GOVERNMENT ARTS AND SCIENCE COLLEGE
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STUDY MATERIAL FOR B.B.A.

COST ACCOUNTING
IV -SEMESTER

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PREPARED BY

DEPARTMENT OF B.B.A.

II – YEAR BBA (IV Sem) – COST ACCOUNTING

UNIT-1:INTRODUCTION TO COST ACCOUNTING

Cost Accounting -Meaning of Cost, Costing and Cost Accounting. Comparison between Financial Accounts and Cost Accounts-Application of Cost Accounting-Cost Concepts -Cost Unit-Cost Centre-Elements of Costs-Preparation of Cost Sheet.

UNIT-2: MATERIAL COSTING

Classification of Materials-Material Control-Purchasing Procedure-Store Keeping-Techniques of Inventory Control-Setting of Stock Levels- EOQ Method of Pricing- Materials Issues - LIFO-FIFO - Weighted Average Method- Simple Average Method.

UNIT-3: LABOUR COSTING

Control of Labour Cost -Labour Turnover – Method of wage payments-Remuneration and Incentives-Time Rate System-Piece Rate System-Premium and Bonus Plans. O

UNIT-4: OVERHEAD COST CONTROL

Meaning- Classification-Procedure - Allocation and Apportionment- Principles of Apportionment -Reapportionment, Direct, Step, Reciprocal, Simultaneous Equation Trial and Error.

UNIT-5: TECHNIQUES OF COSTING

Unit costing, Job Batch costing, Contract costing, Process Costing-excluding inter process profits.

(Marks: Theory 40% and Problems 60%)

UNIT –I

(INTRODUCTION TO COST ACCOUNTING)

DEFINITION OF COST ACCOUNTING

Cost Accounting is a method of accounting for cost. The process of recording and accounting for all the elements of cost is called cost accounting.

The Institute of Cost and Works Accountants, London defines cost accounting as, "the process of accounting for cost from the point at which expenditure is incurred or committed to the establishment of its ultimate relationship with cost centers and cost units.

The Institute of Cost and Works Accountants, India defines cost accounting as, "the technique and process of ascertainment of costs. Cost accounting is the process of accounting for costs, which begins with recording of expenses or the bases on which they are calculated and ends with preparation of statistical data".

To put it simply, when the accounting process is applied for the elements of costs (i.e., Materials, Labor and Other expenses), it becomes Cost Accounting.

OBJECTIVES OF COST ACCOUNTING

Cost accounting was born to fulfill the needs of manufacturing companies. It is a mechanism of accounting through which costs of goods or services are ascertained and controlled for different purposes. It helps to ascertain the true cost of every operation, through a close watch, say, cost analysis and allocation. The main objectives of cost accounting are as follows:-

1. Cost Ascertainment: The main objective of cost accounting is to find out the cost of product, process, job, contract, service or any unit of production. It is done through various methods and techniques.

2. Cost Control: The very basic function of cost accounting is to control costs. Comparison of actual cost with standards reveals the discrepancies (Variances). The variances reveal whether cost is within control or not.

Remedial actions are suggested to control the costs which are not within control.

3. Cost Reduction: Cost reduction refers to the real and permanent reduction in the unit cost of goods manufactured or services rendered without affecting the use intended. It can be done with the help of techniques called budgetary control, standard costing, material control, labor control and overheads control.

4. Fixation of Selling Price: The price of any product consists of total cost and the margin required. Cost data are useful in the determination of selling price or quotations. It provides detailed information regarding various components of cost. It also provides information in terms of fixed cost and variable costs, so that the extent of price reduction can be decided.

5. Framing business policy: Cost accounting helps management in formulating business policy and decision making. Break even analysis, cost volume profit relationships, differential costing, etc are helpful in taking decisions regarding key areas of the business.

Importance of Cost Accounting

Cost accounting is important for all activities (companies) and it is not as is prevalent that cost accounting is limited in importance for manufacturing companies only, cost accounting has a significant role in determining and controlling the services cost, and that the success factors of any commercial activity is the use of cost accounting systems and therefore the importance of cost accounting is as follows:

1. Cost control by collecting and recording all the cost elements of the company.

2. Cost classification through cost accounting methods, which enables us to differentiate between all types of costs.

3. Pricing of products in cost accounting plays a significant role in controlling the pricing of products, as it provides cost reports, it is also possible to take advantage of modern methods of pricing of products such as the target costing method, through which the price of products can be determined and the target profit margin added before starting production.

4. Contributing to increasing the company's profits and increasing its competitiveness, had it not been for the presence of cost accounting, the

companies would not have been able to know the costs of products and control these costs, and thus the ability to reduce costs to the lowest possible extent and increase profits to the maximum possible profit.

5. Creating the budgeting, through the methods of cost accounting, the company can create budgeting, and so that such budgeting can be created, the actual activity costs of the company must be examined for previous years so that the company can forecast what the future cost will be and can also be through budgeting of tightening control and control of cost elements by comparing actual costs with standard costs and detecting variances, then analyzing these variances and working on resolve shortcomings of costs.

6. Assisting the department in making decisions by providing the essential cost reports, whether it is for the production elements or activities (costcenters) to assist the department in excluding the avoidable costs, and supporting the important cost centers that achieve the customer's desires and increase the product' s ability to compete in the market.

Cost accounting has a set of objectives that are seeking to achieve in companies so that companies achieve their desired objectives

LIMITATIONS OF COST ACCOUNTING

1. It is based on estimation: as cost accounting relies heavily on predetermined data, it is not reliable.

2. No uniform procedure in cost accounting: as there is no uniform procedure, with the same information different results may be arrived by different cost accounts.

