

ELEMENTS OF COSTING

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[1] INTRODUCTION :

There has been tremendously fast development in the accounting world, in keeping pace with the unprecedented growth in trade and industry. The role of accountant has therefore undergone a revolutionary change. The function of traditional accountant was to record the business transactions in the books of accounts and to prepare income statement as well as balance sheet at the end of financial year. The modern business is not satisfied with this task and makes a heavy demand on the accountant. The Accountant is called upon to aid the management in planning and taking policy decisions. He is required to present his accounting information showing what is the cost of production and what should be the cost of production. The management cannot take important decisions arbitrarily, but has to base his decisions on the facts and figures. Management is interested to know (i) What is the cost of production per unit, (ii) What should be the proper selling price, (iii) Whether the cost incurred is proper and reasonable, (iv) Whether it is possible to reduce cost of production without sacrificing efficiency and so on.

Financial Accounting fails to provide answer to any of these questions. Only Cost Accounting will provide necessary information to answer all these questions.

Cost Accounting has developed out of the limitations of financial accounting. Cost Accounting tells the management about cost of production per unit of each product manufactured. This would form the base of fixing the selling price. No businessman can afford to charge a price having no relation to the cost of production. Too high a price would drive away the customers to competitors and too low a price would involve the producer into losses. In either case, he would find himself out of business.

A businessman ought to constantly strive for improving efficiency and achieving economy, if he wants to withstand the cut-throat competition of the modern age. Here comes Cost Accounting to his aid. Cost Accounting shows him not only the cost of production but also analyses the cost and shows how this cost is made up. It would disclose the areas of wastage and unprofitable products, processes etc. The management would be able to take corrective actions and achieve economy.

Introduction of Cost Accounting would involve additional expenditure, but it would not reduce the overall profit. It would effect economies by avoiding wastages. It is equally beneficial in depression and prosperity. If Cost Accounting is ignored in a boom period, the management remains in dark as regards the wastages and this would not allow the business to reap the full benefits of prosperity. In times of depression, the cost accounts would guide the management with respect to the minimum price that should be charged, which very often is below even the total cost.

The Cost Accounting has thus fulfilled the need of the modern age.

[2] DEFINITION OF COST ACCOUNTING :

Cost Accounting is a system of accounting which helps in determining cost of production of goods or services with reasonable accuracy, and also tells us how this cost is made up. Let us examine some definitions given by learned writers on the subject :

(1) **W. W. Bigg** : 'Cost Accounting is the provision of such analysis and classification of expenditure as will enable the total cost of any particular unit of production to be ascertained with reasonable degree of accuracy and at the same time to disclose exactly how such total cost is constituted'.

(2) **Prof. Van Sickle** : 'Cost Accounting is the science of recording and presenting business transactions pertaining to the production of goods and services, whereby these records become a method of measurement and a means of control'.

(3) **Harold J. Wheldon** : 'Costing is the classifying, recording and appropriate allocation of expenditure for the determination of the cost of products or services; and for the presentation of suitably arranged data for the purpose of control and guidance of the management. It includes the ascertainment of the cost of every order, job, contract, process or service or unit as may be appropriate. It deals with cost of production, selling and distribution.'

The analysis of the definitions disclose the following features of cost accounting :

- (1) The main object of cost accounting is to ascertain the cost per unit of goods produced or services rendered.
- (2) It aims at providing data to the management in a manner that would guide them in making decisions. The important policy decisions relating to fixation of selling price, make or buy decision etc. are based on costing data.
- (3) The expenses are analysed in a manner that would give details about the expenses of each department, product etc.
- (4) Expenses are recorded in accordance with the predetermined classification and then allocated to different departments, processes and products.
- (5) It is useful to control the cost of production, in addition to determining the cost.
- (6) Cost accounts is concerned with the expenses relating to the production of goods and services.

[3] OBJECTIVES OF COST ACCOUNTING :

There are a number of objectives with which cost accounts are prepared. Some of them are as follows :

- (1) The main object is to ascertain the cost of production of different products or services. In fact, cost accounting was developed to ascertain the cost.
- (2) It is used to determine cost of each process or operation separately and to find out which processes or departments are working efficiently and which require some corrective actions.
- (3) It also discloses the profitability of various products, on the basis of which the management takes decision whether it is necessary production of a particular product.
- (4) It provides data to the management for taking various managerial decisions. Particularly, the marginal costing is very useful in taking many important managerial decisions.
- (5) It provides useful information on receipts, issues, wastages, stocks of various types of raw materials, work-in-progress and finished goods and thus helps in inventory control, so that wastage is reduced and capital locked up in inventories is minimised.
- (6) The cost accountant organises an effective information system, so that managers at different levels get proper guidance in controlling costs.
- (7) It helps considerably in reducing wastage by providing wastage reports of different departments by different elements of cost.
- (8) The cost audit is conducted as a part of cost accounting programme which helps in detection and prevention of frauds, misappropriations etc.
- (9) Cost accounting has a great value in determining the selling price of each product or service. One of the main bases of determining selling price of a product or service is the cost of production.

[4] COST ACCOUNTING VS. FINANCIAL ACCOUNTING :

In order to properly appreciate the scope of cost accounting it would be interesting to make a comparative study of cost accounting and financial accounting. Both are written from the same basic records. Financial accounting is concerned with recording of transactions in the books of accounts and preparing therefrom the financial statements showing the trading results of business and its state of affairs at the end of period. Cost Accounts is concerned with keeping records in such a way as to disclose the cost of manufacture of products or of rendering a service.

(1) Product-wise Incomes and Expenses : Financial accounts reveal the profit or loss of a business as a whole for a particular period. It cannot disclose the profit or loss of various products, departments or activities. The cost accounts make up the deficiency. It will show the profit or loss made on each product or department, and will distinguish profitable activities from unprofitable ones.

For example, the financial accounts show the total profit of Rs. 2,00,000. The business manufactures three products A, B and C. Cost accounts will reveal the profit or loss made on three individual products. Suppose it shows that there is a profit of Rs. 3,00,000 on product A, a loss of Rs. 2,00,000 on B and a profit of Rs. 1,00,000 on product C. If this information is not available, the management would continue to manufacture all these three items, assuming that all the three products are earning profit. This is not desirable from the viewpoint of maximisation of profit. The cost accounts would suggest that manufacturing of product B should be discontinued, so that the overall profit would be Rs. 4,00,000 instead of present figure of Rs. 2,00,000.

(2) Causes of Profit & Loss : The financial accounts do not disclose the causes of fluctuations in the profit or loss. Such an analysis is provided by cost accounts only. The areas of wastage are located, the weak links in the chain are highlighted and corrective steps are taken to set the matter right, leading to maximum efficiency.

(3) Guide to Fixing Selling Price : Financial accounts are useless as a guide in fixing selling price, as it shows only total expenses and incomes. No analysis of expenses or incomes relating to a particular or specific product is available. On the other hand, the main aim of cost accounts is to provide this information.

(4) Useful to Service Organisations : It is not true that cost accounts is useful in manufacturing organisations only. It is useful in any organisation wherever money is being spent e.g. it is useful to service industries like banks, insurance companies etc. in removing unnecessary expenses and wastages and helps in making each activity profitable.

(5) Guide to Price Reduction : Financial accounts fail to guide the management in depression, as to the extent to which price can be reduced.

The marginal costing aids the management in this respect and indicates the lowest level to which prices can be brought down and face the competition.

(6) **Useful in Managerial Decision-making** : The purpose of financial accounts is to safeguard the interest of the business and its proprietor, for which it provides information in the form of Profit and Loss Account and Balance Sheet. It does not help management in taking many important policy decisions involving financial considerations.

The cost accounts would tell the management whether it would be profitable to instal a machine to replace manual labour, what would be consequences of increase in wage rates, with what efficiency men, materials and machines are utilised and so on.

