Course Name : BBA / BCOM
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INTRODUCTION

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PROGRAMME:- **MANAGEMENT**

SUBJECT :- **COST ACCOUNTING**

CHAPTER 1
BASIC CONCEPTS

COST ACCOUNTANCY

The Institute of Cost and Management Accountants of England defines Cost Accountancy as follows:

"The application of costing and cost accounting principles, methods and techniques to the science, art and practice of cost control and the ascertainment of profitability. It includes the presentation of information, derived therefrom for the purpose of managerial decision making."

Thus cost accountancy is a very comprehensive term.

COST ACCOUNTING

2.1 Definition of Cost Accounting :

Based on the terminology published by the ***Institute of Cost and Management Accountants of England***, Cost Accounting is defined as ***the process of accounting for cost***. This process begins with the recording of income and expenditure or the bases on which they are calculated and ends with the preparation of periodical statements and reports for the purpose of ascending and controlling costs.

2.2 Objectives of Cost Accounting :

Following are the main objectives of Cost Accounting -

***(i) Ascertainment of Cost*:**
It can be done in two ways, namely,

(a) Post Costing, where the ascertainment of cost is done based on actual information as recorded in financial books.
(b) Continuous Costing, where the process of ascertainment is of a continuous nature i.e. where cost information is available as and when a particular activity is completed, so that the entire cost of a particular job is available the moment it is completed.

(ii) Determination of Selling Price:

Though there are various other considerations for fixing the selling price of a product (like the market conditions etc.), cost of the product is an important factor which cannot be sidelined.

(iii) Ascertainment of Profit :

The purpose of any business activity is to earn a profit and profit can be computed by matching the revenue and cost of that particular product/activity.

(iv)Cost Control and Cost Reduction:

Cost Control and Cost Reduction are two different concepts.

Cost Control aims at ***maintaining the costs in accordance with established standards.*** It ***involves*** the following steps -

a. Determination of target cost
b. Measurement of actual cost
c. Analysis of variation with respect to target cost
d. Initiation of corrective action.

Cost Reduction on the other hand aims at *improvement established targets*. It is defined as ***"the achievement of real and permanent reduction in the unit cost of goods manufactured or services rendered without impairing their suitability for the use intended or diminution in the quality of the product***."

difference between Cost Cost Control and ***Cost Reduction***

Cost Control	***Cost Reduction***
1. It represents efforts made ds towards achieving a *target* or a goal.	1. It represents achievement of *reduction* of cost .
2. The process of cost control is to Set-up a target, investigate the variations and take remedial action.	2. Cost reduction is not contended merely with the maintenance of performance with standards.
3. It assumes e*xistence of norms* or Standards which are not challenged.	3. It assumes that the *standards can be improved.*
4. It is *preventive function.*	4. It is a *corrective function.*
5. Sometimes, it l*acks a dynamic approach.*	5. It is *continuous process* of analysis of all the factors affecting cost.

(v) Facilitation of Inventory Valuation :

As per the ***Accounting Standard 2 on Valuation of Inventories,*** Inventories are to be valued at "***lower of cost and net realisable value"***. Costing accounting determines the ascertainment of this "cost" based on which the inventory is valued.

(vi) Assisting Management in Decision-making :

Decision-making is a process of choosing between two or more alternatives, based on the resultant outcome of the various alternatives. A *Cost Benefit Analysis* also needs to be done. All this can be achieved through a good cost accounting system.

Importance of Cost Accounting :

The importance of cost accounting can be highlighted through the following benefits which accrue to any business concern:

(i) Control of Material Cost :

Normally, material cost constitutes a major portion of the cost of the product. Hence control of material cost can ensure a good amount of benefit. Control of material cost can be ***exercised as follows :***

a. Maintaining *optimum level of stock* to avoid unnecessary locking up of capital
b. Maintaining an *uninterrupted supply* of materials
c. Use of *techniques like value analysis, standardisation etc.*

(ii) Control of Labour Cost :

Labour cost control can be ***exercised as follows:***

a. *Setting standard time* for each activity and keeping adverse variance to the minimum
b. Laying down *proper remuneration schemes*
c. Control over *labour turnover*
d. Control over *idle time, overtime*

(iii) Control of Overheads :

Overheads are nothing but *indirect expenses incurred at the factory, office and sales depots*. Again control over overheads will ensure a control over the total cost of the product and a higher profit margin.

(iv) Determination of Selling Price :

Refer 2.2 (ii) above.

(v) Budgeting :

Any commercial activity begins with the preparation of budgets for the same. A budget serves as a guideline against which the actual performance can be measured and continuous corrective action can be taken to ensure that the budget is adhered to.

(vi) Measuring Efficiency :

Efficiency can be measured by comparing actuals against standards and corrective action can be taken.

(vii) Strategic Decision-making:

Cost accounting enables the management to take up various strategic decisions like "Make or Buy", "Shut down or Continue", "Replace or Continue", " Status quo or Expansion" etc.

Advantages of Cost Accounting :

(i) Helps ***optimum utilization*** of men, materials and machines

(ii) Identifies areas requiring ***corrective action***

(iii) Identifies unprofitable activities, losses, inefficiencies

(iv) Helps ***price fixation***

(v) Facilitates ***cost control and cost reduction***

(vi) Facilitates ***use of various cost accounting techniques***, like, variance analysis, value analysis etc.

(vii) Helps management in ***formulation of policies***

*(viii)*Helps management in making ***strategic financial decisions***. For eg: the technique of marginal costing helps the management in making various short term decisions.

(ix) Helps in ***formation of cost centres and responsibility centres*** to exercise control

(x) ***Marginal Cost*** having a linear relationship with production volume enables in formulation and solution of "Linear Programming Problems".

(xi) Provides a ***data-base*** for reference by government, wage tribunals and trade unions etc.

Limitations of Cost Accounting :

i. It is ***not an exact science*** and involves inherent element of judgement.
ii. Cost ***varies with purpose***. Therefore cost collected for one purpose will not be suitable for another purpose.
iii. Cost accounting presents the base for taking the best decisions. It does ***not give an outright solution*** .
iv. Most of the cost accounting techniques are based on some ***pre-assumed*** notions.
v. The ***apportionment of common costs*** comes under a lot of criticism.
vi. There are ***different views*** held by different experts on the treatment of certain items of cost.

Reports Generated by Cost Accounting Department :

The Cost Accounting Department generates the following reports as a routine, for use of its executives:

i. Expen
ii. ***Cost Sheet*** giving details as to component wise break-up of each element of cost as compared with previous year's data, competitors data.
iii. ***Material Consumption Statement***, showing total quantity and types of material issued and used, wastage's if any. Comparison of actual v/s standard.
iv. ***Labour Utilization statement*** showing total number of hours, budgeted & actually worked, types of labour utilised, idle time etc.
v. ***Labour Turnover*** , cost of recruitment and training of new employees.
vi. ***Overheads Statement*** giving break-up of various types of overheads, the actual overheads incurred as against the budgeted and the over/under absorption, if any
vii. ***Sales Statement*** giving product wise break-up of unit realisation, volume achieved as against the targets.
viii. ***Inventory Analysis Sheet*** giving break-up of inventories into materials, work-in-progress and finished goods, their number of months holding as against the normal holding period in the industry.
ix. Statement of ***Abnormal wastages / losses / spoilages***
x. ses incurred on ***research and development*** as compared with the budget.
xi. Any other report pertaining to any cost centre (explained later).

Basic Considerations in Installation of Cost Accounting System :

A ***system*** is an *established set of procedures for the purpose of achieving specific objectives at minimum cost.* A lot of problems can be avoided if the cost accounting system is introduced carefully. Before setting up a system of cost accounting, the under mentioned factors should be studied :

i. The ***objective of costing system*** i.e whether it is for price fixation or for cost control or for a particular management decision.
ii. ***Size of the organisation,*** general organisation of the business with a view to finding out the manner on which the system could be introduced

iii. ***Areas of functioning*** wherein the management's action will be most beneficial.
iv. ***Management's policies and expectations***. The system of costing should be designed after a careful study of the management's polices and expectations.
v. ***Methods & procedures in vogue*** for purchase, receipts, storage and issue of material, methods of wage payment etc.
vi. ***Technical aspects*** of the business should be studied thoroughly by the designers. They should also make an attempt to seek the assistance and support of the supervisory staff and workers of the organisation for the system.
vii. The ***maximum amount of information*** that would be sufficient and how the same should be secured without too much burden on the existing system of the organisation.
viii. ***Forms standardisation*** - various forms to be used by costing system for various data collection and dissemination.
ix. The ***degree of accuracy*** of data to be supplied by the system and how verification of such data can be brought about.
x. ***Benefits of system to be explained*** - the manner in which the benefits of installation of the cost accounting system should be explained and how an awareness of the utility of the same should be created.
xi. The manner in which an ***integral system of accounts*** can be devised so as to automatically reconcile financial profit with costing profit with the help of control accounts.
xii. ***Information requirements*** of management, the nature of reports to be generated through the cost accounting system

Steps in Introduction of Cost Accounting System :

The introduction of a cost accounting system will involve the following steps:

i. Codification and classification
ii. Establishment of cost centres
iii. Guidelines for separation of fixed and variable costs
iv. Guidelines for allocation of indirect costs
v. Introduction of standard formats
vi. Specification of reports and their periodicity
vii. Preparation of Cost Accounts Manual
viii. Guidelines for post-installation appraisal of costing system

Essentials of a Good Cost Accounting System :

i. It should be ***simple and practical***.
ii. It should be ***tailor-made*** for the requirements of the organisation.
iii. The data to be used by the cost accounting system should be ***accurate*** or else the output will suffer.
iv. The system of costing should not sacrifice the ***utility*** by introducing meticulous and unnecessary details.
v. The ***cost*** of installation should justify the results.
vi. Active ***co-operation*** and participation of executives from different departments ensures in developing a good cost accounting system.
vii. A ***carefully phased program*** should be prepared by using network analysis for the introduction of the system.

Difficulties Likely to be Experienced in the Introduction of a Cost Accounting System :

Following initial difficulties are likely to be experienced when a new costing system is introduced :

i. ***Lack of support*** from other departmental heads
ii. ***Resistance*** from accounting staff
iii. ***Non co-operation*** from the supervisory staff
iv. ***Shortage of trained staff***

ROLE OF A COST ACCOUNTANT IN A MANUFACTURING ORGANISATION

A cost accountant in a manufacturing organisation plays several important roles

i. He ***establishes a cost accounting department*** in his concern.
ii. He ***ascertains the requirement of cost information*** which may be useful to organisational managers at different levels of the hierarchy.
iii. He ***develops a manual***, which specifies the functions to be performed by the cost accounting department. The manual also contains the format of various forms which would be utilised by the concern for procuring and providing information to the concerned officers. It also specifies the frequency at which the cost information would be supplied to a concerned executive.

Usually, the functions performed by a cost accounting department includes -cost ascertainment, cost comparison, cost reduction, cost control and cost reporting.

a. ***Cost ascertainment***, requires the classification of costs into direct and indirect. Further it requires classification of indirect costs (known as overheads) into three classes viz., factory overheads; administration overheads and selling and distribution overheads. Cost accountant suggests the basis which may be used by his subordinates for carrying out the necessary classifications as suggested above.
b. ***Cost comparison*** is the task carried out by cost accountant for controlling the cost of the products manufactured by the concern. Cost accountant of the concern establishes standards for all the elements of cost and thus a standard cost of the finished product. The standard cost so determined may be compared with the actual cost to determine the variances. Cost accountant ascertains the reasons for the occurrence of these variances for taking suitable action.
c. ***Cost analysis*** may also be made by cost Accountant for taking decisions like make or buy and for reviewing the current performance.
d. Cost accountant also plays a key role in the preparation of ***cost reports***. These reports help the executives of a business concern in reviewing their own performance and in identifying the weak areas, where enough control measures may be taken in future.

In brief, one may say that there is hardly any activity in a manufacturing organisation with which a cost accountant is not directly associated in some form or the other.

COST ACCOUNTING, FINANCIAL ACCOUNTING AND MANAGEMENT ACCOUNTING

Cost Accounting And Financial Accounting :

Financial Accounting is concerned with the preparation of financial statements, which summarise the results of operations for a selected period of time and show the financial position of the organisation as at a particular date. It helps to assess the overall progress of an organisation, its strength and weakness. It facilitates effective control over the assets of the organisation.

However, there are serious limitations of financial accountancy from the point of view of the management. ***It is on account of these limitations that "Costs Accounting" has been developed for the purpose of management control and internal reporting.***

Thus the important limitations of financial accountancy namely, lack of analysis of data and absence of yardsticks is very well overcome by cost accountancy.

Cost Accounting and Management Accounting :

The scope of management accounting is broader than that of cost accounting. In ***cost accounting***, the main emphasis is on cost and it deals with its collection, analysis, relevance, interpretation and presentation for various problems of the management. ***Management accountancy*** utilizes the principles and practices of financial accounting in addition to other modern management techniques for efficient operation of the organisation.

The main emphasis in management accountancy is towards determining policy and formulating plans to achieve the desired objective of the management.

"An internal part of concerned with identifying, presenting and interpreting information used for:

a. Formulating strategy
b. Planning and controlling activities
c. Decision making
d. Optimising the use of resources
e. Disclosure to shareholders and others external to the entity
f. Disclosure to employees
g. Safeguarding assets".

COST - CONCEPTS AND TERMS

Cost - Cost represents the *amount of expenditure* (actual or notional) *incurred on or attributable to a given thing*. It represents the resources that have been or must be sacrificed to attain a particular objective.

Pre-determined cost - It is the cost which is *computed in advance*, before the production starts, on the basis of specification of all the factors affecting the cost.

Standard cost - It is a pre-determined cost which is arrived at, *assuming a particular level of efficiency* in utilisation of material, labour and other indirect services. It is the planned cost of a product and is expected to be achieved under a particular production process under normal conditions. It is often used as a basis for price fixing and cost control.

Estimated Cost - It is an *approximate assessment* of what the cost will be. It is based on past data adjusted to anticipated future changes.

Although pre-determination is the essence of both standard cost and estimated cost, they differ from each other in the following respects:

a. Difference in computation
b. Difference in emphasis

c. Difference in use
d. Difference in records
e. Difference in applicability

Marginal cost - It is the *amount* at any given volume of output by which *aggregate cost changes if the volume of output changes increases/decreases) by one unit.*

Differential cost - It is the *difference in the total cost* between alternatives calculated to assist decision making Thus, it represents the change in total cost (both fixed and variable) due to a change in the level of activity, technology, process or method of production, etc.

Discretionary cost - It is an "escapable" or "avoidable" cost. In other words, it is that cost which is *not essential* for the accomplishment of a particular objective.

Decision-driven cost - It is that cost which is incurred *following a policy decision* and continues to be incurred till that decision is altered. It does not vary with changes in output or with operational activities.

Managed / Policy cost - It is that cost which is incurred as a matter of policy eg: R & D cost. This cost has two important features :

a. It arises from *periodic (usually annual) decisions* regarding the maximum outlay to be incurred And
b. This cost is *not tied to a cause and effect relationship* between input and output.

Post-ponable cost - It is that cost which can be *shifted to the future* with little or no effect on the efficiency of the current operations.

