported or not;

(viii) Whether a particular market should be tapped or not;

(ix) Whether a product should be discontinued to avoid the present loss; and

(x) Whether or not an investment in a particular asset will be worthwhile.

Thus, cost accounting provides the foundation based on which the management accountants perform further processing of data to help the manager to arrive at effective decisions.

Definition of Cost, Cost Centre, Cost Unit and Cost Drivers

4.3

In costing and cost accounting, we often come across a number of important terms which are required to be defined authentically. Following are the definitions of some of these terms used in costing, cost accounting and also in cost management.

4.3.1 Definition of Cost

CIMA official terminology states that the term can be used either as a noun (referring to the cost of an item) or as a verb (cost of an activity). The documents furnish the two definitions as follows:

As a noun, cost means 'the amount of expenditure (actual or notional) incurred on, or attributable to, a specified thing or activity'

As a verb, cost means 'to ascertain the cost of a specified thing or activity'.

As such, cost accounting transactions are recorded at historic cost for measurement basis. But for decision making purpose costs are referred as economic cost.

Economic costs are only a type of cost used in the managerial decision-making process.

Some of the important concepts of costs are discussed below.

a. **Out-of-Pocket Cost –** This is the portion of the cost associated with an activity that involve cash payment to other parties, as opposed to costs which do not require any cash outlay, such as depreciation and certain allocated costs. Out-of-Pocket Costs are very much relevant in the consideration of price fixation during trade recession or when a make-or-buy decision is to be made.

b. **Opportunity Cost -** It is the value of the best alternative course of action that was not chosen. In other words, it is what could have been accomplished with the resources used in the course of action if they were employed in the next best alternative. It represents opportunities forgone. For example, if the idle capacity of a production facility can be rented for ₹4,000 p.m., and the entity decides to continue production, then the production cost must include the same as cost of opportunity lost.

c. **Sunk Cost –** Cost that has been irreversibly incurred or committed and cannot therefore be considered relevant to a decision. Sunk costs may also be termed irrecoverable costs.

d. **Imputed Costs –** Imputed costs are hypothetical or notional costs, not involving cash outlay computed only for the purpose of decision making. In this respect, imputed costs are similar to opportunity costs. Interest on funds generated internally, payment for which is not actually made is an example of imputed cost.

e. **Relevant Costs -** Relevant costs are costs which are relevant for a specific purpose or situation. In the context of decision making, only those costs are relevant which are pertinent to the decision at hand. Since we are concerned with future costs only while making a decision, historical costs, unless they remain unchanged in the future period are irrelevant to the decision-making process.

f. **Avoidable Costs & Unavoidable Costs –** Avoidable Costs are those which under given conditions of performance efficiency should not have been incurred. Unavoidable Costs which are inescapable costs, which are essentially to be incurred, within the limits or norms provided for. It is the cost that must be incurred under a programme of business restriction. It is fixed in nature and inescapable

g. **Controllable and Non-Controllable Costs –** Controllable Cost is that cost which is subject to direct control at some level of managerial supervision. Non-controllable Cost is the cost which is not subject to control at any level of managerial supervision.

4.3.2 Definition of Cost Centre

Cost centres are the collecting places for costs before they are further analysed. For cost accounting purposes, departments are termed cost centres.

CIMA Official Terminology defines a cost centre as a production or service location, function, activity or item of equipment for which costs are accumulated.

GACAP21 defines a cost unit as any unit of an entity selected with a view to accumulating all cost under that unit. The unit can be division, department, section, group of plant and machinery, group of employees or combination of several units. This definition has also been corroborated in paragraph 4.6 of CAS 1.

Cost Centre is the logical unit for accumulation of cost. Cost Centre may be of two types – personal and impersonal cost centres. Personal cost centre consists of a person or a group of persons. Cost centres which are not personal cost centres are impersonal cost centres.

Cost centres may also be classified into broad types i.e., Operating Cost Centres and Support- Service Cost Centres. Operating Cost Centres are those which are in the chain of operations like machine shop, welding shop, assembly shop, operation theatre, call centre and so on. Support-service Cost centres are for rendering services to operating cost centre like power house, maintenance, stores, help desk, transport for call centre staff and so on.

Cost centre is often referred as a responsibility centre whose managers are normally accountable for only those costs that are under their control, also known as expense centres.

4.3.3 Definition of Cost Object

Costs are often measured in terms of a product, a service to a hotel guest or a sales territory. These are known as Cost Object.

CIMA Official Terminology states that cost object is (for example) a product, service, centre, activity, customer or distribution channel in relation to which costs are ascertained.

Generally Accepted Cost Accounting Principles (GACAP[1]) 21 defines a cost object as an activity, contract, cost centre, customer, process, product, project, service or any other object for which costs are ascertained. This definition is also corroborated in paragraph 4.7 of CAS 1.

4.3.4 Definition of Cost Unit

Cost Unit is a device for the purpose of breaking up costs into smaller sub divisions attributable to products or services.

CIMA official Terminology defines a cost unit as a unit of product or service in relation to which costs are ascertained. Cost unit should be appropriate to the type of business. It is important to note that once costs are traced to cost centres, they are further analysed in order to establish the cost per cost unit. Alternatively, some items of

[1] The GACAP is the abbreviated form of Generally Accepted Cost Accounting Principles. It is issued by the Institute of Cost Accountants of India. This document is like a preface to the Cost Accounting Standards. (https://icmai.in/upload/CASB/2015/GACAP-Final.pdf)

costs may be charged directly to a cost unit, for example direct materials and direct labour costs.

GACAP21 defines a cost unit as a form of measurement of volume of production of a product or a service. Cost unit is generally adopted on the basis of convenience and practice in the industry concerned. This definition is also corroborated in paragraph 4.5 of CAS 1.