3. Large number of conventions and estimate: There are number of conventions and estimates in preparing cost records such as materials are issued on an average (or) standard price, overheads are charged on percentage basis, Therefore, the profits arrived from the cost records are not true.

4. Formalities are more: Many formalities are to be observed to obtain the benefit of cost accounting. Therefore, it is not applicable to small and medium firms.

5. Expensive: Cost accounting is expensive and requires reconciliation with financial records.

6. It is unnecessary: Cost accounting is of recent origin and an

enterprise can survive even without cost accounting.

7. Secondary data: Cost accounting depends on financial statements fora lot of information. Any errors or short comings in that information creep into cost accounts also.

The difference between management and cost accounting are as follows:

S.No.	Cost Accounting	Management Accounting
1	The main objective of cost accounting is to assist the management in cost control and decision-making.	Theprimary objective of management accounting is to provide necessary information to the management in the process of planning, controlling, and performance evaluation, and decision-making.
2	Cost accounting system uses quantitative cost data that can be measured in monitory terms.	Management accounting uses both quantitative and qualitative data. It also uses those data that cannot be measured in terms of money.
3	Determination of cost and cost control are the primary roles of cost accounting.	Efficient and effective performance of a concern is the primary role of management accounting.
4	Success of cost accounting does not depend upon management accounting system.	Success of management accounting depends on sound financial accounting system and cost accounting systems of a concern.
5	Cost-related data as obtainedfrom financial accounting is the base of cost accounting.	Management accounting is based on the data as received from financial accounting and cost accounting.
6	Provides future cost-related decisions based on the historical cost information.	Provides historical and predictive information for future decision-making.

7	Cost accounting reports areuseful to the management as well as the shareholders and creditors of a concern.	Management accounting prepares reports exclusively meant for the management.
8	Only cost accounting principles are used in it.	Principals of cost accounting and financi al accounting are used in managemen t accounting.
9	Statutory audit of cost accounting reports are necessary in some cases, especially big business houses.	No statutory requirement of audit for reports.
10	Cost accounting is restricted to cost-related data.	Management accounting uses financal accounting data as well as cost accountin data. g

The following are the major differences between cost accounting and financial

- cost Accounting aims at maintaining cost records of an organization Financial Accounting aims at maintaining all the financial data of an organisation.
- Cost Accounting Records both historical and per-determined costs. Conversely, Financial Accounting records only historical costs.
- Users of Cost Accounting are limited to internal management of the entity, whereas users of Financial Accounting are internal as well as external parties.
- In cost, accounting stock is valued at cost while in financial accounting, the stock is valued at the lower of the two i.e. cost or net realisable value.
- Cost Accounting is mandatory only for the organisation which is engaged in manufacturing and production activities. On the other hand, Financial Accounting is mandatory for all the organisations, as well as compliance with the provisions of Companies Act and Income Tax Act is also a must.

- Cost Accounting information is reported periodically at frequent intervals, but financial accounting information is reported after the completionof the financial year i.e. generally one year.
- Cost Accounting information determines profit related to a particular product, job or process. As opposed to Financial Accounting, which determines the profit for the whole organisation made during a particular period.
- The purpose of Cost Accounting is to control costs, but the purpose of financial accounting is to keep complete records of the financial information, onthe basis of which reporting can be done at the end of the accounting period.

Cost Accounting Applications

There is no activity without its ability to apply cost accounting to it because all activities can be applied to cost accounting

We will cover some of the activities to which cost accounting is applied, such as

1- Hotel cost accounting

Cost accounting in hotels performs to record all the hotel costs, classify and analyze them to provide reports to the department for monitoring and decision-making purposes, in the hotel system; it follows the uniform system of accounts, each hotel department has its revenues and expenses and hence all departments of the hotel can be considered as cost centers and cost accounting procedures in hotels based on designing a chart of cost centers, which consistsof

A- Revenue cost centers that generate revenue

It refers to the hotel divisions that revenue-generating for the hotel and are its activity base such as

1- Rooms Division

2-Food Department

3- Beverage Department

4- SPA& Fitness Division

5- Laundry Department

6- Front Office Department

B- Service cost centers that do not generate revenue

1- Finance Department

2- Human Resources Department 3- Procurement Department

The role of cost accounting in hotels

Dividing the hotel into cost centers where the costs is calculated, whether they are fixed costs or variable costs, direct costs or indirect costs, and each cost center is allocated by its proportion of the costs, hence the role of cost accounting appears in measuring the ratios of fixed costs from activities that do not generate revenue for the hotel to the total costs to work on reducing it to the maximum possible extent that does not affect the operational capacity of the hotel, in addition to the role of cost accounting in measuring revenue from activity to know how much each department (cost center) generates revenue andhow much is spent on it of the expense and in the end it is possible to create Cost Center reports for each department (cost center) separately and also for the hotel in general and through these reports the hotel managers can excludeactivities that do not generate revenue or address the shortcomings and analyze the causes of their problems as well as expand activities that generate revenue for the hotel.

2- Manufacturing Cost Accounting

The manufacturing activity is characterized by that is based on the process costing system; for example a manufacturing plant (packaged cheese), there are certain stages for the production of a single package (the product), so itis possible to calculate how much it costs from direct materials, direct labor and manufacturing overhead cost, and therefore it is easy to forecast the costs of each work order in advance, even if approximately, and creating production budgets and comparing these planned costs with the actual costs, and cost accounting determines the cost elements for each work order through

A- Direct Materials Cost

It means all the materials used in the production process, whether raw materials, semi-finished materials, or packing and packaging materials, etc. cost accountant monitors their prices by following the policy of perpetual inventory through controlling the inventory, which enables him to determine direct material costs.