Imputed / Notional cost - *CIMA* defines notional cost as *"the value of benefits where no actual cost is incurred".* Thus, imputed cost is that cost which does not involve any cash outlay. Though it is a hypothetical cost, it is relevant for decision making. Interest on capital, the payment for which is not actually made, is an example of imputed cost.

Inventoriable / Product cost - It is the cost which is *assigned to the product*. For eg : Under marginal costing ® variable manufacturing cost. Under absorption costing ® total manufacturing cost (fixed and variable) constitute product or inventoriable cost.

Opportunity cost - It refers to the *value of sacrifice made or benefit of opportunity forgone in accepting an alternative course of action.* For e.g. If Mr. A works in his brother's firm instead of working in X Ltd., then the loss of salary Mr. A suffers by foregoing employment in X Ltd., is the opportunity cost of working in his brother's firm.

Out of pocket cost - It is that portion of total cost which *involves cash outlay.* It is a short term cost concept and is used in short- term decision making like make or buy, price fixation during recession. Out of pocket cost can be avoided if a particular proposal under consideration is not accepted.

Joint cost - It is the cost of the process which results in more than one main product.

Period cost - It is the cost which is not assigned to the product but is *charged as an expense* against the revenue of the period in which it is incurred. All the non-manufacturing costs like administrative, selling and distribution expenses are treated as period costs.

Sunk cost - *Historical cost* which is incurred in the past is known as sunk cost. This cost is not relevant in decision making in the current period. For eg. In the case of a decision relating to the replacement of a machine, the written down value of the existing machine is a sunk cost and hence irrelevant to decision making.

Committed cost - It is a fixed cost which results from *decisions of prior period* and is not subject to managerial control in the present. Examples of committed cost are depreciation, insurance premium and rent.

Shut down cost - The fixed cost which *cannot be avoided during the temporary closure of a plant* is known as shut down cost. Examples of shut down cost are depreciation and rent.

Relevant cost - *CIMA* defines relevant cost as *" cost appropriate to a specific management decision".*

Replacement cost - It is the cost of replacement in the current market.

Absolute cost - It is the *total cost* of any product or process. For e.g.: in a cost sheet, both absolute cost and cost per unit are depicted.

Cost centre

Meaning - For the installation of a cost accounting system, the organization is divided into sub-units. Cost centre is the smallest organisational sub-unit for which separate cost collection is attempted. It is defined as a *location, a person or an item of equipment (or group of these) for which cost may be ascertained and used for the purpose of cost control.*

Types – ***Primarily*** , there are two types of cost centres, namely:

a. *Personal cost centre* - consisting of a person or a group of persons
b. *Impersonal cost centre* - consisting of a location or an item of equipment (or a group of these).

Functionally, there are two types of cost centres, namely:

a. *Production cost centre* - It is a cost centre where both direct and indirect expenses are incurred for the production. Following are the examples of production cost centres- machine shop, milling and turning shop, assembly shop.
b. *Service Cost Centre* - A cost centre which renders services to production cost centres is termed as service cost centre. It serves as an ancillary unit to the production cost centre.
   Powerhouse, boiler plant, repair shop, material service centre, all are examples of service cost centres.

Considerations - Formation of appropriate cost centres is very important for the purpose of cost control. Important considerations for the formation of cost centres are as follows:

a. Organisation of the factory
b. Conditions prevalent for incurrence of cost
c. Management's decision needs

Cost unit –

Meaning - Once the cost of various cost centres is ascertained, the need arises to express the cost of output (product / service). A cost unit is defined as a *unit of quantity of product, service or time (or a*

combination of these) in relation to which costs may be ascertained or expressed.
Cost units are usually *units of physical measurement* like number, weight, time, area, length, volume etc.

Examples - A few typical examples of cost units are given below :

Industry	***Cost Unit Basis***
Automobile	Number
Bicycle	Number
Transport	Tonne-kilometer Passenger-kilometer
Furniture	Each article
Bridge construction	Each contract
Interior decoration	Each job
Advertising	Each job
Nursing home	Bed or day
Power	Kilowatt hour
Bricks	Number
Cement	Tonne, bag
Steel	Tonne
Chemical	Litre, gallon, tonne,kilogram
Sugar	Tonne
Coal	Tonne

Cost allocation - Cost allocation refers to the *allotment of whole items of costs to cost centres*. For example, if a worker is employed in department "A", then the wages paid to the worker are allocated or charged to department "A". This process of charging the entire wages (being 'cost') of the worker to department "A" is termed as cost allocation.

Cost apportionment - It is the *process of distributing an item of cost over several cost centres or cost units*. Thus, one item of cost is charged to two or more cost centres or cost units. Normally overheads (indirect costs) are charged to cost centres or cost units by way of apportionment in proportion to the anticipated benefits.

Cost absorption - It is the *process of absorbing the overhead costs (indirect costs) allocated to or apportioned over a particular cost centre*. Thus cost absorption follows cost allocation and cost apportionment. Selection of correct method of overhead absorption is very important for pricing policies, tenders and other managerial decisions. Overhead absorption is accomplished through *overhead rates*. For eg. the overhead costs of a 'grinding centre' may be absorped by using a rate per " grinding" hour.

Responsibility centre - *Meaning - When an organisation is divided into different sub-units according to the responsibility and for each sub-unit, a specified individual is made responsible, then the sub-unit thus formed is termed as a responsibility centre. Thus, a responsibility centre is defined as an activity centre of a business organisation entrusted with a special task.*

The specified individual is *held accountable only for those activities which he directly affects.* Under modern budgeting and control, finance executives tend to apply the concept of responsibility centres for the purpose of control.

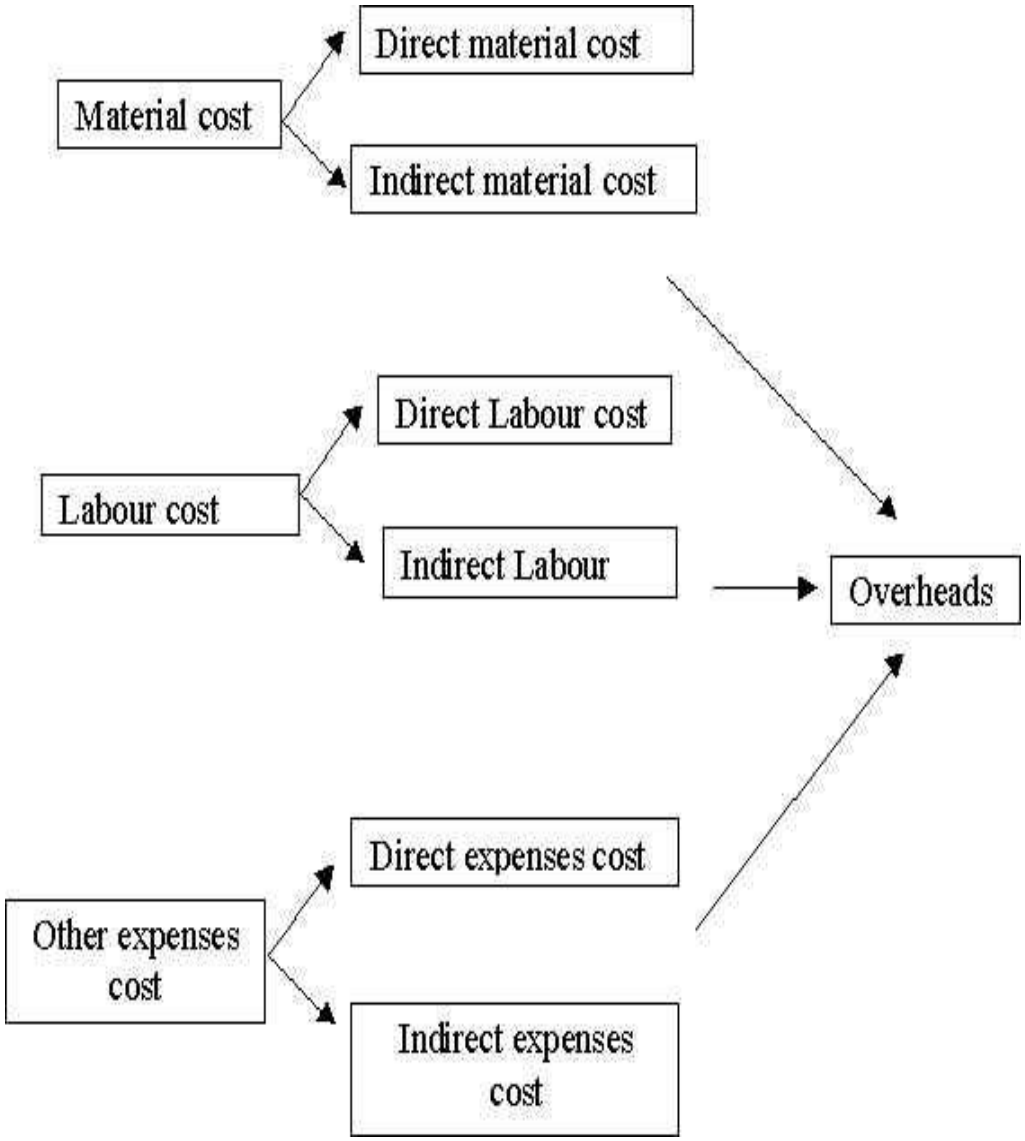
Types -

Responsibility centres can be classified as under:

a. *Cost centres* - Refer 6.23 above
b. *Profit centres* - Centres, which have the responsibility of generating and maximising profits , are called profit centres. **[Nov'97]**
c. *Investment centres* - Centres which are responsible for earning an optimum return on investments are termed as investment centres.
d. *Revenue centres* - Centres which are devoted to raising revenue with no responsibility for production are called revenue centres. Eg. Sales centre.
e. *Contribution centres* - Profit centres whose expenditure are reported on a marginal cost basis, are called contribution centres.

ELEMENTS OF COST

The following diagram depicts the various elements of cost:



Material Cost :

i. ***Direct Materials*** - Materials which are *present in the finished product or can be identified in the finished product* are called direct materials. For eg. coconuts in case of coconut oil or wood in a wooden cupboard.

ii. ***Indirect Materials*** - Indirect materials are those materials which *do not normally form part of the finished products or which cannot be directly traced to the finished product*. For eg. stores, oil, grease, cotton wool etc.

Labour Cost :

i. ***Direct Labour*** - Labour which can be attributed wholly to a particular product, process or job is called direct labour. It is the labour utilised in converting raw materials into finished products. For eg. labour employed in the crushing department of an oil mill.

ii. ***Indirect Labour*** - Labour which cannot be identified with a particular product, process or job is called indirect labour. Indirect labour cost is apportioned to cost units or cost centres. For eg. maintenance workers.

Expenses :

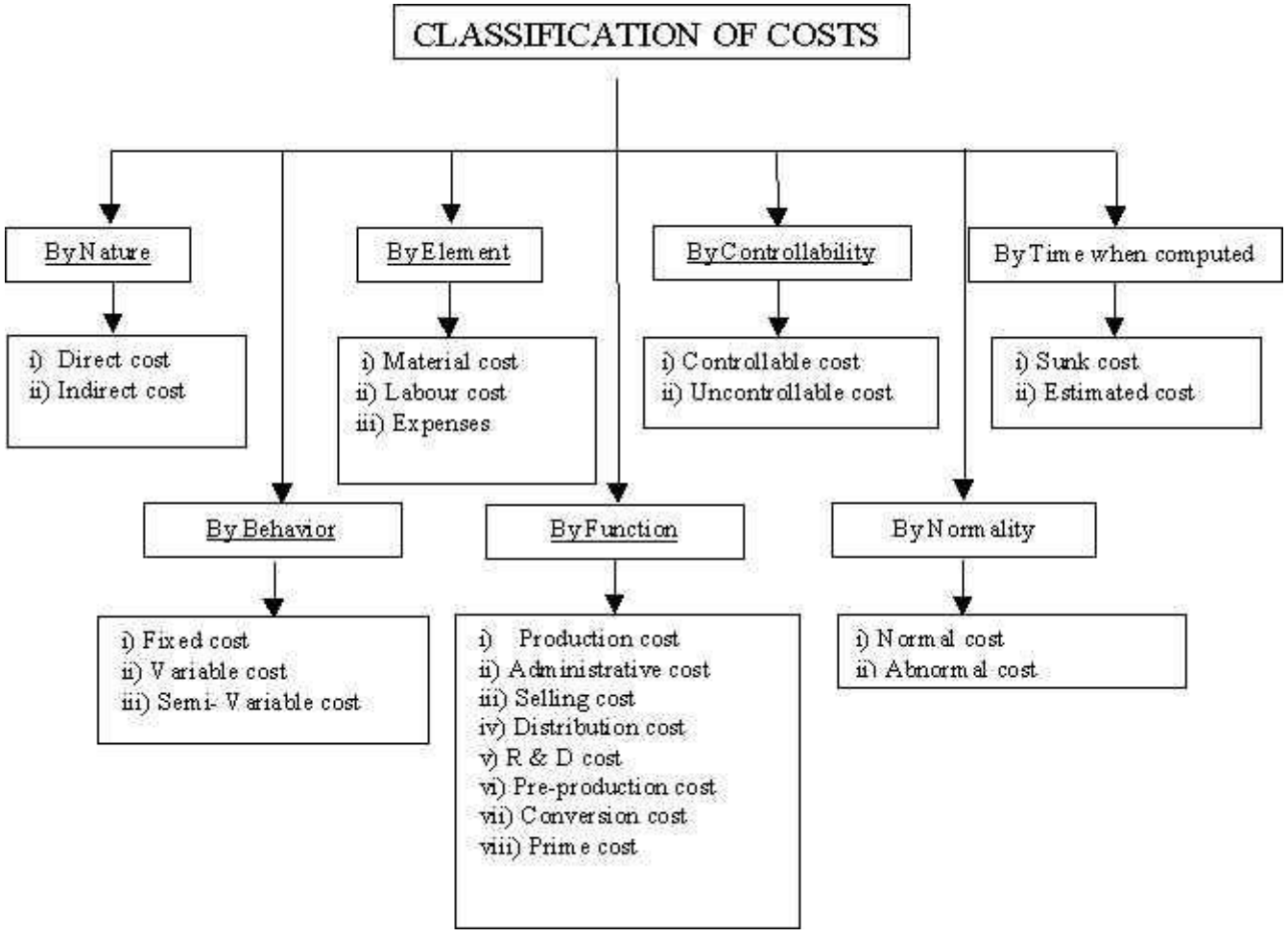
i. ***Direct Expenses*** - Expenses incurred (except direct materials and direct labour) specifically for a product, process or job is known as direct expenses. They are also called *"chargeable expenses"*. For eg. hiring charges for a machine specifically hired for a particular process, excise duty, royalty.
ii. ***Indirect Expenses*** - Expenses incurred other than direct expenses are called indirect expenses. For eg. factory rent & insurance, power, general repairs.

Overheads :

Overheads is the sum total of indirect materials, indirect labour and indirect expenses. Functionally overheads can be classified as under -

i. Production / Works overheads
ii. Administrative overheads
iii. Selling overheads
iv. Distribution overheads

CLASSIFICATION OF COST



Classification By Nature :

i. ***Direct cost*** - Direct cost is that cost which can be *identified with a cost centre or a cost unit.* For e.g. cost of direct materials, cost of direct labour.
ii. ***Indirect cost*** - Cost which *cannot be identified* with a particular cost centre or cost unit is called indirect costs. For e.g. wages paid to indirect labour.