Example of cost unit

Business	Appropriate Cost Unit
Power	Megawatt, Kilo Watt Hour (KWH)
Cement	Metric Tonne (MT)
Automobile	Number of vehicles
Audit Firm	Audit File / Chargeable hour

Note: The cost units for services are intangible and often comprise of two parts. Thus, they are referred as composite cost units. For example, if costs of a delivery service depend not only on the quantity of goods carried but also on the distance travelled. Hence, they should be measured using tonne-kilometre which is a composite unit. Some more examples are –

Business	Appropriate Cost Unit
Hotel	Room - Day
Hospital	Patient - Day
Goods Transport	Tonne – kilometre
Passenger Transport	Passenger - Km

4.3.5 Definition of Cost Driver

A cost driver triggers a change in the cost of an activity. The concept is most commonly used to assign overhead costs to the number of produced units. It can also be used in activity-based costing analysis to determine the causes of overhead, which can be used to minimize overhead costs.

Activity Based Costing is 'an approach to the costing and monitoring of activities which involves tracing resource consumption and costing final outputs. Resources are assigned to activities, and activities to cost objects based on consumption estimates. The latter utilise cost drivers to attach activity costs to outputs.'

A large number of cost drivers may be used within an activity-based costing system. If a business is only concerned with following the minimum accounting requirements to allocate overhead to produced goods, then just a single cost driver should be used.

A few examples of Cost Drivers are –

Activity	Cost Drivers
Machine Set-up	No. of Set-Ups or Set-up Hours
Inspection	Inspection Hours
Ordering Costs	No. of orders
Delivery Costs	No. of deliveries

A few other important terms are defined below:

- **Cost Allocation**

  When items of cost are identifiable directly with some products or departments such costs are charged to such cost centres. This process is known as cost allocation. Wages paid to workers of service department can be allocated to the particular department. Indirect materials used by a particular department can also be allocated to the department. Cost allocation calls for two basic factors –

  a. Concerned department/product should have caused the cost to be incurred, and

  b. Exact amount of cost should be computable.

- **Cost Apportionment**

  When items of cost cannot be directly charged to or accurately identifiable with any cost centres, they are prorated or distributed amongst the cost centres on some predetermined basis. This method is known as cost apportionment. Thus, items of indirect costs residual to the process of cost allocation are covered by cost apportionment. The predetermination of suitable basis of apportionment is very important and usually following principles are adopted (in order to find suitable relation between the cost object and the cost to be apportioned).

  a. Service or use

  b. Survey method

  c. Ability to bear.

  The basis ultimately adopted should ensure an equitable share of common expenses for the cost centres and the basis once adopted should be reviewed at periodic intervals to improve upon the accuracy of apportionment.

  The term allocate is defined by the CIMA official terminology to assign a whole item of cost, or of revenue, to a single cost unit, centre, account or time period. In the US, "allocate" does not have this precise meaning, it is used more generally to refer to the whole process of overhead apportionment, allocation and absorption

- **Cost Accounting Standards**

  The Institute of Cost Accountants of India, recognizing the need for structured approach to the measurement of cost in manufacture or service sector and to provide guidance to the user organizations, government bodies, regulators, research agencies and academic institutions to achieve uniformity and consistency in classification, measurement and assignment of cost to product and services, has constituted Cost Accounting Standards Board (CASB) with the objective of formulating the Cost Accounting Standards. Till date, the Board has issued 24 Cost Accounting Standards, Generally Accepted Cost Accounting Principles, 11 Guidance Notes29.

  Following is the list of all Cost Accounting Standards.

CAS	Title
1	Classification of Cost
2	Capacity Determination
3	Production and Operation Overheads
4	Cost of Production
5	Average (equalized) Cost of Transportation
6	Material Cost
7	Employee Cost

8	Cost of Utilities
9	Packing Material Cost
10	Direct Expenses
11	Administrative Overheads
12	Repairs & Maintenance Cost
13	Cost of Service Cost Centre
14	Pollution Control Cost
15	Selling and Distribution Overheads
16	Depreciation and Amortisation
17	Interest and Financing Charges
18	Research and Development Costs
19	Joint Costs
20	Royalty and Technical Know-How Fee
21	Quality Control
22	Manufacturing Cost
23	Overburden Removal Cost
24	Treatment of Revenue in Cost Statement

Classification of Costs (with Reference to Cost Accounting Standard 1)

4.4

- **Concept of Classification of Cost**

  Classification of Costs is the logical process of categorising the different costs involved in a business process according to their type, nature, frequency and other features to fulfil accounting objectives and to facilitate economic analysis necessary for decision making. Classification of Costs lies at the core of costing, cost accounting and cost management.

- **Principle of Classification of Cost**

  As per Para 5 of CAS 1, Costs shall be classified by the process of grouping the components of cost under a common designation on the basis of similarities of nature, attributes or relations. Items grouped together under common heads shall be further classified according to their fundamental differences.

  Moreover, scheme of classification shall be such that every item of cost is classified.

  The process will ensure identification of each item and the systematic placement of like items together according to their common features. The same costs may appear in several different classifications depending on the purpose of classification.

  Cost is classified normally in terms of managerial objective. Its presentation normally requires sub-classification. Such sub-classification may be according to nature of the cost elements, functional lines, areas of responsibility, or some other useful break-up. The appropriate sub-classification depends upon the uses to be made of the cost report.

  Cost may be classified with reference to the nature of expense, its traceability to a cost object (direct/ indirect), its relation to functions /activities, its behaviour (fixed, semi-variable or variable) and its relationship to production process.

- **Classification of Cost as per CAS 1**

  As per Para 4.3 of CAS 1, Classification of cost is the arrangement of items of costs in logical groups having regard to their nature (subjective classification) and purpose (objective classification).