B- Direct Labor Cost

It means all direct labor costs incurred production as wages for machine operators (picking, packaging, sorting, production line workers, etc.).

C- Manufacturing Overhead Cost

The cost accountant calculates all overhead costs and additional services and allocating them to the products in proportion to the consumption of each product of them and that is by creating cost centers for all production departments and allocating each department with the necessary overhead costs.

Understanding Cost Center

The operations of a cost centre will not directly result in profits to the company. However, their operation, such as customer service and enhancing product value, would help the company get more business. Cost centres will support the management in using the resources smartly by understanding how they are used in the company.

Despite cost centres making contributions indirectly, one cannot ignore the revenues coming through them. Most associated advantages or the activities that produce profits from these wings of the company are generally ignored for the purpose of internal management.

Functions

The primary function of cost centres is to keep track of the expenses incurred. The managers or other high-level officials are given the responsibility of having the costs in sync with the allocated budget and will not be bearing responsibilities as to how the revenues generated to be used.

The segmentation of expenses into cost centres will allow for a great levelof control and analysis of the overall costs involved. Accounting resources at alllevels will allow for more efficient calculation and accounting.

Types of cost centers

There are six major types of cost centers that do not generate profits on their own but are all important to the core functions of the business.

1. Impersonal cost center

Impersonal cost centers deal with equipment, machinery or locations. They may focus on locations, equipment, production or machines. For example,

a research and development department has a budget to find innovative solutions to consumer problems or design new products.

2. Operation cost center

Operation cost centers are concerned with people or machines engaged in similar activities. For example, IT departments make sure that hardware, software and networks are all working correctly, properly updated and secure.

3. Personal cost centers

Personal cost centers deal with a particular person or group of people. For example, a company's HR department works across departments to deal with employee needs and recruitment.

4. Product cost center

Product cost centers deal with a specific product or manufacturing area. For example, a publishing company may have a production department responsible for the actual printing of its books, newspapers or magazines. A manufacturer might have assembly, painting or welding shops.

5. Process cost center

Process cost centers focus on a specific process or event. For example, customer service departments handle customer complaints, improve customer experience and manage any warranties or rebates that might be available.

6. Service cost center

Service cost centers provide services to the company. For example, a janitorial staff maintains clean, orderly facilities so that employees can be healthy, safe and productive.

For example, a small company might have a cost center that is simply an office manager or bookkeeper who manages office administration andbookkeeping. Alternatively, a multinational corporation might have separate cost centers such as human resources (HR), accounting department and administrative staff.

Meaning of Cost units

A unit cost is a total expenditure incurred by a company to produce, store, and sell one unit of a particular product or service. Unit costs are synonymous

with cost of goods sold (COGS). This accounting measure includes all of thefixed and variable costs associated with the production of a good or service.

Cost sheet

Definition:

According to CIMA London Cost Sheet is 'A statement which provides for the assembly of the detailed cost of a centre or a cost unit'. It is also a periodical statement.

Elements of Cost

(1) Direct Materials:

Since there will be only one product and process of manufacture is also simple, the raw material if any is directly charged to the production of the period in total.

(2) Direct Labour:

The labour costs are collected periodically through pay rolls which are prepared separately for each section of work. The cost of abnormal idle time should be deducted.

(3) Other Direct or Chargeable Expenses:

Expenses other than direct material and direct labour are chargeable expenses e.g. excise duty, royalty, expenses on designs, patterns and models etc.

(4) Prime Cost:

The total of Direct Materials Consumed, Direct Labour and Other Direct or Chargeable Expenses is known as Prime Cost.

1. Cost of Direct Materials Consumed	—
2. Direct Labour or Wages	—
3. Other Chargeable Exps.	—
PRIME COST	—

(5) Works Expenses or Overheads:

In unit costing, these expenses related to the product are added to Prime Cost. These are:

(i) Indirect materials like oil, dusters, lubricants etc.,

(ii) Indirect labour like wages to foremen, storekeeper, watchman, factory clerksetc.
,

(iii) Steam, fuel or electric power,

(iv)Lighting heating and water in the factory

(v) Rent, insurance and rates of factory,

(vi)Repairs and depreciation of machines plant, factory building and loosetools,

(vii) Factory stationery,

(viii) Factory research expenses,

(ix)Expenses related to factory establishment,

(x) Drawing office salary,

(xi) Welfare expenses and workman's compensation, Insurance, etc.

(6) Scrap or Wastage:

In the production of anything some wastage or scrap materials is obtained. Sometimes some of the units produced may be defective and such units or scrap or wastage is sold. The amount thus obtained should be deducted from factory expenses or from works cost. If, however, the materials (when about to be used) are found to be defective and then sold, the value of materials used should be reduced by the cost of such materials. The loss on sale of such defective materials should be debited to the Costing Profit and Loss Account.

(7) Work in Progress:

In any factory or workshop there are always some units which are not yet complete, but on which some work has been done. Such work is known as work-in-progress or work-in-process. The valuation of such work-in-progress is made on the basis of the value of material already used, the amount of wages paid for the work concerned and a proper share of factory expenses. Since various units will be at different stages of production the value of work- in- progress will have to be estimated for each stage separately.

The work-in-progress in the beginning is to be added to the current costs of production and that at the end of the period has to be deducted from the

manufacturing cost. This may be done when factory expenses have been addedto the prime cost.

Cost sheet Format

COST SHEET AS ON ..... (NO. OF UNITS PRODUCED: .....)