(7) **Useful in Identifying Wastage** : It is not possible to ascertain any losses and wastages in materials, labour and plant facilities with the help of Financial Accounting only. The Cost Accounts would help the management in identifying such wastages and losses.

(8) **Useful in Controlling Cost** : Financial accounting is concerned with historical reporting i.e. reporting the events which had taken place during the year. However, in Cost Accounts expenses are pre-determined before they are actually incurred. This would help in controlling the expenses.

(9) **Accounts Format** : The business and industries are carried on mostly by joint stock companies. There are provisions as regards keeping financial accounts for companies in the Companies Act. While cost accounts are voluntarily prepared and there is no detailed provisions about it in Companies Act. Now however, the Indian Companies Act provides for maintaining cost accounts for certain types of companies.

(10) **Which Transactions** : In financial accounts, the transactions are outside transactions i.e. they relate to companies on one hand and the outsiders on the other hand. In cost accounts mostly internal transactions are recorded e.g. what quantity of raw materials was issued, how much wages are paid etc.

In financial accounts, only monetary transactions are recorded, while in cost accounts even non-monetary transactions are also recorded. e.g. how many units are produced.

(11) **Period** : Financial accounts are generally prepared at the end of the financial year, while in cost accounts various reports and statements are prepared as and when needed by the management. It has no restriction of annual accounts.

(12) **Stock Valuation** : In Financial Accounts, stock is valued at cost or market price, whichever is lower, while in Cost Accounts, stock is always valued at cost.

[5] **ADVANTAGES OF COSTING :**

An efficient cost accounting system installed in accordance with the requirement of business has manifold advantages, some of which are enumerated below :

(1) ~~Ascertaining Cost~~ : Cost of production of each unit of goods or service can be exactly ascertained with the help of cost accounts. It is possible to know the exact expenditure on each element of cost.

(2) ~~Price Fixation~~ : Since cost accounts provide information relating to exact cost of production, it facilitates the work of price fixation considerably. Cost of production is perhaps the most important factor affecting the price.

(3) ~~Preparing Tenders~~ : Tenders have to be prepared on the basis of reliable information provided by the costing records. If proper price for tenders is determined, it reduces the chances of tender being rejected or the loss being incurred due to unduly low quotation.

(4) ~~Eliminating Wastage~~ : Costing records do not only tell what the exact cost is, but it also shows what the cost should be. It throws light on the areas where wastages in materials, labour etc. occur, so that corrective steps can be taken to remove wastages and reduce cost.

(5) ~~Data for Comparison~~ : Costing data provide useful information for comparison purposes. Costing figures of the current month are compared with those of previous month or year and also with standards laid down for various expenses. The comparison so made provides management with data on the basis of which corrective steps can be taken for controlling wastages and inefficiency.

(6) ~~Locating Unprofitable Activities~~ : A costing system brings to light those activities which are not profitable, or which result into wastages. Comparison with standard and with figures of other units in the same industry helps in this matter and the coveted goal of maximisation of profit can be achieved.

(7) ~~Ascertaining Causes of Profit or Loss~~ : The financial accounts reveal the total profit or loss of business, whereas the cost accounts helps in ascertaining causes of profit or loss. For example, a department may be running into losses not because of high cost of production, but because the production may be much below the capacity. This information is revealed only by cost accounts.

(8) ~~Benefits Whole Industry~~ : Uniform costing principles may be adopted by all units of the same industry. All units may send their costing data to the central office, without disclosing the name of the business unit. The information so available is extremely useful in improving overall efficiency of the whole industry.

(9) ~~Information for Decision-making~~ : Cost accounts furnish information to the management which would help management in taking important decisions and formulating operating policies such as :

- (i) Determination of cost-volume-profit relationship.
- (ii) Whether to shut down or operate at a loss.
- (iii) Whether to make or buy from outside suppliers.
- (iv) Whether to produce by means of manual labour or instal machine or continue with old and existing machinery or to replace them by improved and economic one.

[6] LIMITATIONS OF COST ACCOUNTING :

There are certain limitations of cost accounting. Below are listed some of the arguments against cost accounting :

(1) ~~It is unnecessary~~ in the sense that trade and industry have developed in the past without the aid of cost accounting. The argument shows the ignorance of the benefits of cost accounting, particularly in the context of the present-day cut-throat competition. The selling price should neither be too high so as to drive away customers, nor too low to incur losses. It is here that the cost accounting helps the management in arriving at the correct selling price. Secondly, cost accounts are necessary to effect economies, avoid wastages etc. which help to reduce the cost. Hence cost consciousness must be cultivated by all industrial enterprises, if they want to survive and prosper in cut throat competition.

(2) ~~Expensive~~ : Another important argument against costing is that **it is expensive**. Again this argument does not stand the test of logic. Expenses do increase when a costing system is introduced. But the benefits available would far exceed the cost of introducing and operating the system. If the peculiar problems of business are studied in detail and advice and assistance of technical staff is obtained, then it would not be expensive, but would prove to be a profitable investment.

(3) ~~Complicated~~ : A costing system is complicated and not easily understood by the common man. An average employee does not understand the cost accounts and hence, the system would not prove to be profitable. However, it must be said that this difficulty can be easily removed if only proper training is given to employees before introducing the system and the forms and statements are designed as simple as possible.

(4) ~~The system is of no use to a monopolist~~, as he does not have to fix his selling price on the basis of cost of production. He is free to charge his monopolistic price. It is argued against this that a monopolist has also certain limitations and if he raises his price beyond a particular level, there would be a tendency to replace his products by substitutes.

(5) ~~The cost arrived at by a cost system is not exact~~ and it includes a number of estimates e.g., allocations of overheads to cost units is always arbitrary. Use of standard cost method is based on estimates. Thus costing information presented is never absolutely true facts.

The above arguments are all untenable and does not necessarily disclose the inherent weakness of the system. If is the improper use of the system. Cost accounting is a tool in the hands of management. If it is not properly and cautiously utilised, the system is not to be blamed. Most of the arguments against the introduction of cost accounting arise out of ignorance of or prejudice against cost accounting. If one studies the benefits of cost accountancy, one would be convinced that the system is extremely beneficial if properly used.

171 COST CLASSIFICATION :

The costs are classified into various categories according to their characteristics. Generally costs are classified as follows :

- (1) According to Elements of Cost
- (2) According to Functions or Operations
- (3) According to Nature or Behaviour
- (4) According to Time
- (5) According to Period or Product
- (6) According to Managerial Decision-making.

We discuss each of them in detail :

A. Classification According to Elements :

According to the elements of which cost is made up, they are classified into two groups : (1) Direct Cost and (2) Indirect Cost.

(1) Direct Costs : Those expenses which are directly incurred for production and which can directly, specifically and conveniently be identified with a particular job, process or unit of product are known as direct costs. Direct materials, direct labour and other direct expenses can be directly identified with a unit of cost or with a cost centre and can be directly charged to its cost e.g. wood used in making wooden furniture, yarn used in weaving cloth, wages paid to the weaver etc. are direct expenses. Such cost is also called "traceable cost".

(2) Indirect Costs : Indirect expenses or overheads are those expenses which cannot be charged directly to a cost unit, but which are to be allocated to a job, process or a unit of product. They are known as common costs. Such expenses are incurred not for a particular job or a unit but are incurred for the whole department or whole business unit e.g. factory rent, indirect materials, indirect wages or other indirect expenses. All indirect expenses are overheads which are not directly attributable to production but are to be allocated to the job or process on some reasonable basis.

The cost is divided into direct cost and indirect cost, because it would help in preparing proper cost accounts, costs can be controlled and can be helpful to management in their decision-making function. In the modern age of fast technological development like large scale use of computer, use of robots etc. the proportion of direct cost is decreasing and that of indirect cost is increasing fast. Hence the question of allocating indirect expenses requires serious thinking.