Classification By Behaviour :

i. ***Fixed cost*** - Fixed cost is that cost which *remains constant* at all levels of production. For e.g. rent, insurance.

ii. ***Variable cost*** - The cost which *varies with the level of production* is called variable cost i.e., it increases on increase in production volume and vice-versa. For e.g. cost of materials, cost of labour.

iii. ***Semi-variable cost*** - This cost is *partly fixed and partly variable* in relation to the output. For e.g. telephone bill, electricity bill.

Classification By Function :

i. ***Production cost*** - It is the *cost of the entire process of production*. In other words it is nothing but the cost of manufacture which is incurred upto the stage of primary packing of the product.

ii. ***Administrative cost*** - It is the *indirect cost pertaining to the administrative function* which involves formulation of policies, directing the organisation and controlling the operations of an undertaking. This cost is not related to any other functions like selling and distribution, research and development etc.

iii. ***Selling cost*** - Selling cost represents the *indirect cost* which is incurred for
(a) seeking to create and stimulate demand
and
(b) securing orders.

iv. ***Distribution cost*** - It is the cost of the sequence of operations which begins with making the packed product available for despatch and ends with making the reconditioned returned empty package, if any available, for re-use.

v. ***R&D cost*** - "Research Cost" and "Development cost" are two different types of costs. *Research cost* is the cost of researching for new products, methods and applications. *Development cost* is the cost of the process which begins with the implementation of the decision to produce the new product or apply the new method and ends with the commencement of formal production of that product or by that method.

vi. ***Pre-production cost*** - It is that part of the development cost which is incurred for the *purpose of a trial run*, before the commencement of formal production.

vii. ***Conversion cost*** - It is the cost incurred for *converting the raw material into finished product.* It comprises of direct labour cost, direct expenses and factory overheads.

viii. ***Prime cost*** - Prime cost is the *aggregate of direct material cost, direct labour cost and direct expenses.* The term 'direct' indicates that the elements of cost are traceable to a particular unit of output.

Classification By Controllability

i. ***Controllable cost*** - The cost, which can be *influenced by the action of a specified person in an organisation,* is known as controllable cost. In a business organisation, heads of each responsibility centre are responsible to control costs. Costs that they are able to control are called controllable costs and include material, labour and direct expenses.

ii. ***Uncontrollable cost*** - The cost which *cannot be influenced* by the action of the person heading the responsibility centre is called uncontrollable cost. For e.g. all the allocated costs and the fixed costs.

Note: It may be noted that controllable and uncontrollable cost concepts are related to the authority of a person in the organisation. An expenditure which may be controllable by one person may not be controllable by another. Moreover, in the long run, all cost may be controllable.

Classification By Normality :

i. ***Normal cost*** - It is the cost which is normally incurred at a given level of output, under the conditions in which that level of output is normally attained. Normal cost is *charged to the respective product / process.*
ii. ***Abnormal cost*** – It is the cost which is not normally incurred at a given level of output in the conditions in which that level of output is normally attained.

This cost is *charged to the costing profit and loss account* i.e., the product / process does not bear the abnormal cost.

8.7 Classification By Time when Computed :

i. ***Sunk cost*** -
ii. ***Estimated cost*** –

. TYPES / TECHNIQUES OF COSTING

Following are the techniques of costing used in industries for ascertaining the cost of products / service

Historical Costing - It is the *ascertainment of costs after they have been incurred*. This costing is based on recorded data and the cost arrived at are verifiable by past events. This type of costing has limited utility.

Uniform Costing - CIMA defines it as *" the use by several undertakings of the same costing system, i.e., the same basic costing methods, principles and techniques."*

Standard Costing - CIMA defines standard costing as *" a control technique which compares standard costs and revenues with actual results to obtain variances which are used to stimulate improved performance."*

Direct Costing - Under direct costing, *a unit cost is assigned only the direct cost*, i.e., all the direct costs are charged to the relevant operations, products or processes. The indirect costs are charged to the profit and loss account of the period in which they arise. As a result, inventory is valued at direct cost only.

Marginal Costing - Under marginal costing, marginal cost is ascertained by differentiating between fixed and variable costs. In this type of costing, *variable costs are charged to cost units and fixed costs of the period are written off in full against the aggregate contribution*.

Marginal costing is of great importance in case of short-term decision making.

Absorption Costing - It is the technique of *assigning all costs i.e. both fixed and variable, to the respective product/service.*

Difference between various Types of Costing

a. *Marginal Costing V/S Absorption Costing*
Marginal cost excludes fixed costs. Under absorption costing, even fixed costs are charged to the product/service.
b. *Marginal Costing V/S Direct Costing*
Under marginal costing only variable cost (both direct and indirect) is charged to the cost unit while under direct costing, only direct cost (both fixed and variable) is charged to the cost unit.

c. *Absorption Costing V/S Direct Costing*
Under absorption costing, all costs (both direct and indirect) are assigned to the cost unit, whereas under direct costing only direct cost is assigned to the cost unit. In both types of costing, variability of cost is ignored.

METHODS OF COSTING & THEIR APPLICABILITY

The method of costing applied by a particular industry depends upon the nature of the industry.

Following are the various methods of costing which are commonly followed :

Job Costing - The objective under this method of costing is *to ascertain the cost of each job order*. A job card is prepared for each job to accumulate costs. The cost of the jobs is determined by adding all the costs against the job when it is completed.

This method of costing is used in *printing press, foundaries, motor- workshops, advertising etc.*

Batch Costing - This method of costing is used *where small parts/components of the same kind are required to be manufactured in large quantities.* Here a batch of similar products is treated as a job and the cost of such a job is ascertained as mention in (10.1) above

For e.g. in a *cycle manufacturing unit,* rims are produced in batches of 1,000 units each, then the cost will be determined in relation to a batch of 1,000 units.

Contract Costing - *If a job is very big and takes a long time for its completion*, then the method appropriate for costing is called contract costing. Here the cost of each contract is ascertained separately.

It is suitable for firms engaged in erection activities like *construction of bridges, roads, buildings, dams etc.*

Process Costing - This method of costing is used in those industries *where the production comprises of successive and continuous operations or processes.* Here specific units lose their identity in the manufacturing operation. Under this method of costing, costs are accumulated by 'processes' for a particular period regardless of the number of units produced.

This method of costing is followed by *chemical industry, soap industry, rubber industry, paints industry.*

Operating Costing - The method of costing used in *service rendering undertakings* is known as operating costing.

This method of costing is generally made use of by *transport companies, gas and water works departments, electricity supply companies, canteens, hospitals, theatres, schools etc.*

Single Output/Unit Costing - This method of costing is used where a *single product is produced.* The total production cost is divided by the total number of units produced to get the unit/single output cost.

This method of costing is normally used in *marble quarrying, mining, brick-kilns, breweries, etc.*

Multiple Costing - It is a *combination of two or more methods of costing mentioned above.* Suppose a firm manufactures bicycles, including its components, the parts will be costed by way of batch costing but

the cost of assembling the bicycle will be done by unit costing. This method is also called composite costing.

Material

Introduction :-

These Chapter deals with Calculation & Control of Material Cost. Normally Stock of material is valued either at cost price or MKT Price whichever is lower. Under the Cost Price criteria method like FIFO [First In First Out], LIFO [Last In First Out], Weighted Average, Simple Average are used.

The Above Approach are related to calculation & valuation of material stock. However it is equally important to control the material cost. For controlling the cost , it is necessary to decide how much should be purchased, when to purchased, what should be stock level, How much discount should be demanded from the supplier etc. It is also necessary to keep check over material turnover. For controlling the material cost .

[1] ECONOMIC ORDER QUANTITY (EOQ) OR REORDER QUANTITY (ROQ)

It represent the quantity of material which should be purchased each time. **These quantity is economical from the angle of the storages & ordering cost.**

$$EOQ = \sqrt{\frac{2AB}{CS}}$$

Where

A = Annual Consumption of Qty

B = Buying cost OR cost of placing one order.

CS = Cost of storing one unit of material for one year.

[2] Reorder Period OR Delivery Period OR Lead Time :-

It represent the time gap involves between placement of order & Actual Receiving of the Delivery. Such Period is again divided into Maximum Period, Minimum Period, Average Period & Emergency Period.

[3] Reorder Level (ROL) :-

It represents that level of stock of which fresh quantity of material should be purchased. The Purchased Quantity will be EOQ.

ROL is calculated as follows :

A]

MADIUM USAGE X MAXIMUM DELIVERY PERIOD

B]

Normal Usage OR Avg Usage X[Minimum Stock Period + Avg Delivery Period]

C]

Safety Stock Quantity + Lead time Consumptio n Quantity

4] Maximum Stock Level

It represent minimum Qty of stock which should be maintained by Organisation.

ROL + ROQ -[Minimum Usage x Minimum Delivery Period]

5] Minimum Stock Level :-

It represent Minimum Qty of stock which should be maintained by Organisation

ROL -[Normal Usage x Avg Delivery Period]

6] Average Stock Level :-

It represent on an average how much stock quantity should be maintained.

1]

$$\text{Minimum Stock Level} + \left[\frac{1}{2} \text{ X ROQ}\right]$$

2]

$$\frac{1}{2} \text{X}\left[\text{Minimum Stock Level + Manimum Stock Level}\right]$$

7] Danger Level :-

It represent that Level of stock below which production will stop.

Average Consumptio n X Emergency Delivery Period

8] Material Inventory Turnover Ratio :-

$$\frac{\text{Yearly Consumption Qty}}{\left[\frac{\text{Opening Stock Qty} + \text{Closing Stock Qty}}{2}\right]}$$

9] Material Inventory Period :-

It represents the period of one Consumption Cycle.

$$\frac{365}{\text{Turnover Ratio}} = \text{Ans in Days}$$

LABOUR

INTRODUCTION :-

.**Halsey premium plan-** this system is also known as Split Bonus Plan or fifty-fifty plan. The plan was introduced by F.A.Halsey, an American engineer. In the plan , the standard time is fixed. The workers are paid at time rate for the time taken an d a bonus of 50 % of time saved X hourly rate as bonus. Thus earnings be: (Time Taken X Hourly Rate) + 50% of Time Saved X Hourly Rate.

Merits – 1. It is simple to understand and easy to calculate. 2. Standard time is fixed for each job or operation. 3. Both employer and employee get equal benefit from time saved by the worker. 4. It can be introduced in any modern industry. 5. It provides incentives to efficient workers at the same time below average workers are not penalised. 6. Saving in time reduce both labour cost and overhead expenditure. 7. The system is based on time saved and not on output; thus prevents overproduction.

Demerits – 1. Fixation of standard is very difficult. 2. If wage rate is low, incentive value may be low. 3. Careful supervision is necessary. 4. Earnings are reduced at high level of efficiency.

Rowan Premium plan – This scheme was introduced in the year 1901 by David Rowan of Glasgow. In this scheme also as in Halsey plan Standard Time and Hourly Rate are fixed. Workers are paid at hourly rate for the time taken plus bonus . bonus is calculated as $\{(ST-AT) \div ST\}$ X HR.

Merits – 1. It assures the minimum time wages. 2.Strandard time is fixed, hence basic rates will not be changed. 3. It is suitable for learners and beginners. 4. The employer is protected even if rates are not properly fixed. 5. The workers benefit along with the workers. 6. It pays higher bonus to workers when compared to Halsey plan. 7. Since bonus declines at higher efficiency, the worker is not induced to rush work.

Demerits – 1. It is difficult to understand and calculate. 2. This affects extra-ordinary efficiency, as if the time is more than half, the total earnings start decreasing. 3. The system is more complex and expensive.

Comparison between Halsey and Rowan premium plans -1. Under both the systems Standard Time and Hourly rates are fixed and the workers are paid for the time taken at hourly rates and bonus for the time saved. However, the calculation of bonus causes certain differences between them. .

Sino	Halsey	Rowan
1.	Bonus increases steadily through out	Bonus increase upto saving in time is equal to 50% of standard time.
2.	Bonus is 50% of hourly rate on time saved.	Bonus is in that proportion of time taken, which the time saved bears to the standard time.
3.	Gains of efficiency are shared by employer and employee (1:1)	Gains of efficiency are not shared equally.
4.	From the view point of the workers, it is disadvantages at low efficiencies.	At low efficiencies it pays more than Halsey and advantageous to workers.
5.	From the view point of management , more workers will fall under this group and advantageous to them	Where efficiency of workers is less than 50% of time saved, disadvantage to the management.

non- monetary incentives

The non- monetary incentives are also called as psychological incentives. These incentives which are given in the form of amenities or facilities, do not offer cash rewards to the employees for any specific or measured work. Such non-monetary benefits create a psychological effect by making working conditions and terms of employment lucrative enough to induce the employee to increase his efforts. The benefit goes to all employees in the undertaking and is not limited to any individual or class or group. These benefits are also called as ‘fringe benefits’.

The following are some of the non-monetary benefits: 1. Favourable working conditions. 2. Medical facilities for the individual and his family. 3. Educational facilities to their children. 4. Welfare measures. 4. Cheap grains. 5. Subsidised canteen. 6. Recreational facilities. 7. Transport facilities. 8. Housing facilities. 9. Pension schemes. 10. Provident fund contributions. 11. Protective clothing and uniforms. 12. Tea, milk etc., for especially arduous work.

Advantages – 1. Reduce labour turnover. 2. Impart satisfaction to workers and create a sense of loyalty and co-operation in them. 3. Reduce absenteeism.4. create a reputation for the undertaking so that the best of the labour is attracted.

the functions of pay-roll department

Calculation of wages payable to the employees is the main responsibility of pay-roll department. The major functions of pay-roll department are: 1. To maintain wage records of each worker, department and period wise on a permanent basis. 2. To verify time shown by time cards with that of pay-roll. 3. To calculate the correct amount payable to each worker . 4. To compute and arrange for deductions from the gross salaries of workers and cause necessary remittances to the proper authorities on whose behalf such deductions are carried out.

Pay-roll (Wages Sheet) – It is a detailed information of the gross, as well as the net amount payable to each worker. The accuracy of the pay-roll should be verified with relevant records. The specimen of a pay-roll is :

PAY-ROLL

S.No.	Name	Worker N0.	Time taken	Normal hours	Overtime hours	Normal rate	Normal wage	Overtime wage	Dearness allowance	Other allowances	Gross	Pf contribution	ESI	Others	Net deductions	Net payable	

Precautions – Strict control must be exercised at the time of disbursement of wages, because frauds are committed at this stage. Therefore to avoid frauds , proper systematic and strict procedures are to be adopted . frauds in connection with payment of wages are of the following nature:1. Inclusion of dummy or ghost workers in pay roll. 2. Manipulation of hours worked, in job cards. 3. Recording bogus overtime. 4. Using wrong rates of pay in wage calculations. 5. Manipulating wage calculations. 6. Making payments to wrong persons. 7. Making a worker present who was actually absent. 8. Omission to make authorised deductions in pay-roll. 9. Making payment to a worker twice.