  Thus, in CAS 1, two types of classification (logical groups) are recommended.

  a. Subjective classification (classification on the basis of nature) and

  b. Objective classification (on the basis of purpose)

  Accordingly, Para 6 of CAS 1 suggest five classifications along with some sub classifications. These are as follows.

  1. **Classification by nature of expense (Para 6.1) –** on the basis of nature of the expense the elements of cost can be classified in the following three categories:

a. **Material –** Material Costs are cost of materials used for the purpose of production of a product or rendering of a service, net of trade discounts, rebates, taxes and duties refundable that can be quantified with reasonable accuracy.

b. **Employee -** Employee Costs are consideration, including benefits paid or payable to employees, permanent or temporary, for the purpose of production of a product or rendering of a service.

c. **Expenses -** Expenses are costs other than material cost and employee cost for the purpose of production of a product or rendering of a service. For example - cost of utilities, payment for bought out services, job processing charge.

2. **Classification by traceability of the cost to a cost object (Para 6.2) –** on the basis of traceability costs are either direct cost or indirect cost.

   a. **Direct cost -** If a cost can be assigned to a cost object in an economically feasible way, it shall be termed as direct to that cost object. These are of three types -

      i. **Direct material cost -** Direct Material Costs are the cost of materials which can be assigned to a cost object in an economically feasible way.

      ii. **Direct employee cost -** Direct Employee Cost are employee costs, which can be assigned to a cost object in an economically feasible way.

      iii. **Direct expenses -** Direct Expenses are expenses except direct material and direct employee cost which can be assigned to a cost object.

   b. **Indirect cost –** if a cost is not identifiable as a direct cost, then it is referred as indirect cost.

      It comprises of the following:

      i. **Indirect material -** Indirect Material Costs are cost of materials, which cannot be directly assigned to a particular cost object in an economically feasible way.

      ii. **Indirect employee cost -** Indirect Employee costs are employee costs, which cannot be directly assigned to a particular cost object in an economically feasible way.

      iii. **Indirect expenses -** Indirect Expenses are expenses, which cannot be directly assigned to a particular cost object in an economically feasible way.

3. **Classification by function (Para 6.3) –** costs can be classified according the functions which are -

   (i) **Manufacturing/Production cost:** The cost of operating the manufacturing division of a company is production cost. It includes costs beginning with supplying materials, labour and services and ends with the primary packing of the product. Thus, it includes the cost of direct material, direct labour, direct expenses and factory overheads.

   (ii) **Administration cost:** The cost of formulating the policy, directing the organisation and controlling the operations, which is not related directly to a production, selling, distribution, research or development activity or function are administration costs.

   (iii) **Selling cost:** The cost of seeking to create and stimulate demand (sometimes termed as marketing) and of securing orders.

   (iv) **Distribution cost:** The expenditure incurred from making the packed product available for dispatch to making the reconditioned returned empty packages, if any, available for-use. Expenditure incurred in moving articles to and from prospective customers as in the case of goods on sale or return basis is also included in distribution cost.

(v) **Research cost:** The cost of searching for new or improved products, new application of materials, or new or improved methods.

(vi) **Development cost:** The cost of implementation of the decision to produce a new or improved product or to employ a new or improved method till the commencement of formal production of that product or by the method is development cost.

4. **Classification by nature of behaviour of the cost (para 6.4) -** Costs shall be classified based on behaviour in response to the changes in the activity levels such as, fixed cost, variable cost and semi-variable cost. Accordingly, costs are -

   a. **Fixed cost -** Fixed costs are costs which do not vary with the change in the volume of activity.

   b. **Variable cost -** Variable costs are the cost which tends to directly vary with the volume of activity.

   c. **Semi variable cost -** Semi Variable Costs are the costs that contain both fixed and variable elements. They partly change with the change in the level of activity.

5. **Classification by nature of production or operation process (para 6.5) -** Costs shall also be classified on the basis of nature of production or operation process. Operation Cost shall be the cost a specific operation involved in production of goods or rendering of services. Accordingly, costs are -

   a. Job cost

   b. Batch cost shall be the aggregate cost related to a cost unit which consist of a group of similar articles or services which maintain its identity throughout one or more stages of production or operation.

   c. Contract cost shall be the cost of a contract agreed upon between the contractee and the contractor.

   d. Process cost shall be the cost of production or operation process where goods are produced or services rendered from a sequence of continuous or repetitive operations or processes during a period.

   e. Joint costs are the costs of common resources used for producing two or more products or rendering two or more services simultaneously

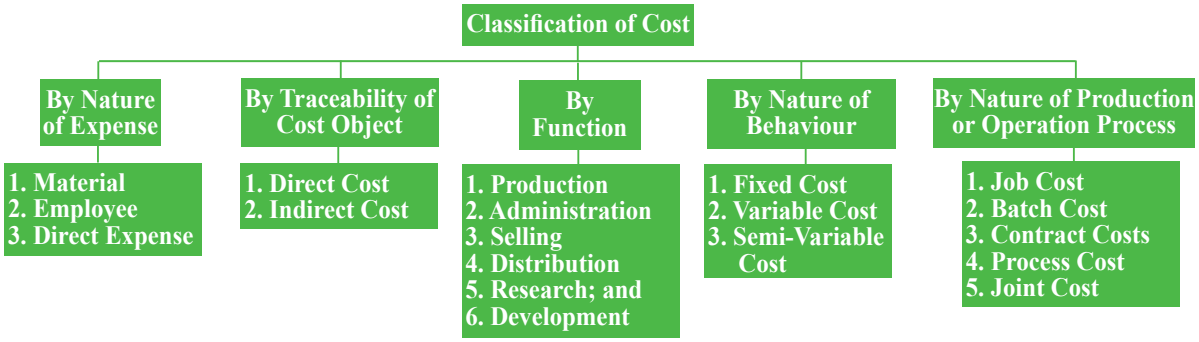

Figure 4.1: Classification of Cost (as per CAS 1)

Ascertainment of Cost and Preparation of Statement of Cost and Profit (Cost Sheet)

4.5

4.5.1 Elements of Cost

Mere knowledge of total cost cannot satisfy the needs of management. For proper control and managerial decisions, management is to be provided with necessary data to analyse and classify costs. For this purpose, the total cost is analysed by elements of cost i.e., by the nature of expenses. Strictly speaking, there are three elements of cost - materials, labour and other expenses. These elements of cost are further analysed into different elements as illustrated in the following chart.