	PARTICULARS	*TOTAL* ₹	Per unit ₹
	Opening Stock of Raw materials	xxx	
Add:	Purchase of Raw Materials	xxx	
Add:	Carriage Inwards	xxx	
		xxx	
Less:	Closing Stock of Raw materials	xxx	
Less:	Materials Returned	xxx	
	DIRECT MATERIALS CONSUMED	xxx	xxx
Add:	Direct Labour	xxx	xxx
Add:	Direct Expenses	xxx	xxx
	PRIME COST	xxx	xxx
Add:	Factory /Works expenses / works on cost	xxx	
Add:	Opening Stock of work in progress (WIP)	xxx	
		xxx	
Less:	Closing Stock of work in progress (WIP)	xxx	
Less:	Sale of Salvage (if any)	xxx	
	WORKS COST or FACTORY COST	xxx	xxx
Add:	Office and Administration Expenses	xxx	xxx
	COST OF PRODUCTION	xxx	xxx
Add:	Opening Stock of finished goods	xxx	
		xxx	
Less:	Closing Stock of finished goods	xxx	
	(No. of units x ***Cost of production per unit****)	xxx	
	COST OF GOODS SOLD	xxx	xxx
Add:	Selling and Distribution expenses	xxx	xxx
	COST OF SALES / TOTAL COST	xxx	xxx
Add:	Profits(Pisitive figure)/Loss (Negative Figure)	xxx	xxx
	SALES	xxx	xxx

UNIT – II
MATERIAL COSTING

Classification is the systematic division, grouping, or categorization of materials or items based on some common characteristic.

Classification of materials can be performed on different bases (e.g., nature, manufacturing process, value, and purpose). To identify materials that are purchased and stored for commercial purposes, they should be properly classified.

The department in charge of storage should closely study and monitor the materials, ensuring their safe custody, meticulous handling, and protection from damage, fire, pilferage, and spoilage.

A broad classification of materials is shown below, based on their nature, use, and service.

- Raw Materials
- Consumable Stores
- Machinery and Plant
- Factory and Office Equipment
- Inflammable Stores
- Chemicals
- Furniture and Fixtures
- Scrap Materials
- Packaging Materials
- General Stores

Basis for Classification of Materials

The basis for the classification of materials involves several aspects, including nature, manufacturing process, and value.

Basis of Nature

Based on their nature, materials can be divided into:

(i) Direct Materials: Direct materials are items that can be identified with a product or a group of products and can be easily measured and charged directly into the product. These materials are part of the finished product (e.g., timber in furniture).

(ii) Indirect Materials: These are materials that cannot be traced to a specific product or be charged directly to various products. Indirect materials do not form part of the product. Examples include repair and maintenance stores, lubricating oils, and cleaning materials.

Basis of Manufacturing Process

Based on the manufacturing process, stores are divided into:

(i) Pre-process Stock: These are items that are yet to be used in the manufacturing process and are obtained prior to the start of production. They include raw materials, bought-out parts and assemblies, and stock in the pipeline of materials in transit.

(ii) Intermediate Stock: Intermediate stock comprises the parts or assemblies that are manufactured within the factory for use in the final product.

(iii) Finished Goods or Finished Products: As the name indicates, finished goods are the items that have been duly manufactured in the factory and are ready for shipment or sale to the customers.

Basis of Value

Based on value, stores may be divided into:

(i) Category A: Category A consists of materials which constitute 5% to 10% of the total items in the stores and represents 70% to 85% of the total stores value.

(ii) Category B: This category consists of materials which constitute 10% to 20% of the total items in the stores and represents 10% to 20% of the total stores value.

(iii) Category C: This category consists of cheap materials which constitute 70% to 85% of the total items in the stores and represents 5% to 10% of the total stores value.

Category A items are costly items, calling for a greater level of control to preserve them. A reasonable degree of care may be taken to control category B items, while a routine type of care may be applied to control C category (or residuary) items.

Basis of Movement of Stores

Based on the movement of stores (i.e., rate of consumption), stores items maybe divided into:

(i) Fast Moving Stock: Fast moving stock is exhausted rapidly due to high demand from production departments.

(ii) Slow Moving Stock: This category consists of stores or materials that are consumed or exhausted slowly due to limited demand from the production departments.

(iii) Dormant Stock: This category consists of items that are not in demand at present and may regain demand in the future. This category includes seasonal materials, which are only required during specific seasons.

Advantages of Classification of Materials

Classifying the items that a business holds in its stores leads to many advantages. These include:

1. Helpful in Grouping of Stores Items: Classification helps to group different items in the store. Items that fall under a particular category can be stored in one location, ensuring optimal use of storage space.

2. Easy Location: Proper classification of stores items helps in the easy identification of the various items. Storekeepers can easily find materials whenever they are required in the production departments.

3. Proper Accounting: Record-keeping processes are easier when items are properly classified. Furthermore, simplified record-keeping ensures accuracy in posting receipts and issues in the stores records.

4. Proper Care: By classifying items based on value, storekeepers can ascertain their relative importance. Accordingly, a suitable degree of supervision and control can be exercised that is proportional to the value of each item.

5. Avoidance of Duplication: Proper classification helps to avoid the possibility of duplicate stock items and materials.

6. Standardization: Classification helps to standardize various items in the stores. Standardization involves variety reduction using fixed sizes and types, leading to uniform standards for similar items.

Codification of Materials

After classifying and grouping the various items in an organization's stores, it is useful to codify them.

Codification is the process of assigning a number or symbol to each store item, along with a name, in order to make it easy and convenient to identify.

The codification of store items thus leads to time-saving and labor efficiencies.

Different kinds of store codes are used today. Most have been specially designed to suit the requirements of a particular organization.

These codes may be based on the nature of stock items, the purpose for which the items are used, or on any other basis that is viewed as suitable according to the local circumstances.

Also, the accurate identification of the materials may require a lengthy description. This can be complicated and, hence, may add to the confusion.