(A) Direct Expenses :

Direct expenses are those which can be conveniently charged direct to specific cost units. Direct expenses may be sub-divided as (1) Direct material (2) Direct labour and (3) Other direct expenses.

(1) Direct Material : It is the material of which the article is made and which can be charged directly to specific cost unit.

"Direct material is all material that becomes a part of the product, the costs of which are directly charged as part of prime cost. In other words, it is material which can be measured and charged directly to the cost of product." – Wheldon

The timber used in making wooden furniture, the leather used in making shoes, cotton yarn used in manufacturing cotton cloth are examples of direct materials. But sometimes, materials of small value are treated as indirect material because it would be inconvenient and also expensive to analyse the cost of such materials and allocate it to each unit of product. e.g. Thread required to manufacture shoes. It will be ridiculous to find out cost per unit of thread required for preparing shoes.

(2) Direct Labour : It is that labour which is used for the manufacture of specific article, process, job or contract, which works on the product properly and which may be measured and charged on particular units. "Direct Labour is all labour expended in altering the construction, composition, conformation or condition of the product." – Wheldon

Wages paid to carpenter making furniture, wages paid to shoe-maker making shoes or wages paid to weaver weaving the cloth are the examples of direct labour.

(3) Direct Expenses : "It includes any expenditure other than direct material or direct labour incurred on a specific cost unit." – Wheldon

It includes (i) hire of special tools or equipment for a particular order or product, (ii) cost of special design or moulds, (iii) experimental cost of any particular order etc. In construction of building, roads etc. cost of special plant and tools, cost of preparing plan or design or maps are other direct expenses which can be charged directly to the cost of the building, roads etc.

(B) Indirect Expenses or Overhead :

"Overhead is the term generally applied to those charges which cannot be traced directly to a particular unit of output." – Blocker & Weltmor

Indirect expenses or overhead expenses are those which cannot be charged directly to a cost unit, e.g. factory rent is an indirect expenditure as it is not incurred for a particular product or job but it relates to all products manufactured or jobs executed in a factory.

The following expenses are usually considered as overhead charges :

(a) Indirect material : It consists of material which does not form part of the product but it is used for the purpose ancillary to production.

(i) It is the material required for the operating and maintaining plant and equipments known as consumable stores such as cotton waste, oil and grease.

belts etc. (ii) It consists of stores used by service departments like powerhouse, canteen etc. (iii) Material which due to their cost being small, not considered as direct material, e.g. thread used in stitching shoes.

(b) **Indirect labour** : Wages and salaries paid to various persons who are not directly engaged in production e.g. Salary of works manager, supervisor, foremen, store-keeper, sweeper and gate-keeper of the factory, and salaries and wages to various persons engaged in service departments.

(c) **Other indirect expenses** : It includes power or fuel such as coal, gas, electricity, water etc., maintenance, repairs, renewals and depreciation of plant and machinery, various factory expenses such as factory rent, rates, insurance, lighting, heating etc.

Indirect or overhead expenses may be classified into three groups, viz.

- (1) Factory or Works Overhead
- (2) Office or Administrative Overhead
- (3) Selling and Distribution Overhead

B. Functional Classification :

Overheads are broadly classified into three groups on the basis of functions :

- (1) Factory Overheads (or Works Overhead or Production Overhead)
- (2) Administration Overheads. (or Office Overheads)
- (3) Selling and Distribution Overheads.
- (4) Research and Development Overheads.

The third category is further sub-divided into two parts viz. Selling Overheads and Distribution Overheads.

(1) Factory or Works Overhead :

The indirect expenses that arise in connection with manufacturing operations within the four walls of the factory are called factory overheads. The factory overheads are included to find out cost of goods produced because such expenditure will have to be incurred irrespective of whether goods produced are finished or not. e.g. factory rent, rates, lighting etc. which have to be paid.

The following are some of the expenses which are included under the head factory overheads :

- (1) Factory rent and rates (2) Factory lighting and heating (3) Factory canteen and welfare expenses (4) Store keeping and time keeping expenses (5) Salaries of works manager, supervisor etc. (6) Depreciation of plant and machinery (7) Repairs to plant and machinery (8) Power or fuel i.e. coal, gas, electricity, water etc. (9) Consumable stores like oil, grease etc. (10) Insurance of factory building, plant etc. (11) Cost of training new workers. (12) Cost of normal wastage of material and labour.

(2) Administration or Office Overheads :

Indirect expenses which arise in connection with management and administration of an enterprise are known as administration overhead. According to the definition given by English Institute, "Administration cost is the cost of formulating the policy, directing the organisation and controlling the operations of an undertaking, which is not related directly to production, selling, distribution, research or development activity or function." The following items of expenses fall in the category of administration overhead :

(1) Salaries of office staff (2) Office rent and rates (3) Depreciation of office building (4) Office lighting and heating (5) Insurance of office building and equipments (6) Telephone & Postage (7) Printing and Stationery (8) Audit fees (9) Legal charges (10) Director's fees.

(3) Selling and Distribution Overheads :

Selling and distribution expenses are incurred in connection with selling function, which includes the delivery of goods to the customers. In small organisations, where selling overhead forms a small portion of total expenses, they are included in administration overheads. However, in most of the organisations, they are quite large and must be separately dealt with. It may be interesting to distinguish between selling overhead and distribution overhead. The former is concerned with creating demand and securing orders whereas the latter is concerned with dispatching goods to the customers.

The usual items included in selling overheads are as follows :

(1) Advertising etc. (2) Catalogue, price lists etc. (3) Sales office expenses – Rent, rates, insurance, lighting etc. (4) Salaries, commission and travelling expenses of salesmen and agents. (5) Show-room expenses (6) Bad debts (7) Legal charges in connection with recovery of bad debts (8) Cash discount allowed.

The following expenses which are incurred from warehouse to destination of the consumers are considered as distribution overhead and such distribution expenses are as follows :

(1) Rent, rates and insurance of warehouse (2) Packing charges (3) Cost of up keep and maintenance of delivery van (4) Wages of warehouse keeper, packers and delivery staff etc. (5) Carriage and freight outward.

C. Behaviourwise Classification :

On the basis of variability, the overheads fall into two main groups :

- (i) Fixed Overheads
- (ii) Variable Overheads.

They behave in a particular way with regard to level of production. Hence, this classification is known as behaviourwise classification.

A third group may also be mentioned comprising overheads which are partly variable. They are known as semi-variable overheads.

(1) Fixed Overheads : These are expenses which are not affected by level of output, at least in the short run. They are known as fixed overheads. They do not change even when there are variations in volume of production. For example, manager's salary, rent, insurance premium etc. would not increase even when the production increases. It must be noted that fixed overheads do not remain fixed for ever. If there is a substantial expansion, the fixed expenses will definitely increase. These expenses are also termed as unavoidable expenses. Total fixed expenses are not affected by volume of output but per unit fixed expenses go on changing with change in volume of production.

Some items of fixed overheads are as follows :

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| (1) Rent and rates of factory and office | (6) Canteen expenses |
| (2) Manager's salary | (7) Interest on capital |
| (3) Insurance premium | (8) Legal charges |
| (4) Audit fees | (9) Office expenses |
| (5) Bank charges | (10) Salaries, pension charges etc. |

If volume of production increases, the per unit fixed costs will go down. If production volume decreases, per unit fixed costs will increase.

(2) Variable Overheads : There are certain expenses which vary directly with the volume of output. They are known as variable overheads.