Therefore, the following steps should be taken to avoid or minimise fraud. 1. The wages of workers should be paid in the presence of the head of the department. Cash payment of wages may be avoided. It can be paid by 'account payee' crossed cheque drawn in the name of the worker or the amount may be credited to the bank account of the worker. 2. Each worker should be given a photo identity card in which name, number, the department in which he is working, designation and other relevant data are inscribed. 3. Entries with regard to the time of work be checked with relevant entries in time booking cards. 4. The person who prepared the pay-roll should certify the pay-roll to its correctness. 5. The association of cashier with pay-roll department be either avoided or minimised. 6. Pay packets be prepared for every worker, on which all the relevant information be recorded. 7. The terms of remuneration and bonus schemes should be clearly defined without any ambiguity. 8. Suitable internal checking system be introduced to verify every step and calculation in preparation of pay-roll. 9. Undistributed amount in pay packets are to be entered in the 'Unpaid wages account', and there after be distributed through main cashier. 10. Outstation workers are to be paid by the head office only.

PART I

Piece rate system of labour Calculation :-

In this Approach wages are paid according to Quantity produced by the workers.

Amount of Wages [Normal Wages] = Actual Quantity Produced X Std Labour Rate P.u

However efficient workers should be given some incentives & therefore following Approaches will be developed by **Orthodox Cost Accountant..**

[1] Taylor Approach :-

Level of Efficiency	Remuneration
Less than 100%	83% of Std Piece rate

>=100%	**175% of Std Piece rate**

Note :- In the Institute Study Material it is given 125% which is not correct.

[2] Merrick Approach :-

Level of Efficiency	Remuneration
Upto 831/3% OR 83.33%	**Std Piece rate**
Above 831/3% OR 83.33% but Upto 100%	**10% above Std Piece rate**
Above 100%	**20% above Std Piece rate**

PART II

Time rate System of Labour Calculation :-

In this Approach Remuneration is Calculated according to actual time worked by the worker.

$$\text{Amount of Wages} = \text{Actual Hrs Worked X Std Labour rate Per Hrs}$$

Following thinking are available

[1] HALSEY'S 50% PREMIUM APPROACH : -

$$\text{Workers Remuneration} = (\text{Actual Hrs Worked X Std Rate Per Hrs}) + \left[\frac{50}{100} \text{X (Std Time - Actual Time) X Std Rate}\right]$$

Std Time :- It means Time allowed OR Std taken for Actual Production.

Actual Time :- It means Actual time take for Actual Production OR Actual Hrs Worked by the Worker.

Difference Between Std time & Actual Time , It represent Time Saved.

1st Part of the Formula Indicates Normal Wages

2nd Part of the Formula Indicates Bonus Amt or Incentives

[2] Rowan Approach :-

$$\text{Amount of Wages} = [\text{Actual Hrs Worked X Std Labour rate Per Hrs}] + \left(\frac{\text{Std Time - Actual Time}}{\text{Std Time}} \text{X Actual Time X Std Rat}\right.$$

PART III

Mixed Approach :-

It is Developed by Gantt Task

This Approach is combination of Time rate system & Piece rate system.

Level of Efficiency	Remuneration
< 100%	Actual Hrs Work X Std Rate Per Hour
100%	Actual Hrs Work X [Std Rate Per Hour + 20%]
> 100%	Actual Qty Produced X High Piece rate **OR** Actual Hrs Work X Std Rate per Hour + 1/3

* High Piece rate is fixed by the management.

Labour Turnover

It represent worker leaving the Job & New worker's Appointed. Labour Turnover is essential for removal of inefficient worker & appointing of the new efficient workers. However high rate of turnover will result into loss of production, loss of sales, loss of profit & other administrative cost relating to selections, recruitment, training, etc of new workers.

Following method are available for calculation of labour turnover.

[1] Separation Method :

$$\frac{\text{No of Workers Left}}{\text{Average No of Workers}} \text{X } 100$$

$$\text{Average No of Workers} = \frac{\text{Workers at the Beginning of the Period} + \text{Workers at the End of the Period}}{2}$$

[2] Replacement Method :

$$\frac{\text{Number of Workers Replaced in place of those who left the Job}}{\text{Avg Number of Workers}} \text{X } 100$$

[3] Flux Method:-

It is a Combination of 1st and 2nd

$$\frac{\text{Number of Workers Left} + \text{Number of Workers Replaced}}{\text{Avg Number of Workers}} \text{X } 100$$

[4] Labour Turnover on the Basis of Hours

$$\frac{\text{Number of Hour Lost due to Turnover}}{\text{Total Productive Hours}} \times 100$$

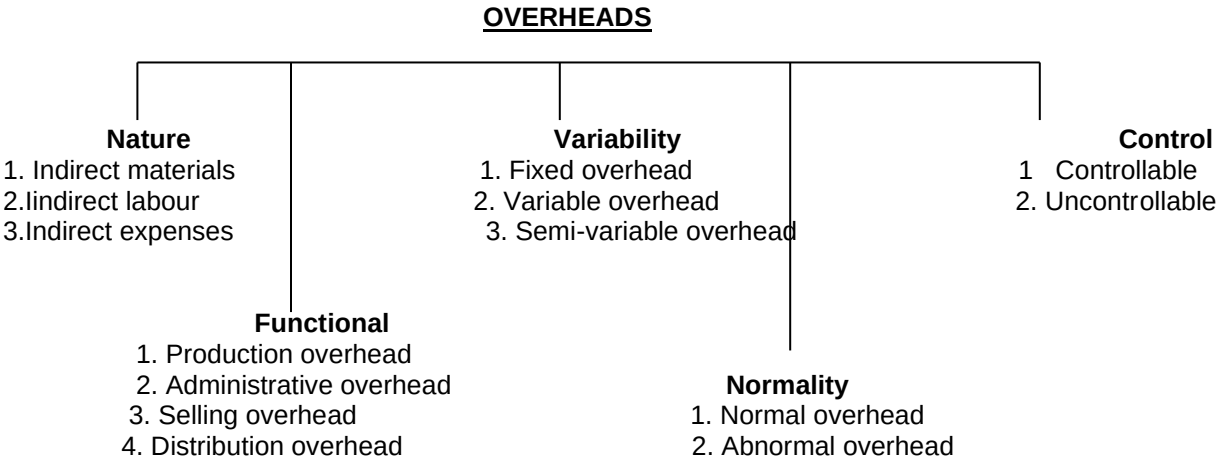
OVERRHEADS

'overheads'

Overheads is the aggregate of indirect material cost, indirect labour cost and indirect expenses. The ICMA defines overhead as 'Total cost of indirect materials, wages and expenses'. Wheldon says, overhead may be defined as the cost of indirect materials, indirect labour and such other expenses including services as cannot be conveniently charged to a specific unit. Alternatively, overheads are all expenses other than direct expenses. Blocker and Weltmer define overheads as operating costs of a business enterprise, which cannot be traced directly to a particular unit of output.

Classification of overheads-

There are various methods of classifying or grouping overheads which greatly depend upon the objectives of classification, the type of the firm and its size. Generally they are classified according to 1. Nature, 2. Function, 3. Variability (behaviour), 4. Normality and 5. Control.



Nature classification – according to the nature of expenses incurred the expenses are classified as indirect materials, indirect wages and indirect expenses.

1. Indirect materials – The cost of materials, which cannot be allocated to a particular unit and does not form directly chargeable to finished product is termed as indirect materials. E.g., consumable stores, fuel, small tools for general use etc.

2. Indirect labour – labour charges, which cannot be allocated to a particular unit of cost, is called indirect labour. E.g., salary of foremen, maintenance workers, idle time, salaries of supervisory staff etc.

3. Indirect expenses – most items of expenditure are classified as indirect expenses since they are incurred for the business as a whole, rather than in regard to a particular product. E.g., rent, insurance, taxes, canteen, welfare expenses, lighting and heating, depreciation of plant and machinery, buildings, advertisement, carriage on sales etc.

b. Functional classification – according to the function for which the expenditure was incurred it can be classified as factory overheads, administrative overheads, selling overheads and distribution overheads.

1. Factory overheads – They are also called as manufacturing overheads, works on cost, factory on cost etc. a list of items of factory overhead are 1. Rent, taxes, depreciation on own buildings, repairs to factory building etc. 2. Depreciation , insurance etc. of factory plant, machinery and equipment, 3. Factory lighting, heating and ventilation, 4. Fuel and power, 5. Consumable stores, small tools etc. 6. Indirect materials such as consumable stores, lubricant oil etc., 7. Repairs of plant and machinery and equipment, 8. Store keeping expenses, 9. Cost of idle time, overtime, holiday pay etc., 10. Salary of foremen, works manager etc., 11. Repairs and maintenance of power house, 12 workers training and welfare, factory telephone and stationary etc.

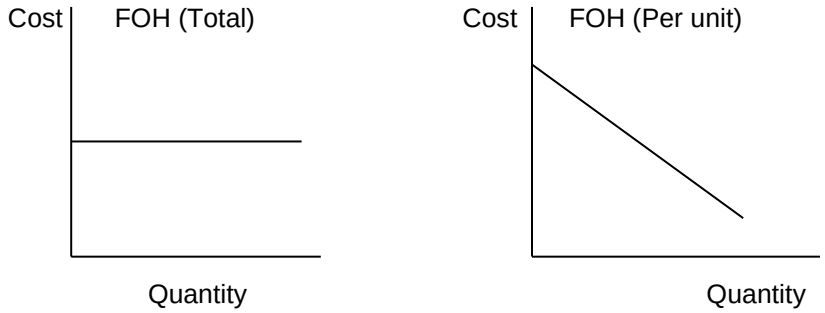
2. Administrative overheads – "It is the cost of formulating policy, directing and controlling the operations of an undertaking which is not related to production , selling and distribution, research and development activity or function'. All expenses pertaining to office administration, business administration and management are included under this head. E.g., 1. Account office expenses, audit fee, 2. Office salaries, 3. Postage, stationery, telegram and telephones, 4. Legal expenses, 5. General administration expenses, 6. Depreciation. Insurance, rent, etc., of the office buildings, equipment and furniture, 7. Bank charges, 8. Office air-conditioning and electricity expenses.

c. Selling overhead – It means the cost of seeking to create demand and stimulate demand in securing orders for the product. These include: 1. Advertisement, general market research and analysis expenses, 2. Bad debts, 3. Quotations and price list, 4. Salaries and commission to salesmen, selling expenses, 5. Travelling expenses of salesmen, 6. Sales office expenses – postage, telephone, stationery, salaries of sales manager and sales office, window-dressing, etc.

d. Distribution overhead –The expenses pertaining to delivery of sold goods to the customer fall under this group. E.g., 1. Packing materials and expenses, 2. Carriage outwards and transport expenses, 3. Maintenance and repairs, depreciation and insurance of delivery vans, 4. Warehouse expenses such as rent of warehouse or depreciation of warehouse and its furnishings, salaries to warehouse staff etc, loss of goods in transit to the extent of normal loss already provided for.

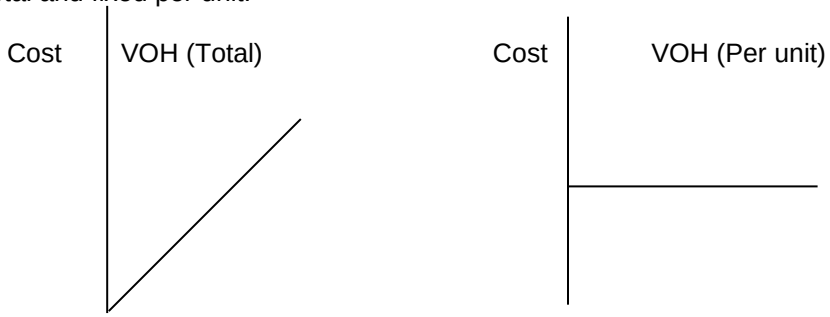
c. Classification according to behaviour – According to the behaviour all the indirect expenses can be grouped under three heads as fixed overhead, variable overhead and semi-variable overhead.

1. Fixed overheads- fixed overhead is one which tends to be unaffected by variation in the volume of output. They remain constant as a totality and decreases per unit for increase in output.



The expenses relating to fixed overhead are: A. Factory overheads –1. Rent and taxes of factory land and building, 2. Insurance on factory plant and machinery, 3. Depreciation on plant and machinery, 4. Salaries of supervisory staff, works manager salary etc. B. administrative overhead – 1. Managers salary and salaries of staff, 2. Rent or depreciation of factory buildings, 3. Other expenses such as office cleaning, watchmen salary etc. C. Selling and distribution – 1. Salaries of permanent staff, 2. Rent or depreciation of sales office, warehouse etc., depreciation on furniture and delivery van. Etc.

2. Variable overhead – The variable overhead is one which tends to vary directly with the volume of output. The variable cost increases in the same proportion with the increase in output. The tendency of this kind of expenditure is to vary in total and fixed per unit.



Quantity Quantity

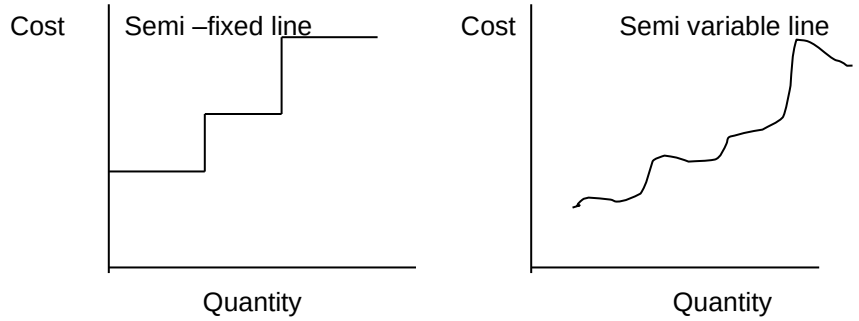
Indirect materials, indirect labour, fuel and power, stores expenses, postage, discount to customers etc., are few examples of variable overhead.

3. Semi- variable overhead- It is an overhead, which is partly fixed and partly variable. It means that part of the expense does not change while the other part of the same changes with volume of output. Generally no expenditure is truly fixed or truly variable. The semi-variable overhead may be of the following types.

a. The fixed expenses remain constant up to a level of activity and changes when the level is increased. The best example is depreciation , which remains constant up to 100% of capacity utilisation and increase beyond 100% of utilisation.

b. some expenses do change with the change in volume of output but not in the same proportion. Some expenses remain foxed for some time and slowly changes to variable in character for some time and the cycle repeats very often.

c. Some times the part of fixed expenditure remains constant and the part of variable expenditure varies in direct proportion to the output. It takes the form of regression Y = a + bX.



Classification according to normality – According to normality overheads are classified as normal and abnormal. Normal overheads are expected to be incurred in attaining a given output. These are unavoidable. These can be included in production cost. Abnormal costs are those costs, which are not expected to occur in attaining a given output. E.g., abnormal idle item, abnormal wastage, etc. Such expenses are considered as loss and be transferred to costing profit and loss account

e. According to control – A cost may be either controllable or uncontrollable. Controllable costs are those costs, which can be controlled by an efficient management. E.g., idle time, wastage, etc. can be controlled. Uncontrollable costs are those which cannot be controlled. All types of fixed expenses are the best example for uncontrollable cost.

the various methods of segregating semi-variable overheads

The semi-variable overhead is not a separate entity for costing. The fixed part be separated and added to general fixed overheads, and so the variable cost. This separation is necessarily be done where marginal costing system is adopted. The following are the methods of segregating such expenses.