Codification is necessary because it involves the assignment of logical and systematic numbers or alphabets (or both) to help in the simple but accurate identification of the materials.

Advantages of Codification

The main advantages of codification include:

- Avoidance of long and unwieldy descriptions
- Accurate and logical identification of items
- Avoidance of duplication
- Standardization of purchasing and storage
- Reduction of variety
- Effective planning and high-quality production

Material Control is a management function that is concerned with thestorage, handling, and use of materials to minimize waste and improve

inventory accuracy. This process can be beneficial for companies to reduce costs and improve organization and productivity.

Objectives of Materials Control:

(a) To enable uninterrupted production:

The main object of material control is to ensure smooth and unrestricted production. Production stoppages and production delays cause substantial lossto a concern.

(b) To ensure requisite quality of materials:

The quality of finished products depends mainly on the quality of raw materials used. If quality of the raw materials is not up to desired standards, the end product will not be of desired quality which affects the sale of the productin the market resulting in loss of profits as well as goodwill of the concern. It is of vital importance to exercise strict control and supervision over the purchases, storage and handling of materials.

(c) To minimise wastage:

The loss of material may occur on account of rust, dust, dirt or moisture, bad and careless handling of materials, poor packing and many other reasons. The causes responsible for such losses must be brought to light and utmost efforts should be made to minimise the wastage of raw materials. This is possible only by introducing an efficient materials control system.

(d) To fix responsibility:

A proper system of materials control also aims at fixing responsibility of operating units and individuals connected with the purchase, storage and handling of materials.

(e) To provide information:

Another objective of materials control is to provide accurate information regarding material cost and inventory whenever needed by management.

Purchase Procedures:

The Purchase Department has to follow certain procedures for efficient buying. The purchase procedures involve the following steps:

(1) Purchase requisition:

Receiving the purchase requisition, which may be received from the stores, production control department, Departmental Managers. The volume of materials to be bought should be determined judiciously.

(2) Search for supplier:

The Purchase Department has to search for prospective suppliers. Care should be taken in choosing the correct supplier. Once the suppliers are identified they should be asked to submit quotation or tender. The tenders are to be opened and supplier should be selected after considering the terms and conditions stated in the tenders.

(3) Placing order for purchase:

Once the supplier is selected the purchase order should be given to the selected supplier. Copy of purchase order should be sent to the originating department, Accounts Department and one copy to Costing Department.

(4) Receipt of Materials:

Materials received should be entered in the Goods Received Note and are to be sent to Inspection Department for inspection. After receiving inspection report, the materials are sent to the stores for despatch to the production departments.

Receipt of Goods:

A goods receiving department is usually set up at the entrance to the factory. All carriers of goods are supposed to report to this department. After receiving delivery note or an advice of despatch from the supplier, the receiving department should make arrangements for unloading the goods.

The receiving office should receive the goods after comparing the quantity, quality and other details incorporated in the Purchase Order which he should already possess. On receipt of goods they should be checked either by weighing or by counting or by inspecting.

If there is any damage or shortage, the fact should be noted on the carrier's copy or challan. After being satisfied in all respects the receiver of the goods should sign the carrier's copy of challan. Particulars of goods should then

be entered in a Goods Received Note (given below). Goods Received Note is an important document and is necessary so that the supplier's invoice can be verified and passed for payment.

Goods Received Note is prepared with additional copies to be distributed asfollows:

(i) To the purchase department to update purchase record;

(ii) To the department originating the purchase requisition;

(iii) To the accounting and stock control department;

(iv) To the store-keeper; and

(v) Retained in the receiving department for record and future reference.

Goods Received Note (GRN):

It is a testimony to the goods received which are in accordance with the purchase order. Where this is not so the supplier is informed by a formal communication. If some adjustments are to be made on account of damaged or defective goods it is customary to send a debit note to the supplier for the value of the damaged or rejected items plus cost of carriage for returning them.

Checking of Purchase Invoices:

Along with the goods the supplier sends an invoice which contains the details of the materials supplied and the price to be paid for it.

On receipt of materials the purchase clerk checks the accuracy of theparticulars with reference to the following documents:

(i) Purchase Order.

(ii) Goods Received Note.

(iii) Inspection Report.

(iv) Debit Note, if any.

If the invoices are found correct they are signed by the responsible authority of the purchase department with a rubber stamp and passed to the accounts department for payment. The invoices are now checked by the authorized person of accounts department to ensure that the calculations are correct.

The invoice is entered in the Purchase Day Book from which the supplier's account is credited. Periodically the total of the Purchase Journal is debited to Purchase Account in the General Ledger.

Techniques of inventory Control

Some of the most important techniques of inventory control system are: 1. Setting up of various stock levels. 2. Preparations of inventory budgets. 3. Maintaining perpetual inventory system. 4. Establishing proper purchase procedures. 5. Inventory turnover ratios. and 6. ABC analysis.

1. Setting up of various stock levels:

To avoid over-stocking and under stocking of materials, the management has to decide about the maximum level, minimum level, re-order level, danger level and average level of materials to be kept in the store.

These terms are explained below:

(a) Re-ordering level:

It is also known as 'ordering level' or 'ordering point' or 'ordering limit'. It is a point at which order for supply of material should be made.

This level is fixed somewhere between the maximum level and the minimum level in such a way that the quantity of materials represented by the difference between the re-ordering level and the minimum level will be sufficient to meet the demands of production till such time as the materials are replenished. Reorder level depends mainly on the maximum rate of consumption and order lead time. When this level is reached, the store keeper will initiate the purchase requisition.