There is a constant ratio between the volume of output and a change in the variable costs. When production volume is doubled, such costs are also doubled and when production is reduced to half, such costs are also reduced to half. Thus variable costs can be changed, by changing the volume of output. It must be remembered that per unit variable cost does not change, only the total variable costs change. This can be made clear from the following table :

Units of Production	Variable Cost per unit (Rs.)	Total Variable Cost (Rs.)	Total Fixed Cost (Rs.)	Per Unit Fixed Cost (Rs.)
1	8	8	48	48
2	8	16	48	24
3	8	24	48	16
4	8	32	48	12
5	8	40	48	9.60

(3) Semi-Variable Overheads : Expenses which change with the volume of output but not in direct proportion to it, are semi-variable overheads. Thus these expenses are partly fixed and partly variable. For example, telephone expenses are fixed upto a certain number of calls but they would increase in proportion to the number of calls made, after the

fixed limit is exceeded. Similarly depreciation charge is semi-variable because that part of it is fixed which is due to passage of time, but a part of it increases with the increase in the number of shifts.

D. Classification According to Time :

On the basis of time, costs are divided into two categories :
(1) Historical Costs (2) Pre-determined Costs.

(1) **Historical Costs** : The costs which are determined after they are incurred are called historical costs. Such costs can be determined only after production is completed. They are of no use for control purposes. Their characteristics are (1) They are based on recorded facts (2) They can be verified, as they are based on evidence (3) They are objective, because they are based on facts.

(2) **Pre-determined Costs** : The costs which are estimated and fixed before the production starts are called predetermined costs. Generally they are based on past experience. If they are fixed scientifically, they are known as standard costs. When such costs are compared with actual costs, 'variances' arise, which show the difference between the two and corrective measures can be taken to control variances and responsibility for variances can be fixed.

The historical costs and standard costs may be used simultaneously. Standard costs are useful for control purposes, as by comparing actual costs with standard costs, the variances are determined. The management is able to know the causes of difference and can take corrective measures to control such differences in future.

E. Classification According to Period or Product :

The costs are classified as (1) Product Costs and (2) Period Costs.

(1) **Product Costs** : They are those costs which are identified with the product and included in inventory values. In other words the production cost or cost of manufacturing or factory cost is product cost. Such cost consists of cost of direct materials, cost of direct labour, direct expenses and factory overheads. Until the goods are sold, such costs are included in the value of closing inventory and when they are sold, they are transferred to cost of goods sold account.

(2) **Period Costs** : These are the costs incurred on the basis of time and are not identified with product or job. They are deducted as expense of the period during which they are incurred. They are not included in inventory and are not carried forward. Such costs are necessary to generate revenue but are not directly connected with production. Both period cost in product cost affect the amount of net profit and so it is important to distinguish properly between them so as to determine net profit correctly. Generally it is believed that expenses upto production costs are considered as product costs and administrative and selling expenses are treated as period costs.

F. Classification for Managerial Decision-making :

The following costs are classified as costs useful for decision making.

(1) Marginal costs (2) Relevant costs (3) Differential costs (4) Sunk cost and (5) Opportunity cost.

(1) Marginal Cost : Marginal cost is that which includes only variable costs and does not include fixed costs. "At any given level of output, when an unit of product is added or deducted, the difference in the total cost is marginal cost". It is based on the distinction of fixed costs and variable costs. Marginal cost is based only on variable cost. Fixed costs do not change at least in short run. Hence, the management takes decisions on the basis of variable costs.

(2) Relevant Costs : Relevant Cost is any cost which is affected by a decision. While taking decision about selecting an alternative from three or four alternatives, there are certain costs which must be taken into consideration which are relevant costs. There are certain costs which are not necessary to be taken into consideration while selecting an alternative and they are called irrelevant costs. e.g. if a company closes down a branch, then staff salaries, wages, electricity, telephone charges etc. are stopped and are not to be paid. So they are relevant costs for taking a decision to close down a branch. But if a building has been taken on lease for the branch and lease rent has been paid in advance, then lease rent is irrelevant cost for taking a decision, because closing down or not closing down the branch has no effect on the amount of lease rent. It is already paid. Thus relevant cost is a cost but for which the decision would be different. Relevant costs are those expected future costs which are essential, but are different for different alternative courses of action. They draw the attention of managers to those elements of costs, which they must take into account to arrive at a decision.

(3) Differential Cost : The concept of differential cost plays an important role in decision-making. "It is a technique used in the preparation of data in which only cost and income difference between alternative courses of action are taken into consideration." When costs increase due to a particular decision, it is called 'Incremental Cost'. When the costs decrease due to a decision, it is called 'Decremental Cost'. But however, it is used in decisions relating to expansion or development, due to which the costs increase. Hence, the terms differential costs and incremental costs are used interchangeably. As Banerjee has put it "The increase or decrease in total costs at a particular level of activity with respect to another is known as differential costs. Differential costs are, therefore, obtained by subtracting the costs at one level from that at a higher level."

(4) Sunk Cost : The costs which have been incurred in the past and

which is irrecoverable in a given situation is a sunk cost or historical cost. Such costs include the future payments which are compulsorily to be made. Such costs are irrelevant for decision-making. It is already incurred and cannot be obtained back. For example, when a proposal for replacement of a machine is considered, the capital loss or depreciated book value of the machine is a sunk cost and is not to be taken into consideration, such costs have already been incurred in the past and has no relevance to the present decision.

(5) Opportunity Costs : Opportunity cost is a very useful concept in managerial decision-making. When a manager is considering two alternatives and selects one, he has thus foregone the income from the second alternative. Thus the income foregone from second alternative is the opportunity cost of the first alternative, which is selected.

Suppose the company is producing at present 1,00,000 units of A. But it has a surplus production capacity. It has two alternatives before it. It can increase the production of A by 50,000 units or produce 20,000 units of another item B, it decides to increase production of A, its net income from it will be Rs. 1,00,000 and if he decides to produce 20,000 units of B, its net income will be Rs. 70,000. Thus it decides to select the first alternative to increase the production of A. Now the income of B Rs. 70,000 which is foregone is the opportunity cost of production of additional 50,000 units of A. When the manager calculates the cost of additional 50,000 units of A, he has to consider this opportunity cost of Rs. 70,000.

[8]

COST CONCEPTS :

Imp Read

Some of the terms used in cost accounting have a particular meaning and they are used in that sense. Some of such concepts are as follows :

(1) Cost : In ordinary meaning, we mean by cost, the total amount of expenditure incurred in producing goods or services. Technically it is the amount of resources given up in exchange for some goods or services. In fact it is the sacrifice given to get something. When the value of these resources are expressed in monetary terms, it is called "Cost." The Institute of Certified Management Accountants has defined Cost as "the amount of expenditure (actual or notional) incurred on, or attributed to, a specified thing or activity."

The definition of "Cost" given by the American Accounting Association supports this viewpoint. They define cost as "the foregoing, in monetary terms, incurred or potentially to be incurred in the realisation of the objective of management, which may be manufacturing of a product or rendering of a service."

Cost is a general term and to know exactly what type of cost it is, it is necessary to qualify it by some adjective e.g. Factory Cost, Cost of Sales, Total Cost etc. Secondly, it must always be used in the context of the purpose for

which it is to be used. e.g. if the cost is to be determined for valuing work-in-progress, then Factory Cost must be ascertained. If it is to be used for valuing finished goods, the total cost must be found out. Thirdly, even if cost is to be used for the same purpose, it gets changed in different circumstances. e.g. if selling price is to be determined for production level of 5,000 units and if the production level is changed to 10,000 units and selling price is to be determined, there would be different cost.

(2) Cost Unit : The former Institute of Cost and Works Accountants of England (now CIMA) had defined 'Cost Unit' as a unit of quantity of product, service or time, in relation to which costs may be ascertained or expressed.

Thus cost unit is a device by which total cost is broken into smaller subdivisions. It is a base in terms of which costs are determined. For example, a metre of cloth, tonne of coal etc. are cost units. The selection of cost unit depends upon the types of business. In service units, the cost units are generally composite units e.g. passenger-kilometre.

(3) Cost Centre : For ascertaining cost of production, the business enterprise is divided into different units and cost is determined with reference to each such unit. Each of such units or sub-divisions is known as Cost Centre.