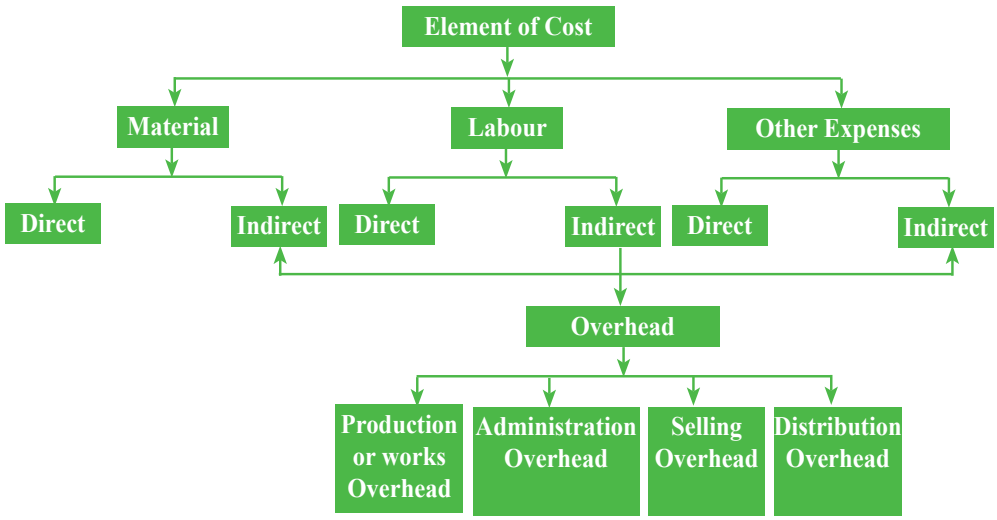

Figure 4.2: Elements of Cost

The above elements are discussed below.

1. **Direct Material**

   Direct materials are those materials which can be identified in the product and can be conveniently measured and directly charged to the product. These materials directly enter the production and form a part of the finished product. For example, timber in furniture making, cloth in dress making and bricks in building a house.

   Following are normally classified as direct materials:

   (i) All raw materials like jute in the manufacture of gunny bags, pig iron in foundry, and fruits in canning industry.

   (ii) Materials specifically purchased for a specific job, process or order like glue for book binding, starch powder for dressing yarn.

(iii) Parts or components purchased or produced like batteries for transistor- radios and tyres for cycles.

(iv) Primary packing materials like cartons, wrappings, cardboard boxes, etc. used to protect finished product from climatic conditions or for easy handling inside the factory.

From the above discussion it becomes clear that indirect materials are those materials which cannot be classified as direct materials. These are not traceable to the product. Examples of indirect materials are: consumables, like cotton waste, lubricants, brooms, rags, cleaning materials, materials for repairs and maintenance of fixed assets, high speed diesel used in power generators etc.

In some cases, though the material is a part of the finished product yet it is not treated as direct material; for example, sewing thread in dress making and nails in furniture making. This is because they are used in comparatively small quantities and it would be futile elaboration to make an analysis of them for the purpose of direct charge. Such materials are treated as indirect materials. Thus, it can be concluded that the ease and the feasibility with which a material can be traced into the composition of a finished product will determine what is to be treated as direct material.

2. Direct Labour

Direct labour is all labour costs expended in altering the construction, composition or condition of the product. In simple words, it is that labour which can be conveniently identified or attributed wholly to a particular job, product or process or expended in converting raw materials into finished goods. Wages of such labour are known as direct wages. Thus, it includes payment made to the following groups of labour.

(i) Labour engaged on the actual production of the product or carrying out of an operation or process.

(ii) Labour engaged in aiding the manufacture by way of supervision, maintenance, tools setting, transportation of material etc.

(iii) Inspectors, analysts etc, specially required for such production.

Wages paid to supervisors, inspectors, etc., though not direct labour, can be treated as direct labour if they are directly engaged on specific product or process and the hours they spend on it can be directly measured without much of an effort. Similarly, where the cost is not significant like the wages of trainees or apprentices, their labour, though directly spent on a product, is not treated as direct labour.

3. Direct Expenses (or chargeable expenses)

All expenses which can be identified to a particular cost centre and hence directly charged to the centre are known as direct expenses. In other words, all expenses (other than direct materials and direct labour) incurred specifically for a particular product, job, department etc. are called direct expenses. These are directly charged to the product. Examples of such expenses are royalty, excise duty, hire charges of a specific plant and equipment cost of any experimental work carried out specially for a particular job, travelling expenses incurred in connection with a particular contract or job etc.