Reordering level is calculated with the following formula:

Re-order level =Maximum Rate of consumption x maximum lead time

(b) Maximum Level:

Maximum level is the level above which stock should never reach. It is also known as 'maximum limit' or 'maximum stock'. The function of maximum level is essential to avoid unnecessary blocking up of capital in inventories, losses on account of deterioration and obsolescence of materials, extra overheads and temptation to thefts etc. This level can be determined with the

following formula. Maximum Stock level = Reordering level + Reordering quantity (Minimum Consumption x Minimum re-ordering period)

(c) Minimum Level:

It represents the lowest quantity of a particular material below which stock should not be allowed to fall. This level must be maintained at every time so that production is not held up due to shortage of any material.It is that level of inventories of which a fresh order must be placed to replenish the stock. This level is usually determined through the following formula:

Minimum Level = Re-ordering level – (Normal rate of consumption x Normal delivery period)

(d) Average Stock Level:

Average stock level is determined by averaging the minimum and maximum level of stock.

The formula for determination of the level is as follows:

Average level =1/2 (Minimum stock level + Maximum stock level)

This may also be expressed by minimum level + 1/2 of Re-ordering Quantity.

(e) Danger Level:

Danger level is that level below which the stock should under no circumstances be allowed to fall. Danger level is slightly below the minimum level and therefore the purchases manager should make special efforts to acquire required materials and stores

EOQ (Economic Order Quantity)

EOQ is calculated using the annual product demand, order cost and holding cost per unit, per year. This calculation can be automated with an inventory management system that's often part of a larger ERP platform

What is EOQ?

EOQ stands for Economic Order Quantity. It is a measurement used in the field of Operations, Logistics, and Supply Management. In essence, EOQ is a tool used to determine the volume and frequency of orders required to satisfy a given level of demand while minimizing the cost per order.

The Importance of EOQ

The Economic Order Quantity is a set point designed to help companies minimize the cost of ordering and holding inventory. The cost of orderinginventory falls with the increase in ordering volume due to purchasingon economies of scale. However, as the size of inventory grows, the cost of holding the inventory rises. EOQ is the exact point that minimizes both of these inversely related costs.

EOQ Formula

The Economic Order Quantity formula is calculated by minimizing the total cost per order by setting the first-order derivative to zero. The components of the formula that make up the total cost per order are the cost of holding inventory and the cost of ordering that inventory. The key notations in understanding the EOQ formula are as follows:

LIFO AND FIFO (Last –in- First- Out And First – in – First –Out)

FIFO, LIFO, Simple & Weighted Average - MaterialCost

Materials issued from stores are debited to the jobs or work orders which received them and credited to the materials account. These jobs are debited with the value of materials issued to them. But what is the value of materials? Theoretically the value includes the invoice price less trade discount, the freight, cartage and insurance on incoming materials, expenses of purchase, receiving, storing and record keeping and carriage from the stores up to the process plant. However, in practice, it involves minute calculations for including all these expenses and is a big task compared to the benefit derived from it.

More over the price changes according to the market conditions and at any given time there will be stock of materials purchased at different times at different prices. Hence the problem as to at what price the materials should be issued?

There are many methods of pricing material issues. The most important being: FIFO, LIFO, simple and weighed average methods.

1) First in First Out (FIFO)

Under this method material is first issued from the earliest consignmenton hand and priced at the cost at which that consignment was placed in the

stores. In other words, materials received first are issued first. The units in the opening stock of materials are treated as if they are issued first, the units from the first purchase issued next, and so on until the units left in the closing stock of materials are valued at the latest cost of purchases. This method is most suitable in times of falling prices because the issue price of materials to jobs or work order will be high while the cost of replacement of materials will be low. But in case of rising prices this method is not suitable because the issue price of materials to production will be low while the cost of replacement of materials will be high.

Advantages:

(i) Since materials issued for production are at the original cost, the inventory reflects the current market price,

(ii) Profit and Loss Account and the Balance Sheet satisfactorily represent the actual conditions,

(iii) When the price level is declining, the FIFO method shows a lower profit for income tax implications,

(iv) Next to the Average Cost Method, FIFO is the most commonlyaccepted basis of valuation of issue, and

(v) The method simplifies computation of the values of issues.

Demerits:

(i) When there are price-fluctuations FIFO method makes the cost of production fluctuating from period to period,

ii) At the time of increasing price-level this method shows profit and inventory at higher figures which have unfavourable income tax implications.

Illustration 1: The following is a history of the receipts and issue of motives ina factory during February, 2004:

February	1	Opening balance	500 kg @ ₹. 25
"	8	Issue	250 kg
"	13	Receipts	200 kg @ ₹. 24.50
"	14	Refund from a work order	15 kg @ ₹. 24.00
"	16	Issue	180 kg
February	20	Receipts	240 kg @ ₹. 24.37
"	24	Issue	304 kg

Issues are to be priced on the principles of FIFO. Stock verifier of the factory noted on 15th a shortage of 5kgs. Write out the complete Store ledger account in respect of the above motives for February, 2004.

Solution.

Stores Ledger Account for February, 2004

Motive..... Code No..... Maximum quantity.....
Minimum quantity.....

Date	Receipts				Issues				Balance			
	G.R. No.	Qnty. kg	Price per kg	Amount ₹.	S.R. No.	Qnty. kg	Price @	Amount ₹.	Qnty. kg	Price per kg	Amount ₹.	Remarks
2004 Feb. 1									500	25.00	12,500.00	
8						250	25.00	6250.00	250	25.00	6,250.00	
13	—	200	24.50	4900.00					250 200	25.00 24.50	11,150.00	
14	—	15	24.00	360.00					250 200 15	25.00 24.50 24.00	11,510.00	*Shortage noted
16						180	25.00	4500.00	*65 200 15	25.00 24.50 24.00	6,885.00	on 15th of 5
20	—	240	24.37	5848.80					65 200 15 240	25.00 24.50 24.00 24.37	12,733.80	kg valued on FIFO
24						65 200 15 24	25.00 24.50 24.00 24.37	7469.88	216	24.37	5,263.92	basis

2) Last in First Out (LIFO)

Under this method, issues are priced in the reverse order of purchasei.e., the prices of the latest available consignment is taken. This method is suitable in times of rising prices because material will be issued from the latest consignment at a price which is closely related to the current price levels.