1. High and low points method - under this method, the difference between the cost for high level of output and low level of out put be found. Similarly the difference in quantity between these two levels be ascertained. By dividing the difference in cost by difference in quantity is the rate of variable cost. The total variable cost is the product of the rate and output. For example the following is the information in respect of production and relevant cost

Month	units	cost (Rs.)
Jan	100	1,800
Feb	200	2,600
Mar	300	3,400
Apr	500	5,000

Rat of variable overhead =(5,000 – 1,800) ÷ (500 –100) = 3,200 ÷ 400 = Rs.8.
Variable overhead for April = 8 X 500 =Rs. 4,000
Fixed overhead = 5,000 – 4,000 = Rs. 1,000

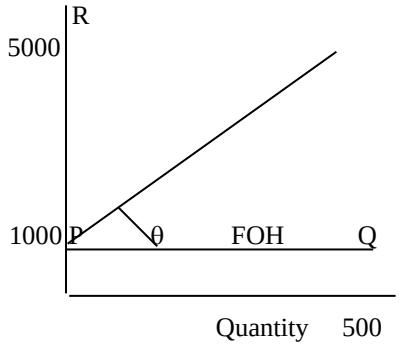
Similarly for other periods the composition of cost can be found.

2. Linear equation method – in this method the total overhead is found as Y =a +bX, where a is the fixed cost, b is the variable cost per unit, X is the output and Y is the total cost. In the above example

Month	a + bX	=	Y
Jan	1,000 + (100 X 8)	=	1,800
Feb	1,000 + (200 X 8)	=	2,600; and so on.

The value of a, b can be found by applying statistical technique trend analysis, line of least square method.

3. scatter graph method- the various values of output and corresponding costs are plotted in the graph. The place at which the cost line intersects Y axis determines the fixed cost. The slop of variable over head can be found by applying trigonometry, tanθ =*Opposite side (adjacent side*



Rate of VOH = tanθ = QR ÷ PQ
= (5000 –1000) ÷ (500 – 0)
= 8

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allocation and apportionment of expenses.

Allocation and apportionment are two different items. Cost allocation means the allotment of whole items of cost to cost units or cost centres. Cost apportionment to mean and involves allotment of proportion of items of cost to cost units or centres. Further in allocation, costs are directly allocated. But apportionment of cost needs suitable basis for the sub-division of the costs to various cost units or centres. For instance, 1. Factory rent can be allocated to factory, but can be apportioned to departments. 2. The maintenance cost of production shop can be allocated to the shop directly, but can be apportioned to the various machines of the shop, on the basis of machine hours run, value of machines etc.

Principles of apportionment – After collecting indirect expenses such as electricity, rent , insurance etc. they are to be apportioned on a suitable basis to the various cost centres. Selection of suitable basis, is important and the following principles are useful in dealing with them.

a. Service or use method – under this system, overhead costs are shared by the departments on the basis of services or benefits received therefrom. For example, insurance, electricity etc. is apportioned to various departments on the basis of use, rent on the basis of floor space, etc.

b. Ability to bear – This principle is on the basis of earning profits among the departments. A department, which produces costly goods or earns higher profits, shares larger part of the cost of the service department by deliberate decision of the costing department.

c. Survey method – in certain cases, a survey method has to be used in order to understand the benefits received by different departments. For instance, a workshop foreman may supervise two departments and his salaries may be apportioned in the ratio of time spent by him in the two departments, and the time spent by him in this two departments may be ascertained only by survey of related documents regarding time booking of the foreman.

the different methods of distributing service department costs

The expenses of service departments are collected in the primary distribution summary. The next step is to reallocate the service department expense to production departments. There are two methods of apportioning the service

department costs to the production departments. They are 1. Apportionment only to production departments- Direct method, and 2. Apportionment to service as well as production departments

1. Apportionment to production departments only – In this case the total of service department expenses is distributed only to the production departments on an appropriate basis. Generally the following bases are used to apportion such expenses. Direct labour hours, direct wages, Machine hours, number of employees, horse power or wattage-for power department expense, weight of materials, stores requisition –for internal transport and material handling department expenses, capital value etc.

2. Apportionment to service as well as to production departments- in general not only the production department but also the service departments reap benefits because of other service departments. For example the personnel department services are enjoyed by other service departments such as repairs shop. Hence for proper allocation it is advised to allocate the service department expenses to the other service departments also, before allocating such department expenses to the production departments. There are two methods in such allocation A.. Descending departmental apportionment (Step method) and B. Inter-departmental apportionment.

A.. Step method – In this method, the cost of the most serviceable departments, i.e., the department which serves the largest number of departments, is first apportioned to other service departments and production departments. The next most serviceable department expenses are shared to the remaining service departments and production departments and so on till the last service department expenses are shared only to the production departments. For example a factory in addition to production departments has three service departments, Timekeeping, stores and Maintenance. Apart from sharing to production departments, first timekeeping department expenses can be shared to stores and maintenance departments in the ratio of number of workers, then Stores department expenses can be shared to all production departments and maintenance department in the ratio of store requisition and finally the Maintenance department expenses can be shared only to production departments in the ratio of value of machines or machine hours worked in each department.

B. Inter-departmental apportionment - Normally a situation may arise the service departments may render mutual services inter-se, in which cases, the expenses are to be shared by the departments also inter-se. There exists two method in such allocation a. simultaneous equation method and b. repeated distribution method.

a. Simultaneous equation method – under this method algebraic equations in the form of simultaneous equation be made and solved algebraically, which figure forms the basic for allocation in the given ratios including to that of service department. For example , let there be two service departments X and Y. the overhead as per primary distribution is Rs.4,000 for X and Rs 5,000 for Y, and X to share 10% of Y department expenses and Y to share 20% of X department expenses. Let x be the total expenditure of X department and y be the expenditure of Y department. The equation be formed as

$x = 4{,}000 + 0.1\ y$……..(1)

$y = 5{,}000 + 0.2x$……...(2)

By solving these equations the value of x and y can be found, which shall be distributed in secondary distribution table in the given ratio .

b. Repeated distribution method – if there are more than two service department rendering services amongst themselves, the above said algebraic method will be tedious and repeated distribution method is used. Under this method each service department expense be shared to other departments including other service departments which gain service from them. Though initial expenses are shared, still there will some expenditure in each service department to be shared because of allocation of other service department expenses. The same process of sharing will continue repeatedly till further subdivision will not improve sharing meaningfully.

absorption of overheads

Charging the overheads to individual unit or specific product is called as overhead absorption. In other words, the method of charge or apportionment of overheads of an individual cost centre is known as absorption or recovery. According to ICMA, overhead absorption is 'the allotment of overhead to cost units'.

Requisites of a good absorption rate: 1. It should not involve unnecessary clerical work. 2. The selected method should be according to the nature of the product; e.g., if the work is done by machines, the machine hour rate should be adopted. 3. The adopted system should not bring much difference between recovered overhead and actual overhead. 4. The selected overhead rate must be stable so that comparison can be made. At the same time, it must be flexible to the changing conditions.

the different methods of absorption of overheads

The various methods applied for absorption of overheads can be grouped under three methods. 1. Production unit method, 2. Percentage methods, 3. Hourly rate methods.

1. Production unit method – This method is also known as 'units of output method' or ' cost unit rate method'. This is a simple method and when the same type of products are manufactured, this method can be used. The actual or pre-determined rate of absorption is calculated by dividing the total overhead by the number of units produced or estimated to be produced.

Recovery rate per unit = Overhead ÷ output

2. Percentage methods: the recovery rates can be calculated as a percentage on a. Direct materials, b. Direct labour, c. Prime cost

On direct materials = (Overhead ÷ Direct material cost) X 100

On direct labour =(Overhead÷ Direct labour cost) X 100

On prime cost =(Overhead÷ Prime cost) X 100

3. Hourly rate methods -The recovery rates can be calculated based on a. Labour hours, b. Machine hours

On labour hours (Labour Hour Rate) = Overhead ÷ Direct labour hours during the period

On machine hours (Machine Hour Rate) =Overhead ÷ Machine hours during the period.

machine hour rate and how is it computed

The cost of running a machine per hour is called 'Machine hour rate'. A separate rate for each machine can be established, which can be related to overhead cost of the production departments. The actual and pre-determined rates factory overhead absorption is computed by dividing the cost of running machine by the number of hours it worked. The machine hour rate can be computed either for one machine or a group of similar machines of a department.

Machine hour rate (MHR) = Total cost of running machine ÷ Machine hours during the period

There are two methods of computing machine hour rate 1. Ordinary machine hour rate and 2. Composite machine hour rate.

1.Ordinary machine hour rate- Direct machine expenses are taken into account when calculating ordinary machine hour rate. Machine expenses are of two types.1. Machine expenses which are proportional to the operating time of the machines. These expenses are variable in nature. Power, fuel and depreciation comes under this group and these expenses are calculated per hour directly. 2. Expenses which have no relation to operation and which are of fixed nature, e.g., insurance on machinery, etc., are calculated for a period and apportioned over the machine hours during the period.

2. Composite machine hour rate – in this method, machine expenses and other general overheads of the department like supervision, rent, lighting and heating etc., are taken into account and they are known as standing charges. These are to be apportioned to each machine on a suitable basis. These standing charges apportioned to each machine are divided by the number of machine hours. This will be added to ordinary machine hour rate to get composite machine hour rate.

The following are suitable bases for apportionment of different expenses for calculation of machine hour rate.

S.No	Expense	Bases
1.	Rent and rates	Floor space
2.	Lighting and heating	Floor space, number of points or direct
3	Supervision	Time spent on each machine
4.	Consumable stores and lubricant oil	Stores requisition
5.	Insurance	Value of machines
6.	Miscellaneous expenses	Direct wages, value of asset, machine hours
7.	Depreciation	Value of assets
8.	Repairs	Value of assets
9.	Power	Value of assets, KWH, machine hours or direct
10.	Any other item for which there is no clear base	Direct wages, value of asset, machine hours.

'**selling and distribution overhead'**.

Selling overhead is the total costs involved in seeking to create and stimulate demand, securing and executing orders. Cost of manufacturing and distributing the finished products are, however excluded.

Distribution overhead is the total of the costs of moving the finished products to central and local storage, moving finished products to the customers, moving the finished products to and from the prospective customers as in the case of goods on sale or return basis and making the empty packages reusable. In short, when a product is placed in a saleable condition, production function ends and distribution function begins. Overheads related to distribution function are termed as 'distribution overhead'. Normally it is preferred to deal with selling and distribution overheads together.

Examples of selling overhead are: Salaries, commission, travelling expenses of salesmen and technical representatives, sales office expenses, bad debts, brokerage, cost of operating market information system including market research, expenses on advertisement and publicity, cost of catalogue and price lists, cost of maintenance of showrooms, etc.

Examples of distribution overheads are: depreciation, cost of repairs and maintenance, insurance charges and operating cost of delivery vans; cost of secondary packing; warehousing; expenses on insurance of finished products; wastage of finished goods; etc.

Proper accounting and control of selling and distribution overheads has assumed importance because these are showing an increasing trend. Expenditure on advertising and on various promotional schemes and demonstration schemes have increased. With the widening of sales territories, distribution cost also have expanded.

Accounting of selling and distribution overheads - Accounting of selling and distribution overheads starts with the collection of overheads under clearly defined cost account numbers. Cost account numbers reflect the nature and objective of expenditure. The following are the examples of account heads for selling and distribution overheads: Advertising; Commission to salesmen; bank charges; Catalogue and price lists; Stationery and printing; After-sales service; Rent, rates and taxes; Insurance, Postage, telephone, and telegram; Discount ; Fancy packing; Repairs of vehicles; etc.

Selling and distribution overheads may be classified under fixed, semi-variable, and variable overheads. Analysis of expenses under these classification is essential for effective control as well as for decision making.

The second step is to allocate and apportion these expenses to various functions and territories . the function may be grouped under the following headings: 1. Advertisement and sales promotion; 2. Direct selling; 3. Transportation, 4. Warehousing and storage; 5. Credit collection

It is not sufficient to allocate and apportion costs to functions. Proper accounting requires distribution of selling and distribution costs to the central marketing organisation and territories. Expenses allocated and apportioned to central marketing organisation are then re-apportioned to the territories. The following is the bases of which are commonly used for distribution of selling overheads to functions and territories.

S.No.	Selling overhead	Distribution base
1.	Advertising expenses	Sales value or physical units
2.	Cost of catalogues	Sales value or number of customers
3.	Insurance charges	Value of property
4.	Depreciation	Capital value of assets

Many of the expenses can be recorded for each function and territory, separately, and therefore, can be allocated directly. The following are examples of selling and distribution expenses, which can be allocated, directly to functions and territories.1. direct selling expenses, 2. Travelling expenses of salesmen. 3. Sales commission. 4. Bank charges for issue of bank guarantees. 5. Shipping costs, 6. Depreciation, cost of repairs and maintenance, insurance charges of buildings and office equipment. 7. Depreciation, cost of repairs and maintenance, insurance charges and operating expenses of delivery vehicles, etc.

The final step is the analysis of selling and distribution overheads by products or group of products sold. This analysis is similar to the absorption of manufacturing overhead in the units produced, except that unlike manufacturing overhead some of the selling and distribution overheads can be identified directly with a specific product or group of products sold.

Cost Control [Integrated and Non Integrated Account]

This chapter deals with Accounting Treatment of costing transaction. Two Approach are available

1] Non Integrated Approach

2] Integrated Approach

Non Integrated Approach :-

It is pure costing approach in which Person A/c & Real A/c's are ignored. In order to complete Double effects, Artificial Account is prepare " General ledger Adjustment Account"

In this approach those item are ignored which are not considered in cost sheet .

We have to deal following account

[1] Stores Ledger Control Account

[2] Wages Control Account

[3] Factory Overheads Account

[4] WIP Account

[5] Office & Administration Account

[6] Finished Goods Account

[7] Selling and Distribution Account

[8] Cost of Goods Sold Account

[9] Costing Profit and Loss Account

[10] Sales Account

[11]General Ledger Adjustment A/c (GLA A/c)

Flow of Transaction :-

[1] Total Material Purchased

Direct Material Transferred to WIP A/c

Indirect Material Transferred to Factory overheads A/c

[2] Total Wages

Direct Labour Transferred to WIP (Production) A/c

Indirect Labour Transferred to Factory overheads A/c

[3] For Direct Expenses WIP Account will be directly affected.

[4] Factory Overheads incurred Transferred to WIP Account

[5] WIP Account transferred to Finished Goods Account

[6] Office and Administration Transferred to Finished Goods

[7] Finished Goods Account Transferred to Cost of Sales Account

[8] Selling and Distribution Expense Transferred to Cost of Sales Account

[9] Cost of Sales Transferred to Costing Profit and Loss Account

[10] Cash/ Credit Sale done Transferred to Costing Profit and Loss Account.