4. Overheads

Overheads may be defined as the aggregate of the cost of indirect materials, indirect labour and such other expenses including services which cannot conveniently be charged to specific cost units. Thus, overheads are all expenses other than direct expenses. In general terms, overheads comprise all expenses incurred for or in connection with the general organization of the whole or part of the undertaking i.e., the cost of operating supplies and services used by the undertaking and including the maintenance of capital assets. The main groups into which overheads may be sub-divided are -

a. **Production overheads:** These are indirect costs involved in the production of a product or in rendering service. It is also called Factory Overheads, Works Overheads and Manufacturing Overheads. Production overheads include administration costs relating to production, factory, works or manufacturing.

b. **Administration overheads:** These are cost of all activities relating to general management and administration of an entity. Administrative overheads shall exclude production overheads, marketing overheads and interest and finance charges. Administrative overheads do not include administration cost relating to production, factory, works or manufacturing.

c. **Selling overheads:** Selling overheads are the expenses related to sale of products or services and include all indirect expenses incurred in selling the products or services.

d. **Distribution overheads:** Distribution overheads, also known as distribution costs, are the costs incurred in handling a product or service from the time it is ready for despatch or delivery until it reaches the ultimate consumer including the units receiving the product or service in an inter-unit transfer. The cost of any non-manufacturing operations such as packing, repacking and labelling at an intermediate storage location will be part of distribution cost. Examples are secondary packing, outward transportation cost, warehousing cost, cost of delivering the products to customers, clearing and forwarding charges, cost of mending or replacing packing materials at distribution point.

4.5.2 Preparation of Cost Sheet and Ascertainment of Profit

Concept of Cost Sheet

A cost sheet, also referred as statement of cost, is a statement that shows the various components of total cost for a product. The selling price (after adding certain percentage of profit to the cost) can be deduced for a product based on the cost sheet. It is the depiction of the cost accumulation process of a single output based on a single cost unit. An estimated cost sheet is prepared based on estimated cost just before the production begins. Under absorption costing system, direct material, direct labour, direct expenses, fixed and variable production overhead are considered as composing the factory (works) cost. Administrative overhead added to works cost gives the cost of production. Selling and distribution overhead adds to cost of production to give the cost of sales.

The term conversion cost is used to represent the cost of converting raw material into finished goods. Thus conversion cost is the sum of direct labour cost, direct expenses and production overhead. Cost sheet shows the operating results.

Advantages of Cost Sheet

Main advantages of a cost sheet are as under:

a. It discloses the total cost and the cost per unit of the units produced during the given period.

b. It enables a manufacturer to keep a close watch and control over the cost of production.

c. By providing a comparative study of the various elements of current cost with the past results and standard costs, it is possible to find out the causes of variations in cost and to eliminate the adverse factors and conditions which go to increase the total cost.

d. It acts as a guide to the manufacturer and help him in formulating a definite useful production policy.

e. It helps in fixing up the selling price more accurately.

f. It helps the business to submit quotations with reasonable degree of accuracy against tenders for the supply of goods.

- **Format of Cost Sheet**

Cost Sheet or Statement of Cost and Profit

Particulars	Amount (₹)	Amount (₹)
A. Direct Material		
Opening stock		
+ Purchases		
+ Carriage inwards		
- Closing stock		
B. Direct wages		
C. Direct Expenses		
I. Prime cost (A+B+C)		
D. Factory overheads-		
Indirect materials		
Loose tools		
Indirect wages		
Rent and rates (Factory)		
Lighting and heating (F)		
Power and fuel		
Repairs and Maintenance		
Drawing office expenses		
Research and experiment		
Depreciation – plant (F)		
Insurance – (F)		
Work manger's salary		
Add: Opening Work-in-progress		
Less: Closing Work-in-progress		
II. Factory cost/works cost (I+D)		
E. Office and Administrative Overheads		
Rent and rates – office		
Salaries – Office		
Insurance of office building and equipment		
Telephone and postage		
Printing and stationery		
Depreciation of furniture and office equipment		
Legal expenses		
Audit fees		
Bank charges		

III. Cost of production (II + E)		
Add:Opening Stock of Finished Goods		
Less:Closing Stock of Finished Goods		
IV. Cost of Goods Sold		
F. selling and distribution overheads		
Showroom rent and rates		
Sales men's salaries and commission		
Traveling expenses		
Printing and stationery – sales department		
Advertising		
Postage		
Collection expenses		
Carriage outward		
Depreciation of delivery van		
Samples and free gifts		
V. Cost of sales (IV+F)		
VI. Profits / loss		
VII. Sales (V + VI)		

Note: The following items are, however, not included in Cost Sheet.

a)	Income Tax
b)	Dividends to shareholders
c)	Premium on redemption of shares and debentures
d)	Capital losses i.e., loss out of sales
e)	Interest on loan or debentures or bank interest
f)	Donations
g)	Capital expenditure
h)	Discounts on shares and debentures
i)	Commission to managing directors
j)	Underwriting commission
k)	Writing off goodwill and preliminary expenses
l)	Reserve for bad debts
m)	Transfer to all reserves or appropriation of profits
n)	Share premium
o)	Interest on capital
p)	Drawing of proprietors
q)	All personal expenses of owner

Consider the following illustrations.

Illustration 1.

From the following information, find out purchases.

Raw material consumed = ₹26,500.

Closing Stock = ₹4,500

Opening Stock = ₹3,000

Solution:

We Know, Raw Material Consumed = Opening Stock + Purchases – Closing Stock.

Purchases = Raw Material Consumed + Closing Stock – Opening Stock

= ₹ (26,500 + 4,500 – 3,000)

= ₹ 28,000.

Illustration 2.

Prime Cost = ₹33,500, Depreciation = ₹1,500. Factory rent is 200% of Depreciation.

Find out the Factory Cost.

Solution:

Particulars	₹
Prime Cost	33,500
Add: Factory Overheads:	
Depreciation	1,500
Factory Rent (₹1,500 x 200%)	3,000
Factory Cost	38,000

Illustration 3.

Cost of Sales = ₹37,416. Advertisement Expenses = ₹600. Discount on sales = 50% of advertisement Expenses. Find Cost of Goods Sold.

Solution:

We Know, Cost of Goods Sold + Selling and Distribution Overheads = Cost of Sales.