The English Institute has given the following definition of cost centre. It is a "location, person or item of equipment (or group of these) in or connected with an undertaking, in relation to which costs may be ascertained and used for the purpose of cost control."

Suppose, a business unit is divided into three departments and cost of each department is separately ascertained, then each department is the cost centre. It is a location with reference to which cost is determined. Similarly, costs may be ascertained, say, with regard to a group of operators. Here, a group of workers is a cost centre.

(4) Expense : Costs are of two types. Expired cost is known as an expense. Expenses are costs which are applied against revenue of a particular accounting period. e.g. salaries, rent which are paid or become payable are expenses and so they are called "Expired Costs." They are matched against the revenue of the period to which they relate.

(5) Loss : Loss is cost lost. It is a sacrifice against which there is no corresponding return. While cost is a sacrifice made to get some other value. e.g. Loss of property due to fire. In accounting language, if the expenses of a particular accounting period exceed the revenue earned, it is treated as Loss. Similarly if some fixed asset is sold and the value realised is less than its book value, then the difference is treated as a loss.

(6) Cost Driver : Cost driver is any factor that affects cost. If there is any change in cost driver, the total cost is also changed. e.g. the total number of units produced is a cost driver of total cost. Similarly, the number of customers, the number of advertisements, the number of salesmen, the number of set-ups are all cost drivers.

(7) **Conversion Cost** : Conversion cost is the total of all cost incurred on labour, direct expenses and factory overheads for converting raw materials into finished goods. In other words, we get conversion cost by deducting cost of raw materials purchased from the Factory Cost. Conversion cost does not include cost of raw materials, because they are purchased from outside.

(8) **Contribution** : The excess of selling price over variable or marginal cost is called "Contribution." e.g. if the selling price of a unit is Rs. 100 and if the variable cost incurred for producing it is Rs. 60, then the contribution is Rs. 40. In terms of percentage on sales, contribution is 40% (Rs. 40 on selling price of Rs. 100.)

[9] METHODS OF COSTING :

Several methods of costing are in use to suit the requirements of various business conditions. Of course, the basic principles underlying all these methods are the same. However, various methods of ascertaining cost per unit is selected according to the manufacturing operation or service rendered. The methods are as follows :

Unit Costing (Output or Single Costing) : The method of unit costing is applicable in a manufacturing unit, (i) where manufacturing is continuous and (ii) only a single product or two or more products of similar type are manufactured. (iii) all the units of the product are similar and (iv) the product can be measured in definite units. It is a system of costing in which the cost per unit of output is determined, showing each element of cost which constitute the total cost. A Cost sheet is prepared for a particular period (say a month) showing various elements of cost and the total cost which is divided by the number of units produced and it gives cost per unit. The method is generally used in collieries, brick-making, paper mills, dairies, cement industry etc.

Cost per unit = $\text{Total Cost} \div \text{Total No. of units}$

e.g. in a factory 1,000 bicycles were manufactured during June, 2007 and expenses incurred were as follows : Material Rs. 3,00,000, wages Rs. 4,00,000 and overhead Rs. 2,00,000. The cost per unit of bicycle can be determined as follows :

Cost Sheet (Production : 1,000 units)

Particulars	Total Rs.	Per unit Rs.
Material	3,00,000	300
Wages	4,00,000	400
Prime Cost	7,00,000	700
+ Overheads	2,00,000	200
Total Cost	9,00,000	900

(2) Job Costing : Job is a special work undertaken at the instance of a customer or for stock purpose. For example, printing of 5,000 copies of a book on behalf of a publisher, is a job for a printing press. The method of Job Costing is used in industries where the work is not of repetitive nature but undertaken on receiving orders from customers. The method of costing used to ascertain cost of a job or a specific order is known as Job Costing. In such industries, production is not only against customer's order but even against a stock order, i.e. producing for keeping stock, to be supplied when demanded. A distinct job number is given to each job, and a separate account opened for each job to which all expenses incurred on the job are debited. The method is used in printing industry, garages, foundries etc.

e.g in a printing press, a job of printing 5,000 titles of a book was accepted. The expenses incurred on the job were : Paper Rs. 10,000; Printing Rs. 15,000; Other expenses Rs. 5,000. If a profit of 25% is charges on the job, then a job cost statement will be prepared as follows :

	Rs.
Paper Cost	10,000
Printing	15,000
Other Expenses	5,000
	<u>30,000</u>
+ Profit 25%	7,500
Price quoted	<u>37,500</u>

(3) Contract or Terminal Costing : Another variant of Job Costing is known as Contract Costing, where building or construction contracts are carried out. A contract is only a big job. For example, the method of costing used to ascertain cost of constructing a building, a ship, a bridge or a specialised big machine is Contract Costing. All activities of the enterprise are directed towards one or few contracts; hence, it is comparatively simple to compile the cost of such contracts.

e.g. a company undertook a contract to construct a building. The work started on 1-4-2006 and contract was completed on 31-3-2007. The expenses on contract were as follows : Material Rs. 15,00,000; wages Rs. 30,00,000; depreciation on machinery Rs. 1,00,000; Rent of machine Rs. 20,000; Other expenses Rs. 5,00,000; Contract Rs. 60,00,000.

Under this method contract account for each contract is separately opened and so the Contract A/c will be prepared as follws :

Contract A/c (From 1-4-'06 to 31-3-'07)

	Rs.		Rs.
To Material	15,00,000	By Contractee's A/c	60,00,000
" Wages	30,00,000	– Contract price	
" Depreciation om machine	1,00,000		
" Rent of Machine	20,000		
" Other Expenses	5,00,000		
" P & L A/c – Profit tld.	8,80,000		
	<u>60,00,000</u>		<u>60,00,000</u>

If the contract is expected to last for a long time, then the full contract price is not credited to contract account. But the value of the work done is credited. Similarly, the whole of the profit on incomplete contract is not transferred to P & L A/c, but some profit is reserved for future contingencies.

(4) Batch Costing : A variation of job costing is known as batch costing where unit of cost is a batch. It is employed where orders or jobs are arranged in batches convenient for production, e.g. Pharmaceutical company manufactures number of drugs may produce say 10,000 tablets of a particular drug at one time and then it may take up manufacture of another type of drug. When the supply of that type of tablets is exhausted, another lot of tablets will be made. Thus the production is made in batches convenient for production and cost of each batch is ascertained separately.

(5) Process Costing : In industries where production can be divided into distinct stages or processes, it is desirable to ascertain the cost of production at each stage. The method of costing used for the purpose is Process Costing. For example, production of cloth can be divided into three distinct stages like spinning, weaving and finishing. A separate account is opened for each process and expenses relating to that process are charged to that process. In such industries, generally, there is a wastage or shortage during production or some by-product is obtained during manufacturing. The method is used in chemical works, petroleum, sugar, cotton textile industries, soap making, oil refineries, paint manufacturing etc.

e.g. in a textile mill, the expenses incurred in a spinning process during June, 2007 were as follows : Material Rs. 10,000, Wages 25,000, Overheads Rs. 10,000. Normal wastage is 10% on 1,000 kg of cotton introduced. The Process Account will be prepared as follows and the cost of yarn kilogram of yarn will be found out.

Dr. Cr. Spinning Process A/c					
Particulars	Quantity (kgs.)	Rs.	Particulars	Quantity (kgs.)	Rs.
To Material	1,000	10,000	By Normal wastage	100	—
" Wages		25,000	" Transfer to Weaving Process	900	45,000
" Overheads		10,000		1,000	45,000
	1,000	45,000			

$$\text{Cost of 1 kg. yarn} = \frac{\text{Rs. 45,000}}{900 \text{ kgs.}} = \text{Rs. 50}$$

Now this 900 kgs. of yarn will be transferred to next weaving process at the cost of Rs. 45,000. This will be the raw material of the weaving process.