[11] Costing Profit and Loss Account Transferred to GLA Account

1	TOTAL MATERIAL PURCHASED		

	STORES LEDGER CONTROL ACCOUNT ..... Dr	XX	
	TO GENERAL LEDGER ADJUSTMENT ACCOUNT		XX
2	MATERIAL ISSUED TO PRODUCTION		
	WIP ACCOUNT ..... Dr	XX	
	TO STORES LEDGER CONTROL ACCOUNT		XX
3	REPAIRS AND MAINTENANCE MATERIAL [INDIRECT MATERIAL]		
	FACTORY OVERHEADS ACCOUNT ..... Dr	XX	
	TO STORES LEDGER CONTROL ACCOUNT		XX
4	TOTAL WAGES INCURRED		
	WAGES CONTROL ACCOUNT ..... Dr	XX	
	TO GENERAL LEDGER CONTROL ACCOUNT		XX
5	DIRECT LABOUR CHARGED TO PRODUCTION		
	WIP ACCOUNT ..... Dr	XX	
	TO WAGES CONTROL ACCOUNT		XX
6	REPAIRS AND MAINTENANCES [INDIRECT LABOUR]		
	FACTORY OVERHEADS ACCOUNTS ..... Dr	XX	
	TO WAGES CONTROL ACCOUNT		XX
7	DIRECT EXPENSES INCURRED		
	WIP ACCOUNT ..... Dr	XX	
	TO GENERAL LEDGER CONTROL ACCOUNT		XX
8	FACTORY OVERHEADS INCURRED		
	FACTORY OVERHEADS ACCOUNT ..... Dr	XX	
	TO GENERAL LEDGER ADJUSTMENT ACCOUNT		XX
9	SALE OF SCRAPE		
	GENERAL LEDGER ADJUSTMENT ACCOUNT ..... Dr	XX	
	TO FACTORY OVERHEADS ACCOUNT		XX
10	FACTORY OVERHEADS ABSORBED OR RECOVERED OR APPLIED OR ALLOCATED (TRANSFERRED)		
	WIP ACCOUNT ..... Dr	XX	

	TO FACTORY OVERHEADS ACCOUNT		XX
11	FINISHED GOODS PRODUCED		
	FINISHED GOODS ACCOUNT ..... Dr	XX	
	TO WIP ACCOUNT		XX
12	OFFICE AND ADMINISTRATION OVERHEADS INCURRED		
	OFFICE OVERHEADS ACCOUNT ..... Dr	XX	
	TO GENERAL LEDGER ADJUSTMENT ACCOUNT		XX
13	OFFICE OVERHEADS ABSORBED OR APPLIED OR ALLOCATED OR RECOVERED		
	FINISHED GOODS ACCOUNT ..... Dr	XX	
	TO OFFICE OVERHEADS ACCOUNT		XX
14	COST OF FINISHED GOODS SOLD		
	COST OF SALES ACCOUNT ..... Dr	XX	
	TO FINISHED GOODS ACCOUNT		XX
15	SELLING AND DISTRIBUTION OVERHEADS INCURRED		
	COST OF SALES ACCOUNT ..... Dr	XX	
	TO SELLING AND DISTRIBUTION OVERHEADS ACCOUNT		XX
16	CASH AND CREDIT SALE DONE		
	GENERAL LEDGER ADJUSTMENT ACCOUNT	XX	
	TO SALES ACCOUNT		XX
17	SALES TRANSFER TO COSTING PROFIT AND LOSS ACCOUNT		
	SALES ACCOUNT ..... Dr	XX	
	TO COSTING PROFIT AND LOSS ACCOUNT		XX
18	COST OF SALES TRANSFERRED TO COSTING PROFIT AND LOSS ACCOUNT		
	COSTING PROFIT AND LOSS ACCOUNT ..... Dr	XX	
	TO COST OF SALES		XX
19	PROFIT TRANSFERRED TO GENERAL LEDGER ACCOUNT		
	GENERAL LEDGER ADJUSTMENT ACCOUNT ..... Dr	XX	
	TO COSTING PROFIT AND LOSS ACCOUNT		XX

Integrated Approach :-

It is a mixed Approach, which is combination of costing Approach and Financial Accounting Approach. It has 2 features

(1) Personal and Real Account will be considered. Therefore GLA Account will not be taken place. First 10 Account prepared as usual , followed by other Personal and Real Accounts.

(2) Non Costing Transaction will also be considered E.g Interest, discount, Dividend , Income Tax Etc.

The Flow of Transaction will be Considered here also.

JOB COSTING AND BATCH COSTING

JOB COSTING

When continuous production is not carried out but production depends on specific order received from customer, then in such case technique of Job costing is adopted for cost & profit calculation. Each order represent separate Job and we have to prepare Job cost sheet. The technique of Job costing is applied for preparation of Tender or Quotation.

In Absence of Information following points should be considered for preparing Job cost sheet.

[1] First a fall prepare cost sheet of running business or transaction took place in previous period.

[2] Calculate per unit cost of direct material, Direct labour, Direct Expenses and Selling & Distribution Overheads. Any Increase or Decrease will be adjusted to such per unit cost. The Revise per unit cost will be multiplied by Quantity of the Job order and we will get respective cost per job cost sheet.

[3] Calculate % of Factory overheads to Direct labour, using Data of previous period transactions.

[4] Apply this % on Direct Labour of Job cost sheet & we will get Factory overheads for Job cost sheet.

[5] Normally in Job Cost Sheet there will be no opening and closing WIP & Finished Goods. Even sale of scrape will not be taken place.

[6] Calculate % of office overheads to Works Cost using data of previous period. Apply this % to works cost of job cost sheet, & we will get office overheads for job cost sheet.

[7] Calculate % of Profit to cost of sale using data of previous period. Apply this % to cost of sale of Job Cost sheet & we will get the profit for job cost sheet.

BATCH COSTING:-

When Item produced is small in size identically nature , large scale production is carried out & cost per unit is quite lower, then the techniques of Batch Costing is utilised for calculation of cost.

We have to prepare cost sheet for particular Batch size. The Overall amount of fixed cost will not change according to Batch size but per unit fixed cost will be change according to Batch size.

If Semi variable expenses take place then it will be divided into Variable cost and Fixed cost.

This Techniques is utilised of manufacturing items like Pencils, Pins, Clips and Other small stationary Items, small Electrical Items, Etc.

OPERATING COSTING

Introduction

Operating costing method is one designed to ascertain and control the costs of the undertakings, which do not produce products but which render services. Operating costing is also known as service costing. it is that form of operation costing which applies where standardised services are provided either by an undertaking or by a service cost centre within an undertaking. It is the cost of rendering a service. Industries using operating costing do not provide tangible products; but useful service is rendered. For e.g., transport services, utility services like canteens, hospitals etc., distribution services like supply of electricity, gas etc. there is internal or external service. For e.g., repairs and maintenance department or canteen in a factory is a n internal service.. Services rendered to customers are called external services. E.g., hospitals, transport companies, electricity companies etc.

Cost unit – the selection of cost unit is different in operating costing. the following are few examples.

S.No	SERVICE	COST UNIT
1.	Passenger transport	Per passenger kilometre

2.	Goods transport	Per tonne kilometre
3.	hospital	Per patient bed
4.	Electricity supply	Per kilowatt hour
5.	Canteen	Per plate meal
6.	Cinema theatre	Per man show
7.	Gas works	Per 1000 cubic feet
8.	Steam production	Per 1000 lbs
9.	lodge	Per man room
10.	Institutions	Per student

These Chapter deals with Calculation of Cost for Service Orientated Organisation.

E.g:- Hospitals, Theaters, Transportation Services, Educational Institution, Etc.

We have to Calculate Cost & Quantity for Period of Operation.

$$\text{Cost Per Unit} = \frac{\text{Total Cost}}{\text{Total Quantity}}$$

At the time of calculation cost Proper classification should be adopted in respect of variable cost, Fixed cost & Semi variable cost.

Variable Cost include those expenses which fully change according to the level of activity or level of Quantity.

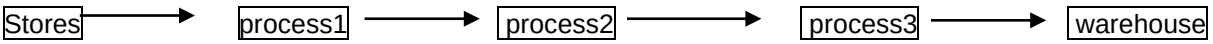
Fixed Cost are those Cost which change according to time Factor & doesn't have any relation with the quantity involves.

Normally Expenses like Rent, Depreciation, Interest, Etc are time based expenses or fixed expenses. Whenever we come across semi-variable expenses we have to divided into parts i.e Variable Cost and Fixed Cost. Normally Maintenance cost is semi variable cost.

Process Costing

Introduction

Process costing is a method of costing. this method refers to costing of distinct process involved, while converting raw materials into finished products. The layout of plant and machinery decides the type of costing to be adopted. Where the plants doing similar functions are grouped together in every department and the materials are allowed to move from one department to other department, to find the cost of performance in each department, process costing is used.



The cost is collected and ascertained and transferred to the next process. The output of one process becomes the input of next process. The basic raw material is introduced in the first process and the finished stock emerges out of last process.

Distinction between process costing and job costing

S.No	Process costing	Job costing
1.	The production is a continuous flow of stock in anticipation of demand	Production is executed against specific order from customers.
2.	No individual identity of products	Different jobs are individually identified.
3.	There is always work-in-progress both in the beginning and at the end.	Jobs may or may not have opening and closing work-in-progress.
4.	Costs are accumulated for each process for a period	Costs are accumulated for each job.
5.	Costs are found out at the end of the period	Costs are found at the completion of every job.
6.	Costs are transferred from one process to another process	No such transfer of costs from one job to other unless there is a cost relation between jobs.
7.	Through standardised systems managerial control is made easy	Since each job is different, no standardisation calling for intensive managerial attention.
8.	Paper work is less	Since every job is costed separately there is more of paper work.

9.	Since production is of standard products they are uniform	Production is based on individual specification and may differ widely.

Process Account

	Qty	Rate	Amt		Qty	Rate	Amt
To Direct Material	xx	xx	xx	By Sale of Scrape	xx	xx	xx
To Indirect Material	xx	xx	xx	By Sale of Wastage	xx	xx	xx
To Direct Labour	xx	xx	xx	By Normal Loss	xx	xx	xx
To Indirect Labour	xx	xx	xx	By Sale of Output	xx	xx	xx
To Direct Exp	xx	xx	xx	By Loss on sale of Output	xx	xx	xx
To Indirect Exp	xx	xx	xx	By Output transferred to Next Process	xx	xx	xx
To Abnormal Gain	xx	xx	xx				
To Profit on sale of Output	xx	xx	xx				
	xx	**xx**	**xx**		**xx**	**xx**	**xx**

whenever it is possible to divide production procedure into separate function, then cost is calculated for each function separately by preparing Process Account. Process account will include all cost upto fact level.

Following are the Important Terms :-

1] Normal Loss :-

It represent Expected Loss of Output quantity which cannot be controlled. Such Quantity is estimated on the basis of Previous Experience. If Such Loss doesnot have sale value then it reflect as normal loss.

2] Expected Output = Input Quantity - Normal Loss

3]

$$\text{Normal Cost of Process Per Unit} = \frac{\text{All Expenses - Sale of Scrape Amt}}{\text{Expected OutPut}}$$

4] Abnormal Loss :-

When actual Output obtained is lower as compare Expected output, then such loss of output is known as Abnormal Loss. Abnormal Loss take place due to Negligence.

Abnormal Loss Account Dr..... xx

To Process Account xx

Amount of Abnormal Loss = Abnormal Loss Qty X Normal Cost Per Unit

5] Abnormal Gain

When Actual output obtained is higher as compare to Expected Output, then such Extra output obtained is considered as Abnormal Gain.

Process Account Dr.... xx

To Abnormal Gain Account xx

Amount of Abnormal Loss = Abnormal Qty X Normal Cost Per Unit

Note :- Effect of Abnormal Loss or Gain will be given only when actual output is given in the question.

INTER PROCESS PROFIT PROBLEM

When output of one process is transferred is transferred to another process by charging profit then it is Inter Process Profit Problem. In the Process account we have to give 3 column i.e Cost, Profit & Total. Total column is actual , All figure given in the problem are at total level, all calculation should be done with reference to amount of total column.

Output of 1st process will be transferred to second process by charging profit. Same procedure will be followed in subsequent process also. The opening & closing stock of 1st process will not have element of profit. However opening and closing stock subsequent process & finished goods will have profit element. We have to create stock reserves account for element pf profit in such stock. The stock reserves treatment will be covered in Costing P/L A/c.

The value of closing stock will be deducted from debit side instead of writing on credit side. The amount of profit will appear in Profit column & total column but never in cost column.

EQUIVALENT PRODUCTION

Introduction

In the Process Problem WIP is involved, then Equivalent Production Treatment will be apply. The cost of the process will be allocated between completed output and Incompleted Output depending on the level of completion derived in the current period.

Equivalent Production for the 1st Process using FIFO order:-

The opening WIP will be completed 1st & then fresh input will be completed , due to this Closing is available out of fresh Input. Following steps will be followed as working Note.

STEP I :- Prepare Process Account with Qty Data

STEP II :- Division of output quantity (using FIFO)

STEP III :- Statement of Equivalent Production

(QTY)

Particulars	Material	Labour	Fact. Overheads
Opening WIP completed in current period (Apply Balance %)	xx	xx	xx
Output from current Input (Always 100%)	xx	xx	xx
Closing WIP completed in current period (Apply % Given)	xx	xx	xx
Abnormal Loss (If scrape completion % is given then apply that % otherwise 100%)	xx	xx	xx
(-) Abnormal Gain (always 100%)	xx	xx	xx
Equivalent Quantity	**xx**	**xx**	**xx**

Step IV Statement pf Equivalent Cost

	Material	Labour	Factory Overheads
	Rs.	Rs.	Rs.
Cost incurred in Current Period	xx	xx	xx
(-) Sale of Scrape	xx	xx	xx
Net Cost	xx	xx	xx
/			
Equivalent Qty	xx	xx	xx
Equivalent C.P.U	x	x	x

Step V :- Valuation Procedure

Part I Value of completed Output

(A) Value of opening WIP completed

Opening Cost B/d (given in the Problem) xx

(+) Current cost xx

[Equivalent Qty X Equivalent C.P.U] ___

xx

(+) Value of Output From Current Input

[Equivalent Qty X Total Equivalent C.P.U] xx

xx

Part II Value of closing WIP

Equivalent Qty X Equivalent CPU

Part III Value of Abnormal Loss

Equivalent Qty X Equivalent CPU

Part Iv Value of Abnormal Gain

Equivalent Qty X Equivalent CPU

After these working prepare Process Account which must tally.

COST AUDIT & COST ACCOUNTING RECORD RULES

1. COST AUDIT

Meaning of Cost Audit :

The Institute of Cost and Management Accountants of England **defines** ***Cost Audit*** **as follows -** ***"the verification of cost records and accounts and a check on adherence to the cost accounting procedures and their continuing relevance".***

Thus, cost audit involves the following :

i. ***Examination of correctness of cost accounts*** **: This involves verification of the cost accounting system, the methods and techniques of costing; the accuracy of the cost accounts and the reports generated.**
ii. ***Ensuring that the Cost Accounting Plan has been adhered to*** **: This involves checking whether the objectives/policies laid down by the management are in accordance with the Cost Accounting Plan.**

1.2 Objectives of Cost Audit : [Nov'99]

The objectives of cost audit can be summarised as follows -

i. Protective Objectives

a) **To examine whether proper cost accounting records as per the** ***provisions of the Companies Act*** **have been maintained.**

b) **To check whether the records maintained as above** ***give a true and fair view*** **of the cost of production.**

c) **To verify the** ***cost data and the reports*** **generated therefrom.**

d) **To** ***reduce wastage*** **of materials and labour.**

e) **To maintain** ***internal check and internal control*** **in the various areas of operation.**

(ii) Constructive Objectives

a. **To make available** ***accurate and timely information*** **to the management.**
b. **To generate useful information for the** ***Government*** **so as enable it to fix prices, to give concessions to industries etc.**
c. **To help the management in the** ***decision making process*****.**
d. **To** ***reduce cost of production*** **by making maximum utilisation of resources and to** ***increase the level of efficiency*** **by choosing the most beneficial method of operation.**
e. **To enable** ***fixation of prices*****.**
f. **To promote** ***cost-consciousness.***

1.3 Other Aspects of Cost Audit : [Nov'97]

Apart from the aspects discussed above, cost audit also covers the following :

(i) Efficiency Audit :

Efficiency audit involves ***measurement of the efficiency of the performance*** **of a company. Efficiency audit means comparison of actual performance with the set target, ascertaining the variances, investigating the reasons for the variances and instituting remedial action for the same.**

Thus, the main *purpose of efficiency audit* is to ensure that -

a. **There is most optimum utilisation of resources**
b. **The resources are channelised in the most profitable lines.**

(ii) Propriety Audit :

It means the *audit of executive actions and plans bearing on the finances and expenditure* of the company.