Both Advertisement Expenses and Discount on sales together constitutes Selling and Distribution Overhead

Particulars	₹
Cost of Sales	37,416
Less: Selling and Distribution Overheads	
Advertisement Expenses	600
Discount on sales(50% of ₹600)	300
Cost of Goods Sold	36,516

Illustration 4.

Factory Cost is ₹3,95,000. Find Office and Administration overheads cost which is 7.315% of factory cost.

Solution:

Office and Administration Overheads = 7.315% of Factory Cost = 7.315% of ₹3,95,000 = ₹28,894.25.

Illustration 5.

Gross Factory Cost = ₹58,000. Net Factory Cost = ₹54,000.Opening stock of work-in- progress is ₹8,000. Find closing stock of work-in-progress.

Solution:

Net Factory Cost = Gross Factory Cost + Opening Stock in WIP – Closing Stock in WIP

₹54,000 = ₹58,000 + ₹8,000 – Closing Stock in WIP

Closing Stock in WIP = ₹66,000 - ₹54,000 = ₹12,000

Illustration 6.

Prime Cost is ₹41,000. Direct labour cost consists of skilled labour ₹6,000 and unskilled labour ₹2,000.Variable works overhead is 100% of direct wages and fixed works overhead is 60% of direct wages. Sale of scrap is ₹1,800. Find works cost.

Solution:

Particulars	₹
Prime Cost	41,000
Works Overhead:	
Add: Variable 100% direct wages	8,000
Add: Fixed 60% direct wages	4,800
Less: Sale of scrap	(1,800)
Works Cost	52,000

Illustration 7.

From the information, prepare a statement showing expenses which you would disregard in estimating costs. Rent, rates and insurance of office ₹2500, Bad Debt ₹200, Discount Allowed ₹300, Bank charges ₹100 and Donations ₹150.

Solution:

Expenses excluded from estimating cost	₹
Donations	150
Discount Allowed	300
Bad debt	200
Total	650

Illustration 8.

Calculate the amount of direct material if:

Prime cost = ₹50,000. Direct labour = 70% of prime cost.

Solution:

Prime Cost = ₹50,000.

Direct Labour = 70% of prime cost = 70% of ₹50,000 = ₹35,000.

Direct Material = ₹ (50,000 – 35,000) = ₹15,000.

Illustration 9.

Direct materials cost is ₹80,000. Direct labour cost is ₹ 60,000. Factory overhead is ₹ 90,000. Beginning goods in process were ₹ 15,000. The cost of goods manufactured is ₹ 2,45,000. What is the cost assigned to the ending goods in process?

Solution:

Particulars	₹
Direct Material	80,000
Direct Labour	60,000
Prime Cost	1,40,000
Add: Factory Overhead	90,000
Add: Opening WIP	15,000
Less: Closing WIP	-
Cost of goods manufactured (given)	2,45,000

As cost of goods manufactured is given as ₹2,45,000 so there will be no closing goods in process.

Illustration 10.

Given data that:

Finished goods Opening Inventory ₹ 30,000

Finished goods Closing Inventory ₹ 50,000

Cost of goods sold ₹ 1,90,000

What will be the value of Cost of Production?

Solution:

We Know, Cost of Goods Sold = Cost of Production + Opening stock of finished goods – Closing stock of finished goods.

Particulars	₹
Cost of Goods Sold	1,90,000
Add: Closing Stock of finished goods	50,000
Less: Opening stock of finished goods	(30,000)
Cost of Production	2,10,000

Illustration 11

Prepare a statement of cost from the following data to show material consumed, Prime cost, factory cost, Cost of goods sold and profit.

	1-1-2021 (₹)	31-12-2021 (₹)
Raw material	60,000	50,000
Work-in-progress	24,000	30,000
Finished goods	1,20,000	1,10,000
Purchase of materials during the year		9,00,000
Wages paid		5,00,000
Factory overheads		2,00,000
Administration overheads		50,000
Selling and distribution overheads		30,000
Sales		20,00,000

Solution:

Statement of Cost and Profit

Particulars	(₹)	(₹)
Opening stock of raw materials	60,000	
Add: purchase of raw materials	9,00,000	
	9,60,000	
Less: Closing stock of raw materials	50,000	
Materials consumed		9,10,000
Wages paid		5,00,000
Prime cost		14,10,000
Factory overheads		2,00,000
Add: opening stock or WIP		24,000
		16,34,000
Less: closing stock of WIP		30,000
Factory cost		16,04,000
Administrative overheads		50,000
Add: opening stock of finished goods		1,20,000
		17,74,000
Less: closing stock of finished goods		1,10,000
Cost of goods sold		16,64,000
Selling and distribution overheads		30,000
Cost of sales		16,94,000
Profit		3,06,000
Sales		20,00,000

Illustration 12.

From the following particulars, prepare cost statement showing the component of total cost and the profit for the year ended 31st December, 2023.

Particulars	1-1-2023 (₹)	Particulars	31-12-2023 (₹)
Stock of finished goods	6,000	Stock of finished goods	15,000
Stock of raw materials	40,000	Stock of raw material	50,000
Work-in-progress	15,000	Work-in-progress	10,000
Purchase of raw materials	4,75,000	General expenses	32,500
Carriage inward	12,500	sales for the year	8,60,000
Wages	1,75,000	Income tax	500
Works manager's salary	30,000	Dividend	1,000
Factory employees salaries	60,000	Debenture interest	5,000
Factory rent, taxes and Insurance	7,250	transfer to sinking fund for	
replacement of machinery	10,000		
Power expenses	9,500	goodwill written off	10,000
Other production expenses	43,000	payment of sales tax	
		Selling expenses	9,250

Solution:

Statement of Cost and Profit

Particulars	₹	₹
Opening stock of raw materials	40,000	
Add: purchase of raw materials	4,75,000	
	5,15,000	
Less: closing stock of raw materials	50,000	
	4,65,000	
Add: Carriage inward	12,500	
Materials consumed		4,77,500
Wages		1,75,000
Prime cost		6,52,500
Factory expenses:		
Works manager's salary	30,000	
Factory employees salaries	60,000	
Factory rent, taxes and insurance	7,250	
Power expenses	9,500	
Other production expenses	43,000	
Opening work-in-progress	15,000	1,64,750
		8,17,250

Less: closing work-in-progress		10,000
Works cost		8,07,250
General expenses		32,500
Cost of production		8,39,750
Add: opening stock of finished goods		6,000
		8,45,750
Less: opening stock of finished goods		15,000
Cost of goods sold		8,30,750
Selling expenses		9,250
Cost of sales		8,40,000
Profit		20,000
Sales		8,60,000

Illustration 13.

Mr. Gopal furnishes the following data relating to the manufacture of a standard product during the month of April, 2023:

Raw materials consumed	₹ 15,000
Direct labour charges	₹ 9,000
Machine hours worked	900
Machine hour rate	5
Administrative overheads	20% on works cost
Selling overheads	₹ 0.50 per unit
Units produced	17,100
Units sold	16,000 at ₹ 4 per unit.

You are required to prepare a cost sheet from the above, showing: (a) the cost per unit (b) profit per unit sold and profit for the period.

Solution:

Statement of Cost

	Total (₹)	Per unit
Raw materials consumed	15,000	
Direct labour charges	9,000	
Prime cost	24,000	
Factory expenses (900 hrs, @ ₹ 5 per hr)	4,500	
Works cost	28,500	
Administrative overheads (20% on works cost)	5,700	
Cost of production	34,200	₹ 2.00 (₹34,200 ÷ 17,100)

Statement of Profit

	(₹)
Cost of production of 16,000 units @ ₹ 2 per unit	32,000
Selling overheads @ 50 paise per unit for 16,000 units	8,000
Cost of sales	40,000
Profit for the period	24,000
Sales (16,000 units @ ₹ 4 unit)	64,000
Profit per unit sold = $\frac{24,000}{16,000}$ = ₹1.50	

Exercise

A. Theoretical Questions

⊙ Multiple Choice Questions (MCQ)

1. The total cost incurred in the operation of a business undertaking other than the cost of manufacturing and production is known as:
   (a) direct cost
   (b) Variable cost
   (c) commercial cost
   (d) conversion cost
2. Which of the following is not a relevant cost?
   (a) Replacement cost
   (b) Sunk cost
   (c) Marginal cost
   (d) standard cost
3. Process cost is very much applicable in:
   (a) construction industry
   (b) pharmaceutical industry
   (c) Air line company
   (d) none of these
4. The main purpose of cost accounting is to:
   (a) maximize profits,
   (b) help in inventory valuation
   (c) provide information to management for decision making
   (d) Aid in the fixation of selling price
5. Opportunity cost is the best example of:
   (a) sunk cost
   (b) Standard cost
   (c) relevant cost
   (d) irrelevant cost
6. Costs are classified into fixed costs, variable costs and semi-variable costs, it is known as
   (a) functional classification
   (b) behavioral classification
   (c) element wise classification
   (d) classification according to controllability
7. Which method of costing is used for determination of costs for printing industry?
   (a) process costing
   (b) operating costing

(c) batch costing

(d) job costing

8. Over which of the following costs, management is likely to have least control

(a) wages cost

(b) building insurance cost

(c) machinery breakdown cost

(d) advertisement cost

9. Variable costs are fixed

(a) for a period

(b) per unit

(c) depends upon the entity

(d) for a particular process of production

10. In behavioral analysis', costs are divided into

(a) production and non-production costs

(b) controllable and non-controllable costs

(c) direct and indirect costs

(d) fixed and variable costs

11. Prime cost plus factory overheads is known as

(a) factory on cost

(b) conversion cost

(c) factory cost

(d) marginal cost

12. Which of the following items is excluded from cost Accounts?

(a) Income tax

(b) interest on debentures

(c) cash discount

(d) All of these

13. The following is included in financial accounts, but not in cost accounts.

(a) carriage and freight

(b) Excise duty

(c) Royalty

(d) Dividend paid

14. Advertisements are treated as

(a) direct expenses

(b) cost of production

(c) selling overheads

(d) distribution overheads

15. Which cost system description applies to the manufacture of 20 engraved doors for the new club house at a golf course?
    (a) contract
    (b) process
    (c) Batch
    (d) service
16. Prime cost may be correctly termed as
    (a) the sum of direct material and labour cost with all other costs excluded.
    (b) the total of all cost items which can be directly charged to product units.
    (c) The total costs incurred in producing a finished unit.
    (d) the sum of the large cost there in a product cost.
17. The guidance and regulation by executive action of the cost of operating an undertaking is said to be
    (a) Budgetary control
    (b) cost control
    (c) cost analysis
    (d) None
18. Direct expenses are also known as
    (a) Overhead expenses
    (b) process expenses
    (c) chargeable expenses
    (d) None
19. Indirect material cost is a part of
    (a) Prime cost
    (b) Factory overhead
    (c) chargeable expenses
    (d) None of these
20. Which of the following is a part of both Prime cost and conversion cost
    (a) Direct Material
    (b) Indirect Labour
    (c) Indirect Material
    (d) Direct Labour
21. Statement showing break-up of costs is known as
    (a) cost-sheet
    (b) statement of profit
    (c) production account
    (d) Tender
22. The works cost plus administration expenses

(a) Total Cost
(b) Cost of production
(c) cost of sales
(d) Factory cost

23. Directors remuneration and expenses form a part of
(a) Production overhead
(b) Administration overhead
(c) Selling overhead
(d)Distribution overhead