(6) Operation Costing : It is only a refinement of Process Costing, used in manufacture of mechanical products. There are distinct operations in manufacturing a component part of say, a car. Cost of each 'operation' is ascertained instead of cost of each process. The total of costs of different operations will give the cost of that component.

(7) Operating Costing : Where goods are not manufactured, but services are rendered, the method of ascertaining cost per unit of service rendered is known as Operating Costing. In power house, transport companies, water works, hospitals, etc. operating costing is used to ascertain cost of providing a unit of service. The cost unit is generally a composite one like kilowatt-hour in electricity companies, tonne-km and passenger-km in transport undertaking etc.

e.g A bus transport company runs bus service accomodating 50 passengers in a bus. It makes five round trips between two cities. The distance between two cities is 20 kilometres. Bus runs for 25 days in a month and carries full load of passengers both ways.

The expenses during June, 2007 were as follows : Diesel Rs. 1,500, Oil Rs. 200, Driver's salary Rs. 2,000, Conductor's salary Rs. 1,800; Depreciation Rs. 1,000; Tyre expenses Rs. 1,000.

The cost of one passenger-kilometre will be calculated as follows :

Total Passenger-kilometres = $50 \times 25 \text{ days} \times 20 \text{ kms} \times 2 \times 5 \text{ trips} = 2,50,000 \text{ pass.-kms.}$

	Cost Rs.	
Diesel	1,500	
Oil	200	
Driver's salary	2,000	$\text{Cost per pass.-km} = \frac{7,500}{2,50,000}$ $= 3 \text{ paise}$
Conductor's salary	1,800	
Depreciation	1,000	
Tyre expenses	1,000	
$\therefore$ Total Cost	<u>7,500</u>	

(8) Multiple or Composite Costing : In industries where the final product consists of assembly of number of spare- parts, the multiple costing is used. It is actually a combination of various systems of costing used in relation to different components of the product, i.e. two or more methods of costing are used in the same business unit. For example, job costing may be used for one part, process costing may be used for another part and so on. In final assembly, unit costing is used. The method is used in manufacture of motor cars, radios, cycles, typerwriters, sewing machines etc.

[10] COSTING TECHNIQUES :

There are certain other Costing Techniques used for guidance of management in decision making or controlling cost etc. These techniques can be used alongwith any of the above costing methods. Some of these techniques are as under :

(A) Uniform Costing : Where several undertakings of the same industry use the same costing principles and practices, they are said to employ uniform costing. A chamber of commerce or a trade association may lay down costing practices to be followed by all its members. The members supply their costing data to the Association without disclosing their identity. Such data proves extremely useful for inter-firm comparison, for making representations before government etc.

(B) Historical Costing : Where costs are ascertained after they are already incurred, the method used is termed as 'Historical Costing.' It is so named because the costs which have already been incurred are determined. For example, cost of production per unit produced in January is ascertained in February under historical costing.

(C) Standard Costing : This is not a distinct method of costing but a technique used for controlling costs. Cost is pre-determined for each element of cost and then actual costs are compared with these standards costs. The difference, if any, is ascertained and the reasons therefore are determined, so that management can take corrective action. The cost for each element of cost is pre-determined on the basis of previous records and scientific forecasts.

e.g. A company decided in December, 2006 that its cost for various elements per unit must be as follows. (Standard cost must be as follows) : Materials Rs. 26, Wages Rs. 40 and other expenses Rs. 22. The cost accountant will prepare his report for January, 2007 as follows :

Cost Sheet for January 2007

Particulars	Actual Expenses (Rs.)	Standard Cost (Rs.)	Variances (Difference) (Rs.)
Materials	26	25	1
Wages	40	35	5
Other Expenses	<u>22</u>	<u>20</u>	<u>2</u>
Total	<u>88</u>	<u>80</u>	<u>8</u>

The above statement shows that the standard cost or pre-determined cost per unit must be Rs. 80. But the actual cost has increased to Rs. 88. It means that the total cost has increased by Rs. 8 per unit, because the material cost has increased by Re. 1 labour cost by Rs. 5 and other expenses by Rs. 2. The cost accountant has to analyse the causes of this difference and suggest the corrective steps so that such increase does not occur in future.

Thus standard costing is a very useful system in controlling the cost.

(D) Marginal Costing : Marginal cost is the variable cost (excluding fixed overheads) which arise only when production continues. It includes costs of direct materials, direct wages, direct expenses and other variable overhead expenses. The technique of costing which is concerned with cost determination in terms of only variable items of expenses is termed as Marginal Costing. It means ascertainment of marginal cost and of effects on profit of changes in volume and type of output by differentiating between fixed cost and variable cost. The fixed overheads are excluded from total cost, on the ground that when level of output goes on varying, the inclusion of fixed overheads would give misleading results. It is an important method for providing information to management for decision making. e.g. The production of 1,000 units and its expenses of a factory for the month of June, 2007 are as follows :

Materials	Rs. 18,000
Wages	Rs. 22,000
Overheads :	
Variable	Rs. 15,000
Fixed	Rs. 10,000

The cost per unit will be determined as follows under marginal costing.

Cost Sheet

	Rs.
Material	18,000
Wages	22,000
Variable Overheads	<u>15,000</u>
∴ Marginal Cost	<u>55,000</u>

$$\text{Marginal Cost per unit} = \frac{55,000}{1,000} = \text{Rs. } 55$$

TABLE SHOWING METHODS OF COSTING & INDUSTRIES TO WHICH APPLICABLE

<i>Method of Costing</i>	<i>Name of Industries to which suitable or applicable</i>
1. Unit, Output or Single Costing	1. Mines and quarries 2. Brick works 3. Dairies 4. Poultry 5. Flour mills 6. Breweries 7. Paper mills 8. Cement industries 9. Steel plants
2. Job Costing	1. Printing press 2. Garage and repair shops 3. Painting and Decorating 4. Production of made to order articles
3. Contract Costing	1. Construction of building, road, bridge etc. 2. Ship-building industry 3. Manufacture of large and complicated machines
4. Batch Costing	1. Pharmaceutical Industry 2. Hardware making (like bolts, nuts, screw etc.) 3. Bicycle parts
5. Process Costing	1. Chemical works 2. Oil- refineries 3. Paints manufacturing 4. Textile industry 5. Soap works 6. Confectionery 7. Sugar mills
6. Operating Costing	1. Railway 2. Road Transport 3. Electricity companies 4. Water supply companies 5. Gas supply companies 6. Hospitals 7. Hotels

7. Multiple or Composite Costing

1. Automobile industry
2. Bicycle making industry
3. Radio & Television making industry
4. Sewing machine making industry
5. Typewriter making industry.

Illustration 1 :

Explain giving reasons, which method of costing would you employ for the following industries :

(1) Steel works (2) Chemical industry (3) Passenger-transport Service (4) Ship-building industry (5) Coal-mining (6) Biscuit making industry (7) Construction of building (8) Flour mills (9) Radio-making industry (10) Pharmaceutical industry (11) Auto-repairing garage (12) Hotel industry.

Solution :

(1) Steel works : Unit or Output Costing is suitable because in steel works various size or grades of steel rods, frames, pipes etc. are manufactured from iron, in large quantities, which are identical and production is continuous one. The cost of products manufactured are ascertained size or grade wise and the cost per unit is determined by dividing the total cost of each grade by the number of articles of that grade.

(2) Chemical industry : Generally Process Costing method is employed in chemical industry. In chemical industry article has to undergo two or more processes before it reaches final stage of finished goods. Moreover wastage occurs and by-product arises at various stages of production. Thus management is interested to know cost per unit at each stage of production for which process costing method is suitable.

(3) Passenger-transport service : In case of those industries which do not manufacture goods but render services, operating or service costing method is used with advantage. Passenger bus companies carry passengers from one place to another. In transport costing, composite unit passenger-kilometre or passenger mile- is used by which cost of transporting one passenger over a distance of one kilometre or mile is ascertained. The object is ascertainment of cost per unit of operating vehicle and to fix rate for carrying passenger.