The cost auditor has to check the following *aspects* while conducting a propriety audit –

a. **Whether the *existing procedures aid the management* in decision making**
b. **Whether the planned expenditure would give *optimum results***
c. **Whether the *return on investment could be improved* by some other alternative plan of action**

Thus, a propriety audit aims at supporting a reasonably high standard of financial prudence, so as to look after the interests of the shareholders.

Annexure to the Cost Audit (Report) Rules specifically provide for the cost auditor's comments on *"cases where the company's funds have been used in a negligent or inefficient manner".*

<u>Types of Cost Audit</u> :

(i) Statutory Cost Audit :

Following are the features of statutory cost audit –

a. ***Section 233B* of the Companies Act, 1956,empowers the Government to bring any industry under the purview of cost audit.**
b. **A statutory cost audit is *not an annual feature* like the statutory financial audit. It is to be conducted only when an order for the same is made by the Government.**
c. **Normally, a statutory cost audit is *ordered for a particular industry* and not for a particular company. Thus, if a company manufactures say , three products, only one product may be covered under statutory cost audit.**
d. ***Section 209(1)(d)* of the Companies Act, 1956, prescribes the cost records to be maintained for the purpose of cost audit.**
e. **The cost auditor is *appointed by the Board of Directors* of a company with the *previous approval of the Central Government*. A cost accountant or a chartered accountant may be appointed as a cost auditor. However an auditor appointed under Section 224 of the Companies Act, 1956, cannot be appointed as the cost auditor of the same company. Powers and duties of the cost auditor with respect to access to books of accounts and records and obtaining information and explanations from the officers of the company are the same as under Section 227(i) if the Companies Act, 1956.**
f. **The company should make available to the cost auditor, *within 90 days* from the end of the financial year, all the cost accounting records as would be required for conducting the cost audit.**
g. **The cost auditor is required to submit his *report in triplicate* to the Central Government *within 120 days* from the end of the financial year of the company. A copy of the report should be sent to the company also. The report should be in the form laid down in the Cost Audit (Report) Rules, 1968 and the subsequent amendments to the same.**

h. **The company should furnish to the Central Government, *within 30 days* of the receipt of the cost audit report, all information and explanations on every reservation and qualification contained in the report. The Central Government is empowered to call for further information/explanations, if required and may take the requisite action on the report.**

(ii) Cost Audit on behalf of the Management :

The management establishes a costing system so as to facilitate intelligent decision-making. The correctness of the decisions depends upon the reliability of the costing system and the accuracy of the cost data generated based on which such decisions are based.

A cost audit enables the management to –

a. **Establish the *reliability* of the cost accounting system**
b. **Establish the *accuracy* of the cost data generated**
c. **Verify whether the *objectives* for installing the cost accounting system are being met**
d. **Ascertain whether the existing targets fixed can be *upgraded* or whether the existing cost accounting system can be improved.**

(iii) Cost Audit on behalf of the Customer :

In the case of a *"cost-plus contract"* the contractee (or the customer), may insist on a cost audit so as to ascertain the correctness of the *"cost"*. Normally, the contract stipulates this facility for the contractee.

(iv) Cost Audit on behalf of the Government :

Such an audit is conducted under the following circumstances :

a. **When the Government wants to *fix a fair price* for essential commodities**
b. **When the Government is approached for *concessions, subsidy, protection* to a particular industry / company.**
c. **When the Government wants to *fix duties* on certain products.**

(v) Cost Audit on behalf of the Trade Association :

When a company becomes a member of a trade association, it may have to fulfill certain requirements of the trade association, one of which may be cost audit.

Such an audit helps the trade association to ascertain the *reliability of the data* submitted by the member company. It also facilitates the following -

a. **The trade association may negotiate with the Government for *subsidies, concessions* etc.**
b. **Cost audit may be useful in *settling trade disputes* on account of demand for higher wages, bonus etc.**
c. **In case of *major cost variations* within the industry, the respective company's costs can be verified.**

1.5 <u>Circumstances Under Which a Cost Audit is Ordered</u>:

With reference to "Types of Cost Audit" in 1.4 above, following are the circumstances under which a cost audit is ordered -

i. When a company or a product incurs *continuous losses*.
ii. In case of *cost-plus contracts*
iii. For *price fixation*
iv. In case of *major cost variations* within the different units of the industry
v. In case of *granting subsidy* by the Government
vi. In case of *fixation of levies and duties* on products by the Government
vii. For *settling trade disputes* on account of higher wages, bonus etc.
viii. When a trade union wants to *negotiate with the Government* for certain benefits.

Cost Audit Programme :

Meaning of Cost Audit Programme

A Cost Audit Programme is a *plan of operations* to be carried out while conducting a cost audit. It is a sequential arrangement of the activities to be carried out during a cost audit.

Contents of Cost Audit Programme

The *contents of* the Cost Audit Programme *depends upon the following factors* –

a. Whether the audit is *partial or complete ?* i.e., whether the audit pertains only to a few aspects of the cost accounting system or it covers the entire system.
b. Whether the audit is *continuous or periodical ?*

However, the Cost Audit Programme *covers the following areas* –

(i) General

Following are the general points to be considered during the preparation of the Cost Audit Programme

a. The cost auditor should obtain a *list of the different officers* in key position in the organization.
b. He should become *familiar with the existing system* of cost accounting in the organization and ensure that the cost accounting rules are followed correctly. He should check whether the existing system can be improved and upgraded.
c. He should see whether the systems of *standard costing and budgetary control* are in operation and if so, then whether they are adequate or they need to be improved.
d. He should see if an effective system of *internal control* is in existence.
e. He should be aware of the *characteristics of the industry* of which the organisation under audit, is a part.
f. He should note the *key factors* relating to the industry.
g. He should familiarize himself with the *production process*, the different production and service departments, the materials used, the labour employed etc.

(iii) Audit Note Book

The Audit Note Book is systematic written record of the –

a. *Procedure* adopted for conducting the cost audit
b. *Notes* pertaining thereto
c. *Queries* made and replies received

d. *Correspondence* made
e. Any other points pertaining to the audit

This book is useful while preparing the audit report.

(iv) Audit Procedures

This involves the various methodologies undertaken during the audit. These are as under –

a. Questionnaires
b. Vouching
c. Test checking
d. Checking and ticking

(v) Audit Report

The Cost Audit Report has to be filed with the Government within 120 days of the end of the financial year for which the cost audit is conducted. To meet this requirement, he should prepare a detailed cost audit plan covering all the aspects to be reported.

(vi) Advantages of Cost Audit Programme

Following are the advantages of a cost audit programme -

(i) **Work is done *systematically*.**

(ii) **Work is ready within the *time limits*.**

(iii) Review **of work done is easily possible.**

(iv) **No area of work is left *unattended.***

(v) **There is *documentary evidence* of work done.**

1.7 Advantages of Cost Audit : [May'99]

Following are the advantages of cost audit –

To The Management

i. Cost audit helps in *detection of errors and frauds*.
ii. The management gets *accurate and reliable data* based on which they can make day-to-day decisions like price fixation.
iii. It helps in *cost control and cost reduction*.
iv. It facilitates the system of *standard costing and budgetary control*.
v. It helps the management in *inter-unit / firm comparison*.
vi. It enables the management to *identify loss making propositions*.
vii. It helps the management to *identify the inefficiencies* and institute remedial action against the same.
viii. It helps the management to *improve* upon the existing cost accounting system.
ix. It keeps a *check on crucial areas* like valuation of finished goods, work-in-progress.

To The Government

i. **Cost audit ensures efficient functioning of the industry. This in turn, nurtures a *healthy competition* among the different companies and paves a path for fast progress.**
ii. **It helps in *identification of sick units* and enables the Government to make relevant decisions.**
iii. **It helps in *fixing prices* in the case of essential commodities and checking undue profiteering.**
iv. **It enables to take decisions as to granting of *subsidies, incentives and protection* to various industries.**
v. **It helps to take decisions as to *levies, duties and taxes*.**
vi. **It facilitates the determination of *cost claims* submitted to the Government under cost-plus contracts.**

To the Society

i. **Cost audit enables the Government to fix prices of essential commodities. This *safeguards the interests* of the society.**
ii. **Cost audit enables the Government to keep a *check on undue profiteering* by the manufacturers and *avoids artificial price* rise due to monopolistic tendencies.**

To the Shareholders **[Nov'97]**

i. **Cost audit reveals whether any of the products of the company are making losses. Thus though the company making an overall profit, a loss making line may eating up the company's profits. This is brought to the notice of the shareholders and the management is forced to take remedial measures, thereby making *optimum utilisation of resources*.**
ii. **Cost audit ensures that the shareholders get a *fair return* on their investments.**

1.8 <u>Principal Functions of Cost Auditor</u> :

The Institute of Cost and Works Accountants **has laid down the following principal functions of a cost auditor :**

(i) Capacity Utilisation

The cost auditor has to ensure that -

a. **There is *optimum utilisation* of installed capacity, i.e., the machine hours utilised have resulted in optimum level of production.**
b. **The *idle capacity* has been kept to the minimum.**
c. **The *bottlenecks* in the optimum utilisation of capacity are identified and relevant remedial action is taken.**

(ii) Procedure For Issue of Stores

The cost auditor has to ensure that –

a. **There is *proper authorisation* (Material Requisition Note) for issue of materials from the stores.**
b. **There is no chance of *loss or pilferage* of material lying on the shop floor.**

c. Any excess material is promptly *returned* to the store vide a Material Return Note and credit is given to the relevant cost unit.
d. Any *scrap* arising on account of utilisation of material is duly returned to the stores and credit is given to the relevant cost unit.
e. There is *adequate documentation* for the movement of materials, thus establishing an audit trail.

(iii) Labour

The cost auditor has to ensure that –

a. There is *optimum utilisation* of labour.
b. There is a proper system of *recording time*.
c. Standard time for each job / process is scientifically ascertained and actual performance is compared with it to establish variances.These *variances* are in turn, scrutinized and analysed so as to minimize them in future.
d. The standard time set for each job / process is constantly *reviewed* for upgradation, thereby increasing the efficiency of labour.
e. There is a proper *method of remuneration* in practice. Such a method should include an element of incentives so as to increase the productivity.
f. *Idle time* is restricted to the minimum.
g. Unnecessary *overtime* is avoided.
h. There is a scientific method of *allocating labour cost* to various jobs / processes.

(iv) Overheads and Indirect Expenditure [Nov'95]

The cost auditor has to see that -

a. *Classification* of overheads into those of production, administration, selling and distribution is done correctly.
b. *Bases for absorption* of overheads is scientifically ascertained and applied.
c. *Allocation* of overheads is done correctly.
d. Overheads *budget* is prepared. Actual overheads incurred are periodically reviewed and variances are computed. Reasons for variances are ascertained and corrective action is taken.
e. *Unabsorbed* overheads are treated correctly in cost accounts.
f. Compared to the value of production, the overheads *loaded* are not excessive.
g. Allocation of overheads between finished and unfinished goods is done in accordance with *correct principles*.

(v) Inventory

The cost auditor has to ensure that -

a. The *level of inventory is commensurate* with the quantum of production.
b. The orders are based on the concept of *Economic Order Quantity* (E.O.Q.).
c. The *lead time* for each category of inventory is correctly worked out.
d. The *carrying costs and handling costs* are duly considered and correctly computed.
e. There is constant review of inventory levels and efforts are made to *reduce the inventory costs*.

f. There is a check of the book inventory (i.e. inventory as per Ledger) with the physical inventory. *Discrepancies*, if any, should be investigated into and remedial action should be taken promptly.
g. There is no room for *loss or pilferage* of inventory.
h. There are *no bottlenecks* in the process of receipts and issues of inventory.
i. There is proper *authorisation and documentation* for the movement of inventory.
j. The entire handling of inventory is in accordance with the *cost accounting plan.*

(vi) Opening and Closing Stocks

The cost auditor has to ensure that -

a. The *level of stock is commensurate* with the volume of production and that there are no bottlenecks in the handling of stocks.
b. The *physical verification* of stocks is duly carried out.
c. There is proper *authorization and documentation* for the movement of stocks.
d. *Aging of stocks* is done. Non-moving / obsolete or slow-moving stock is identified and treated accordingly in the accounts.
e. *Valuation of stocks* is done correctly and as per recognized policy.
f. There is adequate *storage security* and there are no chances for misappropriation of stock.
g. Quantum of *non-moving stores* is not abnormal as compared to the annual consumption rate.

(vii) Work - in - Progress [Nov'96]

The cost auditor has to see the following –

a. The stock of work-in-progress is *physically verified* and that there is no discrepancy between book stock and physical stock.
b. The *valuation* is correctly done with reference to the stage of completion.
c. The *stage of completion* is correctly determined and applied.
d. There is *no over / under valuation* of work-in-progress.
e. The quantum of work-in-progress is *commensurate* with the volume of production.

COST ACCOUNTING RECORD RULES

2.1 Introduction :

Before the imposition of statutory cost audit, the Government of India had issued Cost Accounting Record Rules under Section 209 (1)(d) of the Companies Act, 1956 in respect various products / industries. According to the rules, *all the companies involved in production / manufacturing activity, for which certain cost accounting records have been prescribed, should maintain such records relating to utilization of materials, labour and other items of cost*. The purpose of such a provision is that at any given point of time, *product-wise cost of production and cost of sales can be easily ascertained*. The cost accounting records prescribed as above have to be maintained in a specific format and their preparation has to be completed within the stipulated time limit. These rules are preliminary to statutory cost audit.