24. Cost reduction is
(a) Long term phenomena
(b) It challenges the standards
(c) It is carried out without compromising the quality
(d) All of the above

25. Interest on own capital is
(a) Cash cost
(b) Notional cost
(c) Sunk cost
(d) Part of Prime Cost

State True or False

1. Process costing method is suitable for coal industry
2. Fixed cost per unit remains fixed but variable cost per unit vary with variation in output
3. Financial accounts provide information for determination of profit or loss
4. Cost accounts provide information for ascertainment of the financial position as on a particular date
5. Cost accounting is an instrument of management control
6. Service costing is used in industries producing goods
7. In construction industry, contract costing is used
8. The process of finding cost is costing
9. Depreciation is an out of pocket cost
10. Variable cost per unit varies with increase or decrease in volume of output
11. All costs are controllable
12. Cash discount is excluded from cost sheet
13. Finance expenses are included in cost sheet
14. Discount to customer comes under “distribution cost”
15. Variable overhead cost is a period cost
16. In the cement industries the unit of cost is per tonne

17. Scrap is a residue which comes out of a manufacturing process but has no recoverable value
18. Contract costing us a basic method is specific order costing
19. All the indirect cost related to indirect material, Indirect labour and indirect expenses are termed as overheads
20. Direct wages is a variable cost
21. Historical costs are relevant costs for decision making
22. Contract costing is based on job costing principles
23. Cost accounting is an instrument of management control.
24. Abnormal cost is controllable
25. Fixed cost per unit decreases with rise in output and increases with fall in output

Fill in the Blanks

1. Costing is a technique of __
2. Cost accountancy is the science, art and ___ if a cost accountant.
3. Cost accounting serves the information needs of ____
4. Cost accounting provides data for ____ decision making.
5. Cost accounting has been developed because of ____of financial accounting.
6. The method of costing used in a refinery is ___
7. For the goods Transport Company ___ is the suitable cost unit.
8. The cost which does not change due to change in volume of production is called ___
9. The semi- finished goods is also known as ____in cost accounting.
10. An item of cost that is direct for the business may be ____for another business.
11. The total of all direct expenses is known as _____
12. All costs are ___controllable
13. The aggregate of indirect material indirect labour and indirect expenses together is called ___
14. Factory overheads are also know as ____overheads.
15. Chargeable expenses are an example ___cost.
16. ____cost are cost which are ascertained after they have been incurred.
17. Any expenditure over and above prime cost is known as ___
18. In ___the cost of a group of products is ascertained.
19. Cost accounting is a separate ___of accounting.
20. In automobile industry cost unit is ___
21. ____costs are partly fixed and partly variable in relation to output.
22. Fixed cost per unit ____with increasing output.
23. Wages of delivery van driver is a ___
24. Cost accounting deal partly with facts and figures and partly with ____
25. Cost accountant provides the detailed information about ____ of various products, processes services and operations.

B. Numerical Questions

⊙ Comprehensive Numerical Problems

1. The following data relate to the manufacture of a standard product during the month of March, 2023.

Raw materials	80,000
Direct wages	48,000
Machine hours worked	8,000
Office overhead	10% on works cost
Machine hour rate	₹ 4
Selling overhead	₹ 1.50 p unit
Units produced	4,000
and sold @ ₹ 50 each	3,600

Prepare cost sheet

You are require to find out from the above showing a) Cost of Production per unit b) Profit per unit sold and profit for the period.

Ans: (a) ₹44 per unit (b) ₹4.5 per unit, Profit ₹16,200

2. From the following particulars prepare a cost sheet showing the total cost per tone for the period ended 31st Dec. 2023.

Particulars	₹	Particulars	₹
Raw Materials	33,000	Rent and taxes (office)	500
Productive wages	38,000	Water supply (works)	1,200
Unproductive wages	10,500	Factory insurance	1,100
Factory rent and taxes	7,500	Office insurance	500
Factory lighting	2,200	Legal expenses	400
Factory heating	1,500	Rent of warehouse	300
Motive power	4,400	Depreciation of	
Haulage (works)	3,000	-Plant and machinery	2,000
Directors fees (works)	1,000	-Office building	1,000
Directors fees (office)	2,000	- Delivery vans	200
Factory cleaning	500	Bad debts	100
Sundry office expenses	200	Advertising	300
Estimating expenses(works)	800	Sales department's salaries	1,500
Factory stationery	750	Upkeep of delivery vans	700
Office stationery	900	Bank charges	50
Loose tools written off	600	Commission on sales	1,500

The total output for the period has been 14,775 tonnes

Ans: Prime Cost ₹71,000, Factory Cost ₹1,08,050, Cost of Production ₹1,13,600, Total Cost ₹1,18,100, Cost per ton ₹8/-

Answer:

Multiple Choice Questions (MCQ)

1.	2	3	4	5	6	7	8	9	10	11	12	13	14	15
c	b	b	c	c	b	d	c	b	d	c	d	d	c	c
16	17	18	19	20	21	22	23	24	25					
a	b	c	b	d	a	b	b	d	b					

State True or False

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
F	F	T	F	T	F	T	T	F	F	F	T	F	F	F
16	17	18	19	20	21	22	23	24	25					
T	F	T	T	T	F	T	T	F	T					

Fill in the Blanks

1	ascertaining cost	2	practice
3	Management	4	managerial
5	Limitations	6	process
7	per ton km	8	fixed cost
9	work-in-progress	10	indirect
11	prime cost	12	not
13	overheads	14	works
15	direct	16	Historical
17	overheads	18	Batch Costing
19	branch	20	number
21	Semi variable	22	decreases
23	Distribution Overhead	24	estimates
25	costs		