(4) Ship-building industries : If small and identical ships are made, then unit costing may be used; but where large ships are made in shipyards, the cost unit is one ship and cost unit is a contract which may continue for over more than a year, then contract costing method is employed.

(5) Coal mining : In this industry, output or unit costing method is used. In coal mining, coal is taken out from a mine and cost of extracting one tonne of coal is ascertained by dividing total cost by the number of units (tonnes of coal extracted) during a particular period. In such industry, mining is continuous one and identical minerals are extracted.

(6) Biscuit-making : In biscuit making industry, different types of biscuits are prepared, which is usually done in certain lots and as such batch costing

method is suitable. Cost of each batch is ascertained and on that basis cost per unit of each type of biscuit is ascertained.

(7) **Construction of building** : In construction of building, usually contract costing method is used, because the work of construction of building is to be done at site of construction and such work continue for more than a year. Due to physical separateness of work to be carried out and that most of the expenses are of direct nature, it is comparatively easy to find out cost of each building by opening a separate account for each contract.

(8) **Flour mill** : In this industry, unit or output costing method is used because the unit of cost is fixed and uniform or identical products are turned out and production is continuous one.

(9) **Radio** : In case of radio manufacturing, multiple or composite costing is used because for manufacture of radio, various components are assembled and final product is available. For manufacture of a variety of components various methods of costing like batch or job costing may be used and for assembling and finding out total cost of each radio, unit costing method may be used. Thus more than one method of costing have been applied, the method in such a case is known as Multiple Costing.

(10) **Pharmaceutical industry** : In this industry, batch costing method is used because medicines like different drugs, injections etc. are manufactured in batches, and cost of each batch is ascertained.

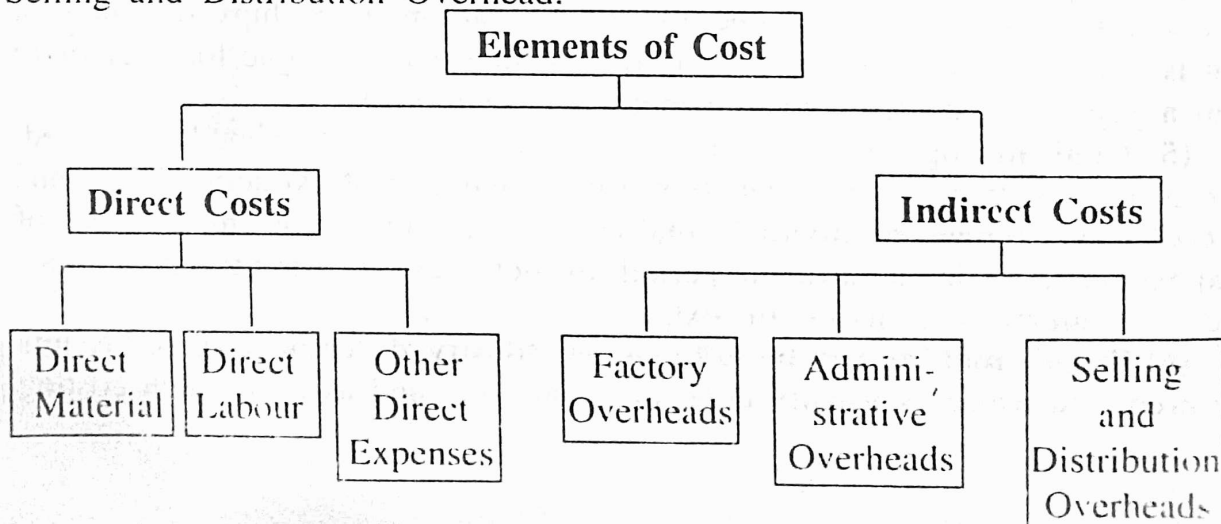
(11) **Auto-repairing garage** : In this case job costing is used. In garage different motor cars come for repairs and each such car is given a job number and cost of repair of each car is ascertained by debiting the direct expenses incurred for a job plus the proportionate overhead charges allocable to that job.

(12) **Hotel industry** : It renders services, so operating costing is used. In this case unit of cost ascertainment is either a bed (or a room) or a visitor.

[11] ELEMENTS OF COST :

Those expenses which are included in the total cost of the product manufactured are called Elements of Cost. There are two such elements :

Direct expenses may be sub-divided as (1) Direct materials (2) Direct labour and (3) Direct expenses. Indirect expenses may be classified into three parts. viz (1) Factory Overheads (2) Office or Administrative Overheads (3) Selling and Distribution Overhead.



(A) Direct Expenses :

Direct expenses are those which can be conveniently charged directly to specific cost units. e.g. timber used in making wooden furniture, wages paid to a carpenter who makes wooden furniture are examples of direct cost.

(B) Indirect Expenses :

Indirect expenses are those expenses which cannot be charged directly to a cost unit e.g. factory rent is an indirect expenditure as it is not incurred for a particular product or job but it relates to all products manufactured or jobs executed in a factory.

(A) DIRECT EXPENSES :

(1) Direct Materials : It is the material of which article is made and which can be charged directly to a specific cost unit.

“Direct material is all materials that becomes a part of the product, the costs of which are directly charged as part of prime cost. In other words, it is the material which can be measured and charged directly to the cost of a product.”

The timber used in making wooden furniture, the leather used in making shoes, cotton yarn used in manufacturing cotton cloth are examples of direct materials.

Moreover certain expenses are also included in direct materials say, import duty, dock charges etc. which are added in original invoice.

(2) Direct Labour : It is that labour which is used for the manufacture of specific article, process, job or contract, and which may be measured and charged to a particular unit.

Wages paid to carpenter preparing furniture, wages paid to shoe-maker making shoes or wages paid to weaver weaving the cloth are the examples of direct labour.

(3) Direct expenses : “It includes any expenditure other than direct material or direct labour incurred on a specific cost unit.”

It includes (i) hire of special tools or equipments for a particular order or product, (ii) cost of special design or moulds, (iii) experimental cost of any particular order etc. In construction of building, road etc. cost of special plant and tools, cost of preparing plan or design or maps are the direct expenses which can be charged directly to the cost of the building, road etc.

(B) INDIRECT EXPENSES OR OVERHEADS :

(1) Indirect materials : It is the expense on material used not for a specific unit but for the whole production. It consists of material which does not form part of product but is used for the purpose ancillary to production. (i) It is the material required for operating and maintaining plant and equipments known as consumable stores such as cotton waste, oil and grease, belts etc. (ii) It consists of stores used by service departments like power house, canteen etc. (iii) Materials which due to their cost being small, are not considered as direct material, e.g. thread used in stitching shoes.

(2) *Indirect labour* : Wages and salaries paid to various persons who are not directly engaged in production e.g. Salary of works manager, supervisor, foreman, store-keeper, sweeper and gate-keeper of the factory, and salaries and wages paid to various persons engaged in service departments.

(3) *Other expenses* : They are all expenses other than indirect material and indirect wages which are incurred for the benefit of production as a whole. They include power or fuel such as coal, gas, electricity, water etc. maintenance, repairs, renewals and depreciation of plant and machinery, various factory expenses such as factory rent, rates, insurance, lighting, heating etc.

(1) **Factory or Works Overheads** : They include all indirect expenses incurred within four walls of the factory and which are connected with the manufacture of a product. It includes all indirect expenses incurred from the receipt of the order until its completion i.e. when it is ready for despatch. The cost of indirect materials is included in factory overheads e.g. Cotton waste, oil for running machinery, belts etc. Similarly indirect wages paid to those who indirectly help production, are also included in Factory overheads.