Valuing material issues at the price of the latest available consignment will helpthe management in fixing the competitive selling prices of the products.

Advantages:

This method claims a few advantages:

(a) The issue will be priced at the market rate prevailing, more or less, near the date of issue. This has the advantage of ascertaining the cost at about the prevailing market price and the cost thus ascertained will enable the prices to be fixed on competitive basis.

(b) The principle of costing the goods at cost has not been given up.

(c) In case of rising prices the method has the advantage of showing a lower profit which may help in saving tax to some extent. It is not without reason that this method has come into use only when prices have been steadily rising.

Disadvantages:

(i) The disadvantages of this method are the same as those of the FIFO method, namely, excessive clerical labour and differing costs of similar jobs using similar materials.

(ii) Under this method the inventory is shown at the oldest market price and so does not reflect the current conditions,

(iii) Since the inventory value at the end of a period is out of date, large adjustment may be necessary, if the cost or market rule is applied.

3) Simple Average Method

In this method, price is calculated by dividing the total of the prices of the materials in the stock from which the material to be priced could be drawn by the number of the prices used in that total. This method may lead to over- recovery or under-recovery of cost of materials from production because quantity purchased in each lot is ignored.

Advantages:

(a) It is simple to work out & apply.

(b) Issue price cannot be affected considerably by the fluctuations in prices of purchase.

(c) Average cost method is suitable for the condition when differentlots ofpurchases get mixed up so that the identification is not possible.

(d) Where the quantity of each purchase is stable but the pricesfluctuate, average cost method suits the condition.

Disadvantages:

(a) Profit or loss in material arises as total cost incurred usually does not become equal to the total charges.

(b) Frequent calculations of rates will be necessary in case of frequent purchases, thereby involving much clerical work. Average rate may have to be revised due to exhaustion of an existing stock even if no new purchase comes.

(c) Too much profit or loss on materials may be resulted from the method, when lots of purchases vary much in quantities.

(d) Due to fact that the identity of the materials disappeared in the store, the verification of closing stock figures becomes difficult.

(e) Absurd figures may be shown by the closing stock. The closing stock account may even show credit balance, in times of inflationary spiraling.

The simple average method can work well where:

(a) in each lot, there is standard quantity of purchase

(b) there is very mild fluctuation in prices.

Illustration 4:

From the details preparestores ledger undersimple averagemethod.

2010 Dec	1	Opening Balance	400 kg @ $ 1.25
	5	Received	200 kg @ $ 1.30
	8	Issued	480 kg
	10	Issued	40 kg
	15	Received	320 kg @ $ 1.35
	18	Issued	200 kg
	20	Received	400 kg @ $ 1.40
	25	Issued	160 kg
	28	Issued	240 kg

Shortage of 40 kg on 16.12.2010 & another shortage of 40 kg on26.12.2010 isfound by the stock verifier.

Date	Receipts				Issues				Balance			Remarks
	G.R. N.No	Qty (unit)	Rate $	Amount $	S.R. No	Qty (Unit)	Rate $	Amount $	Qty (Unit)	Rate $	Amount $	
2010 Dec'												
01									400	1.25	500	
05		200	1.30	260					600		760	
08						480	1.275	612	120		148	
10						40	1.30	52	80		96	
15		320	1.35	432					400		528	
16						40	1.325	53	360		475	Shortage
18						200	1.325	265	160		210	
20		400	1.40	560					560		770	
25						160	1.375	220	400		550	
26						40	1.40	56	360		494	Shortage
28						240	1.40	336	120		158	

Workings: Calculation of simple average price:–For

Issue on 8th Dec = (1.25+1.30)/2 = $ 1.275 For

Issue on 10th Dec= $ 1.30

For Shortage on 16th Dec = (1.30+1.35)/2 = $

1.325For Issue on 18th Dec = $ 1.325

For Issue on 25th Dec = (1.35+1.40)/2 = $

1.375For Shortage on 26th Dec = $ 1.40

For Issue on 28th Dec = $ 1.40

Eg:-

1000 units purchased @ Rs.10 2000 units purchased @ Rs.11 3000 units purchased @ Rs.12

In this example, simple average price will be Rs.11 calculated as below:

$$\frac{Rs.10 + Rs.11 + Rs.12}{3} = Rs.11$$

4) Weighted Average Methods

In this method, price is calculated by dividing the total cost of materials in the stock from which the materials to be priced could be drawn bythe total quantity of materials in that stock.

In the above example, the weighted average price is Rs.11.33 per unit calculatedas follows:

$$\frac{1000 \times Rs.10 + 2000 \times Rs.11 + 3000 \times Rs.12}{1000+2000+3000} = Rs.11.33$$

In the periods of heavy fluctuations in the prices of materials, the average cost method gives better results because it tends to smooth out the fluctuations in prices by taking the average of prices of various lots in stock.

Advantages:

(a) The effect of price fluctuations on issue rates are smoothenedeffectively by the method.

(b) The rate continues in its application unless a new purchase arrives.

(c) Only if, in the calculation of the rates, mathematical approximation is made then profit or loss on materials arises.

(d) Simple & not too much clerical work is involved unless purchasesare made frequently.