2.2 Accounting Records to be Maintained :

According to the Cost Accounting Record Rules, accounting records pertaining to the following need to be maintained for different industries –

- ***(i)* Raw materials**
- ***(ii)* Labour**
- ***(iii)* Overheads**
- ***(iv)* Research and Development expenses**
- ***(v)* Conversion Cost**
- ***(vi)* Packing Cost**

(vii) **Interest**

(viii) **By-products and joint-products**

(ix) **Captive consumption**

(x) **Utilities and services**

(xi) **Capital expenditure**

(xi) **Work-in-progress**

(xii) **Cost of Production and Cost of Sales**

(xiii) **Reconciliation of Cost Accounts with Financial Accounts**

(xiv) **Computation of Variances**

(xv) **Physical verification**

(xvi) **Statistical data**

2.3 <u>Industries Covered</u> :

The list of industries for which Cost Accounting Record Rules have been issued are as under :

(i) **Cement**

(ii) **Cycles**

i. **Rubber Tyres and Tubes**
ii. **Caustic Soda**
iii. **Room Air-conditioners**
iv. **Refrigerators**
v. **Automobile Batteries**
vi. **Electric Lamps**
vii. **Electric Fans**
viii. **Electric Motors**
ix. **Motor Vehicles**
x. **Tractors**
xi. **Aluminium**
xii. **Vanaspati**
xiii. **Bulk Drugs**
xiv. **Sugar**
xv. **Infant Milk Food**
xvi. **Industrial Alcohol**
xvii. **Jute Goods**
xviii. **i Paper**
xix. **Rayon**
xx. **Dyes**
xxi. **Soda Ash**
xxii. **Nylon**

xxiii. i Polyester
xxiv. v Cotton Textiles
xxv. Dry Battery Cell
xxvi. i Sulphuric Acid
xxvii. ii Steel, Tubes and Pipes
xxviii. iii Engineering Industries (Diesel Engine, Internal Combustion Engine, Power Driven Pumps)
xxix. Electric Cables and Conductors
xxx. Bearings
xxxi. i Milk Food
xxxii. ii Chemical Industries
xxxiii. iii Formulations
xxxiv. iv Cosmetics and Toiletries

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Reconciliation of Costing and Finance

Introduction :-

In this Topic we reconcile or match costing Profit with Finance Profit. Costing Profit is calculated in Costing Department in the factory. Finance Profit is calculated in account department in head office. For any company for one accounting year, Profit figure must be same but in Actual Life this figure are never same. There is always difference between this profits. A Statement is Prepared regularly explaining the reason for differences. Such statement is known as statement of Reconciliation. Following are reasons for Difference :-

[1] Recording Of Expenses :-

In cost books expenses are record as estimate. In finance books expenses are recorded as actual . Estimate never equal to Actual.

[2] Method of Stock Valuation :-

In Cost Books stock is valued at cost of Production . In Finance books stock is valued at cost or Mkt Price which is less. As a method of stock valuation is different stock figure are different.

[3] Method Of Depreciation :-

In Cost records , Depreciation depends upon use of assets. In Finance books Dep depends upon SLM or RBM Method. As Method of Dep are Different and hence the profit is Different.

[4] There is a certain item which appear only in finance books or only in cost books. As a result figure are diferent and hence the Profit is different.

STATEMENT OF RECONCILIATION

Profit as Per Cost Books		xx
Add:- 1)	xx	
2)	xx	
3)	xx	xx
		xx
Less :- 1)	xx	
2)	xx	
3)	xx	xx
Profit as Per finance Books		xx

Rules for Reconciliation Statement :-

[1] Exp are More , Profit is Less , Now You Add

[2] Exp are Less , Profit is More , Now You Less

[3] Income are Less, Profit is Less, Now You Add

[4] Income are More, Profit is More, Now You Less

Hint :- Opening Stock - Exp

Closing Stock - Income

COST SHEET

Every Business wants to earn maximum profits. For this Purpose, he has two options

[1] Increase in Selling Price

[2] Decrease the Cost

Rise in selling Price is not possible as there exists competition in the Mkt. Hence efforts are made to reduce the cost . The focus is on the future transaction of the company.

Cost Sheet :-

Cost Sheet is a statement in which all expenses are grouped under suitable heads for there analysis, Control, and Reduction. Aim is to earn maximum profit

Cost Sheet for the Year

Particulars	Amt	Amt	CPU
Raw Material / Direct Material :-			
Opening Stock	xx		
Purchases	xx		
Carriage Inward/ Fright	xx		
	xx		
(-) Sale of Material	xx		
Raw Material lost / destroyed	xx		
Purchase Return	xx		
Raw Material Consumed		xx	
Royalty		xx	
Production Wages		xx	
Factory wages		xx	
Direct Expenses		xx	

Chargeable Exp		xx	
Special tools		xx	
PRIME COST		xx	
Add :- Production / Factory / Works Overheads			
Factory Rent and Taxes	xx		
Power Electricity	xx		
Repairs and Maintenance	xx		
Manufacturing Exp	xx		
	xx		
(-) Scrape Sale	xx	xx	
(+) Opening Stock of WIP		xx	
		xx	
(-) Closing Stock of WIP		xx	
FACTORY COST / WORKS COST		xx	
Add :- Office Overheads			
Printing and Stationary	xx		
Miscellaneous / General Exp	xx		
Managing Directors Salary	xx	xx	
COST OF PRODUCTION		xx	
STATEMENT OF PROFIT / LOSS			
Opening stock of finished Goods		xx	
(+) Cost of Production		xx	
(+) Purchases of Finished Goods		xx	
		xx	
(-) Closing Stock of Finished Goods		xx	
COST OF GOODS SOLD		xx	
Add :- Selling and Distribution of Goods			
Advertisement	xx		
Salesman Salary	xx		
Cash Discount	xx		
Bad Debts	xx		
Showroom Exp	xx	xx	
TOTAL COST / COST OF SALE		xx	
Profit / Loss		xx / (xx)	
NET SALE		xx	

Note :-

[1] Interest paid on loan Dividend Paid , Bank charges Etc are Financial Exp not considered in Cost Sheet.

[2] In the absence of any instruction Cash Discount and Bad Debts are taken as selling Exp. Alternatively if they are taken as Finance Exp, they will not taken in Cost Sheet.

[3] Purchase of Fixed Assets is a Capital Expenditure never taken in Cost Sheet.

CIMA defines uniform costing as *"the use by several undertakings of the same costing system, i.e., the same basic costing methods, principles and techniques."*

Applications of Uniform Costing :

The need for application of uniform costing arises in the following circumstances :

i. ***When a single undertaking has a number of factories located at different locations and produces similar products or performs similar operations -*** Though the products manufactured / processes performed are identical, the cost of products / processes is bound to vary due to difference in location. Unless uniform costing is applied, it will be very difficult to compare the costs of products / processes at different factories.

ii. ***When a number of undertakings are members of a trade association -***

Members of the association are required to maintain uniform costing records. This ensures that cost data submitted by members is comparable and consistent. It also enables the trade association to fix common prices for the whole industry and measure the operating efficiency of the members.

Objectives of Uniform Costing :

The main objectives of uniform costing are summarised as follows :

i. To ***generate reliable cost data*** for inter-unit or inter-firm cost comparison.
ii. To ***improve the operational efficiency*** of individual units by comparing the efficiency of units with each other / overall performance of the industry.
iii. To facilitate ***control on fixed costs***.
iv. To provide relevant cost data to the Government for ***fixing and regulating the prices*** of the products.
v. To ***eliminate unhealthy competition*** among the different units.
vi. To bring about ***standardisation*** in the operations of different units.
vii. To reveal lines of individual products which have been discovered to be ***unprofitable***.

Pre-requisites for installation of Uniform Costing System : [May'97]

For successful application of uniform costing system, the following conditions must be satisfied :

i. The firms in the industry should be ***willing to share and exchange*** the relevant and correct information.
ii. The participating firms should function with a ***spirit of mutual co-operation and trust***.
iii. The participating firms should ***not*** function with a sense of rivalry and jealousy or nurture ***unhealthy competition***.
iv. ***Uniformity*** with respect to the following points must be established before installing a uniform costing system :

a. Size of participating firms
b. Method of production employed
c. Accounting methods, principles and procedures

Essentials of a good Uniform Costing System :

A good uniform costing system essentially covers the following :

i. ***Method of costing*** to be used e.g. process costing, contract costing etc.
ii. ***Techniques of costing*** to be used e.g. marginal costing, standard costing
iii. ***Unit of cost*** to be used e.g. tonnes, kilograms etc.
iv. ***Production centres, cost centres, profit centres*** to be used
v. System of ***classification and codification*** of cost accounts
vi. Definitions of various ***elements of cost*** e.g. direct material, direct labour, chargeable expenses, overheads (factory, administration, selling and distribution)
vii. Definition of costs to be categorised as ***fixed, variable and semi-variable*** and the method to be used in seggregation of semi-variable costs
viii. Classification of ***production and service departments***
ix. Method of ***apportionment of service department cost***
x. ***Base to be used in applying overheads*** to production units e.g. as a percentage of prime cost/direct wages or on machine hour rate basis
xi. Treatment of ***over/under-absorbed overheads***
xii. Definition and treatment of ***defectives, scrap, spoilages and waste***
xiii. Method of ***pricing material issues*** e.g. LIFO, FIFO etc.
xiv. Treatment of ***handling and storage costs of materials***
xv. Method of ***payment of remuneration*** e.g. time-rate, piece-rate etc.
xvi. Method of ***valuation*** of work-in-progress and finished goods
xvii. Method for pricing of ***joint products and by-products***
xviii. Treatment of ***controversial items*** like interest on own capital, rent on owned premises
xix. Method, presentation and frequency of ***data/reports*** to the management
xx. Any other ***foreseeable requirement*** which may arise

Uniform Cost Manual :

Uniform Cost Manual is a ***written document***, which may be in the form of a book or a bulletin, containing the principles, methods and procedures for the ascertainment and control of cost in uniform costing. It is necessary for the successful operation of uniform costing system. Such a manual provides ***guidelines*** to the participating firms to organise their cost accounting system on a uniform basis.

Following are the ***salient features*** of a uniform cost manual :

i. It includes *objectives, scope and advantages* of the system
ii. It contains the definitions of various terms , codification and classification of accounts and the *general principles* of cost accounting
iii. It lays down the *parameters* for inter-firm/inter-unit comparison
iv. It specifies the *reporting pattern* (method, presentation and frequency) to the management

Advantages of Uniform Costing

i. A ready-made system of cost accounting can be installed without experimenting. This brings about ***savings in cost, time and efforts***.
ii. Uniform costing facilitates ***inter-firm and inter-unit comparison***.
iii. It makes possible ***standardisation*** of costing principles and practices.
iv. It nurtures ***healthy competition*** among the participating firms.
v. Thus, ***operating efficiency*** of the firms improves resulting in an overall increase in the efficiency of the industry.

vi. It enables the participating firms to receive the ***services of experts jointly***, thereby minimizing the cost to each firm.
vii. It helps in ***fixing selling prices*** and eventually improvement in customer relations as it can be established that prices are based on reliable information which is representative of the costs of the industry.
viii. It facilitates ***negotiations*** between the trade association and the Government in respect of granting concessions or subsidies and fixing duties or taxes.
ix. It enables the Government to ***regulate prices of essential commodities***.
x. It facilitates introduction of uniform wage structure in the industry, thereby ***reducing labour turnover***.
xi. Small firms which cannot afford to spend on research and development can reap the benefits of such research from the bigger firms. ***Technological improvements can be shared.***

1.8 <u>Limitations of Uniform Costing</u>

Sometimes the participating firms are so ***diverse in nature*** that application of a uniform costing system may be very difficult.

i. Small firms may not be very keen on installing such a system as it may be ***expensive*** for them.
ii. There is ***no secrecy*** maintained and competitors do not want to share information with each other.
iii. Uniform costing acts as ***disincentive for the more efficient firms*** as the benefits of their efficiency are passed on to other member firms.
iv. Such a system ***promotes monopolistic tendency***, whereby prices may be increased artificially.

INTER-FIRM COMPARISON

<u>Meaning of Inter-firm Comparison</u> :

[*.Inter-firm comparison consists of voluntary exchange of information pertaining to the various aspects of the participating firms (like costs, productivity, profitability etc.) among the firms engaged in a similar business, so as to increase the efficiency of the firms concerned and the overall efficiency of the industry.*

Inter-firm comparison is a technique of evaluating the performances, efficiencies, costs and profits of a firm with those of other firms in the industry. The process of evaluation is carried out by a neutral body, like a trade association. It enables the participating firm to compare its performance with that of the most efficient firm.

Inter-firm comparison follows the principle of "comparing like to like" and this is possible only a uniform costing system in use. Thus, ***uniform costing system is a pre-requisite to inter-firm comparison.***

Procedure for Inter-firm Comparison:

The following procedure is adopted for inter-firm comparison :

i. ***Information is collected*** from the participating firms by a central body like a trade association.
ii. The information so collected is ***analysed and presented*** in such a manner that the secrecy of the information supplied by the partcipating firms is maintained.
iii. Only relevant information is ***provided to a participating*** firm so that, that firm can use the information to improve it's efficiency.

Pre-requisites for Inter-firm Comparison

Uniform costing system - As discussed earlier, a good uniform costing system is a pre-requisite to inter-firm comparison. For developing such a system, active co-operation is required from all the participating firms.

i. ***Central Body for inter-firm comparison -*** The responsibility of *collecting, analysing and disseminating information* from the participating firms needs to be entrusted to a neutral body. In India, this responsibility is entrusted to trade associations, manufacturing associations, Chamber of Commerce and Industry and National Productivity Council. Besides collecting and supplying information, such an entity *also undertakes research and development activities* for the common benefit of all the firms. It also conducts various *training programmes* for its member firms.
ii. ***Varied membership -*** For a purposeful and successful inter-firm comparison, it is essential that firms of different sizes become members of the Central Body.
iii. *Nature and extent of information to be collected* - Though there is no limit to collecting information, the extent of information required to be collected *depends* upon the demand for such information, comparative value of the information and the efficiency of the central body. *Collection of mass data or irrelevant data should be avoided* as otherwise it will give rise to confusion and additional cost to the member firms. Though there is no standard list of information to be collected, normally, the following data is procured by the central body from it's member firms :

a. Information pertaining to costs and cost structures
b. Raw material consumption
c. Labour efficiency and utilisation
d. Machine efficiency and utilisation
e. Method of production
f. Inventory control
g. Technical aspects
h. Return on capital employed
i. Return on net worth
j. Reserves and appropriation of profits
k. Liquidity position
l. Debtors and Creditors etc.

v) ***Method of collection and presentation of information -*** The methodology for collection and dissemination of information should be clearly laid down. Normally, the central body collects the information at *fixed intervals*, like quarterly, half-yearly or annually. This information is collected via specific *forms or questionnaires.* The information to be supplied by the member firms is normally in *ratios.* Absolute figures are not collected so as to safeguard the secrecy of the data supplied by the member firms. Such information collected is analysed and presented in the form of a *report*. This report is made available only to member firms.

Advantages of Inter-firm Comparison :

i. The standing of each member in the industry is ascertained. The weaknesses and the reasons for the same are highlighted. This facilitates the management to take *remedial action* and improve the efficiency of their firm.
ii. By ranking the members, an atmosphere of *healthy competition* is created, whereby each member tries to better it's competitor's achievement.
iii. Healthy competition in turn *benefits the consumers*.
iv. Inter-firm comparison *promotes cost-consciousness* among the members of the industry.
v. It helps the Government in *price regulation*.
vi. It enables the Government to grant *protection/concession* to the industry, if necessary.
vii. Since the evaluation of the participating firms is done by a neutral body, the *report generated is unbiased*.

Limitations of Inter-firm Comparison : **[**

The information may not be forthcoming from the members due to *lack of organisational secrecy.*

i. Even the data submitted by the members may *not be fully accurate* due to the above-mentioned reason.
ii. In *absence of a uniform costing system*, inter-firm comparison is meaningless.
iii. ***Non-availability of a suitable basis*** of comparison poses a problem for the introduction of a system of inter-firm comparison.
iv. **Members heading the ranking list may become *complacent.***

g i s n o t a s p e c

i
f
i
c