(2) **Officer or Administration Overheads** : These are the expenses incurred outside the factory in the administration and management of the undertaking. They include office rent, rates, insurance, lighting, salaries to clerical and administrative staff, printing and stationery, postage and telegram, legal charges, audit fees, depreciation of office building and furniture etc.

(3) **Selling and Distribution Overheads** : Selling overheads are those incurred for soliciting and securing orders and on efforts to find and retain customers. They include various expenses for creating, maintaining and increasing demand for the goods produced, e.g. Sales office salaries, rent, rates, insurance, lighting etc. Salaries of salesman, travelling and conveyance charges, advertisement expenses, show-room expenses, commission on sales, discount allowed, bad debts, after-sale service expenses etc.

Distribution overheads comprise all expenditure from the time the product is completed until it reaches its destination. It includes all warehouse expenses such as warehouse rent, rates, insurance, taxes, lighting etc., packing charges, carriage outward, upkeep and maintenance of delivery van etc.

The costs made up of different types of expenses are known by different heads as follows :

Direct Materials + Direct Labour + Direct Expenses	= Prime Cost
Prime Cost + Factory Overheads	= Factory Cost or Works Cost
Factory Cost + Administrative Overheads	= Office Cost or Cost of Production
Cost of Production + Selling and Distribution Overheads	= Cost of Sales or Total Cost
Cost of Sales + Profit (or loss)	= Selling Price or Sales.

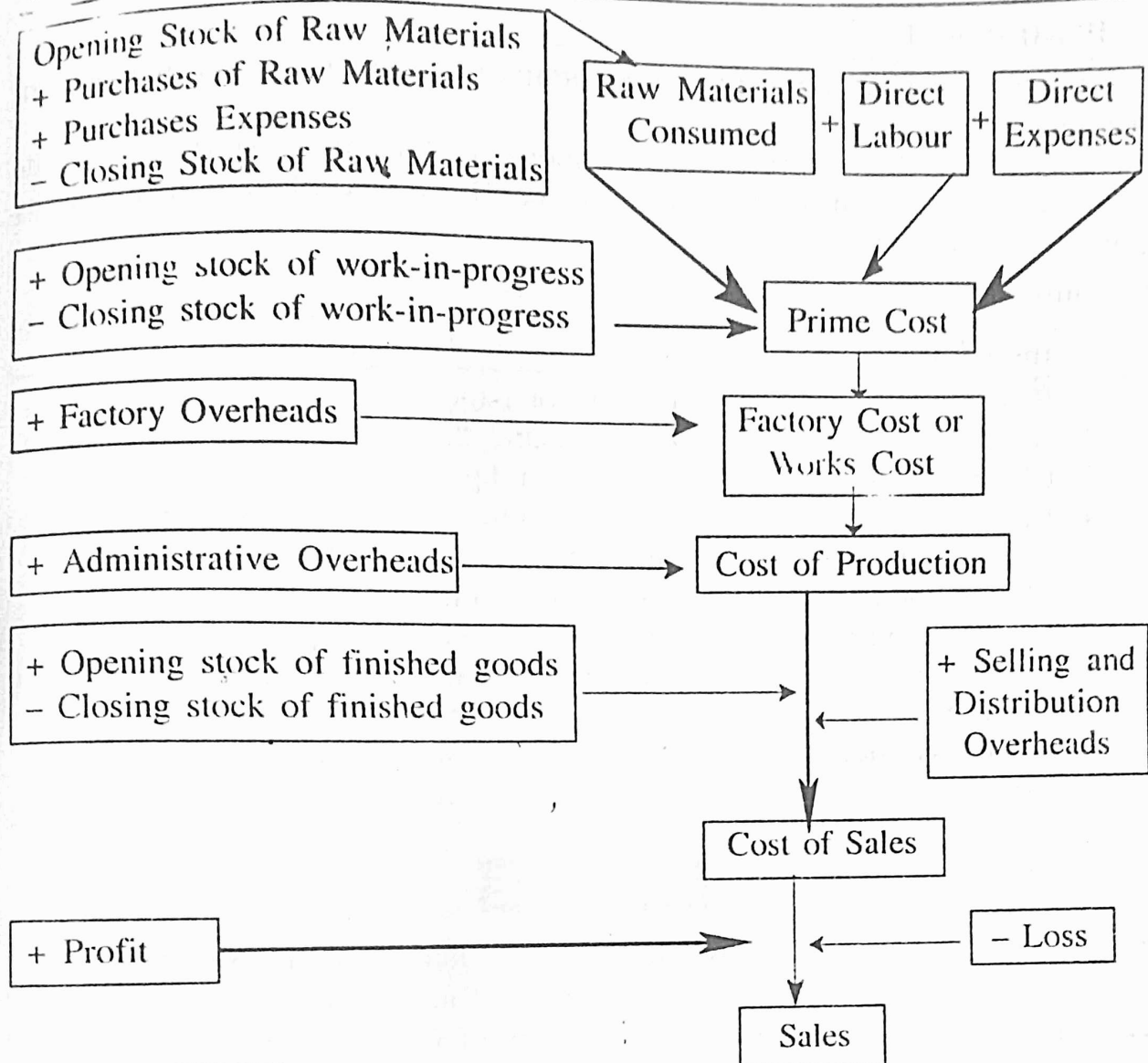


Illustration 2 :

State which of the following are direct materials and which are indirect materials :

- (1) Cotton waste for cleaning
- (2) Cotton yarn used in making cloth
- (3) Wood used in making furniture
- (4) Adhesive used in making shoes
- (5) Paper used in printing books
- (6) Sugarcane used in making sugar
- (7) Oil used in running machinery

Solution :

Direct Materials : (2), (3), (5), (6); Indirect Materials : (1), (4), (7)

Illustration 3 :

Classify the following into direct labour and indirect labour :

- (1) Director's fees
- (2) Supervisor's salary
- (3) Wages Paid to worker as a wages
- (4) Wages paid to Carpenter preparing furniture
- (5) Wages of maintenance worker
- (7) Sweeper's salary.

Solution :

Direct Labour : (3), (4)

Indirect Labour : (1) (2) (5), (6).]

Illustration 4 :

State 'Cost Unit' (Unit of cost-ascertainment) which is used in respect of the following industries :

Paper mill, Brick works, Chemical industry, Railway transportation, Textile industry, Mining industry, Cement industry, Breweries, Flour mill, Electricity Supply industry, Hotel.

Solution :

Industry	Unit cost
1. Paper mill	Per kg. of paper
2. Brick works	Per thousand bricks
3. Chemical industry	Per litre or kg. or gallon etc.
4. Railway transport	Passenger km. (or mile); Tonne km. (or mile)
5. Textile industry	Per metre of cloth or per bale of cloth
6. Mining industry	Per tonne of mineral
7. Cement industry	Per tonne of cement or per bag of cement
8. Breweries	Per barrel of wine or beer or per litre of wine
9. Flour mill	Per kg. of flour or per quintal of flour
10. Electricity industry	Per kilo-watt hour (KWH)
11. Hotel	Per bed or per room.

EXERCISE

- What is meant by Cost Accounting ? Explain in what essential respects does cost accounting differ from financial accounting ?
- Discuss the advantages and limitations of Cost Accounting.
[Guj. Uni., S.Y., May, 1986]
- 'A system of cost accounting is expensive and hence unnecessary.'
[Sau. Uni., T.Y., 1969]
- Describe different methods of costing and state the industries to which they are applicable.
- Write Definition
 - Unit Cost
 - Contract Cost
 - Process Cost
 - Multiple Cost
 - Operating Cost
- Write short notes on :
 - Advantages of Cost Accounting [South Guj. Uni., 2008]
 - Standard Costing
 - Limitations of Cost Accounting (G.U., F.Y., 2000)
 - Marginal Cost
- State the proper cost units for the following industries :
Transport, Paper Mill, Cement, Hotel, Chemical.

[Guj. Uni., F.Y., April, 1997]