(e) Where both the price & quantity ordered fluctuate, this method suits the condition.

Disadvantages:

(a) The work of calculation of rates becomes considerable in case wherea frequent purchase is made.

(b) The cost price (nor the market price) of the materials actually issuedare not represented by the charges made to issues.

(c) Unless the rates are calculated correcting up to 4 or 5 places of

decimal whenever necessary, profit or loss on materials may be created by the method.

UNIT – III LABOUR COSTING

Labour Cost Control – Meaning

Labour cost refers to the amount of money paid to the people who are engaged in the production of goods. In manufacturing businesses, often management will break down labour cost into direct cost and indirect cost.

The nature of labour whether it is direct or indirect depends upon the contribution of labour towards production. If they are directly engaged in production activities, the labour is termed as direct labour and if indirectly engaged then indirect labour.

Labour cost includes various types of expenses incurred on workers. These may be monetary payments made to workers directly such as basicwages, dearness allowance, bonus etc., deferred monetary benefits such as employer's contribution to provident fund, gratuity, pension, etc., and fringe benefits such as employer's contribution to Employees' State Insurance scheme, subsidised food, subsidised housing, leave travel concession, medical and holiday home facilities, libraries and Other Welfare measures. In relation to the job or the product, labour cost may be direct or indirect.

Five Factors for Labour Cost Control

Production Planning, Setting up of Standards, Use of Labour Budgets, Study of the Effectiveness of Wage-Policy and Labour Performance Reports

The factors for labour cost control are discussed below:

Factor # 1. Production Planning:

The production is to be planned in a way as to have the maximum and rational utilization of labour. The product and process engineering, programming, routing and direction constitute the production planning.

Factor # 2. Setting up of Standards:

Standards are set up with the help of work study, time study and motion study, for production operations. The standard cost of labour so set is compared to the actual labour cost and the reasons for variations, if any, are studied minutely.

Factor # 3. Use of Labour Budgets:

Labour budget is prepared on the basis of production budget. The number and type of workers needed for the production are provided for along with the costof labour in the labour budget. This budget is a plan for labour cost and is prepared on the basis of the past data considering the future prospects.

Factor # 4. Study of the Effectiveness of Wage-Policy:

The point for study and control of cost is how far the remuneration paid on the basis of incentive plan matches with increased production.

Factor # 5. Labour Performance Reports:

The labour utilization and labour efficiency reports received periodically from the departments are helpful in the managerial control on labour and exercise labour cost control.

Importance of Labour Cost Control

Like material cost, labour cost also constitutes a significant portion of total production cost. Now-a-days when wage rates are increasing and labour cost is tending to become more and more fixed, particularly in large manufacturing organisations, strict control over labour cost has assumed great significance in order to control the overall cost of production and the cost of operating a unit.

However, high wages to the workers do not necessarily mean high labour cost. In fact payment of high wages to workers is aimed to achieve more than proportionate increase in their output resulting in lower per unit labour cost.

Some other importance of labour cost control given in points:

1. As Labour is a human being, it symbolizes human contribution to a firm's production.

2. Accounting and control over labour cost necessitates correct timekeeping.

3. Proper control on the recruitment of labour is needed for the accounting and control of labour cost.

4. Labour cost is a committed cost because of the existing labour lawswhich give considerable protection to them.

5. Cost per unit of a product is influenced in a major way by labour cost.

6. In the case of some industries there is a shortage of skilled labour andhence it is necessary to make their effective utilization.

Wages can be paid to the employees either on the basis of time or on the basisof production done by them.

Thus, there are two system of wage payment:

1. Time rate System.

2. Piece rate System.

1. Time Rate System:

Time rate system is the oldest method of wage payment. Under this method the employee is paid on the basis of time worked i.e. a day, a week, a fortnight or a month irrespective of quantity produced. It must be remembered here that wages are paid after the time fixed for work is completed irrespective of output or completion of the work.

Every worker knows how much wages he will get after specific period as an arrangement regarding wages is reached between employees and management regarding the wage rate.

Formula:

Wages = Number of hours worked × Rate per hour

For example, A worker is paid at the rate of Rs.10 per hour and he spent 100 hours at work.

So his wages will be:

Wages = Number of hours worked × Rate per hour

= 100 × 10

= Rs.1000

Types of Time Rate System:

(i) Flat Time Rate:

It is the oldest and simple method of wage payment. Under this system workers are paid at the flat rate on the basis of time they are employed. The flat rate may be per hour, per day, per week, per month etc.

(ii) High Pay Rate:

One of the basic drawbacks of the time rate system is that it does not attract the highly skilled workers. High pay rate system suits to highly skilled workers. Under this method overtime is not allowed and workers are required to achieve the target within time. The success of the system depends on the cooperation of efficient workers. It also requires proper setting of standards.

(iii) Measured Pay Rate:

Under this workers are given a specified work and rate is fixed according to the level of performance. Higher wages will be given for higher performance. This method is criticise on the ground that additional remuneration is given for any improvement in the performance.

(iv) Graduated Time Rate:

Under this method the wage rate is fixed with cost of living index changes. This method is the choice of workers as they get additional wages when cost of living index changes.

(v) Differential Time Rate:

Under this system different wages are fixed for different workers as per their personal abilities. Higher wages are paid to meritorious workers and incentives are given to workers for their performance.

Advantages of Time Rate System:

Following are the advantages of time rate system:

(i) Simple – The very first advantage of time rate system is that it is simple to understand and easy to use. The workers can easily understand this method and compute their earnings.

(ii) Regularity – Regularity is another feature of this method. Earnings are regular and fixed, there being no uncertainty of any type. So workers get regularearnings and plan their expenditures in advance on the basis of their earnings.

(iii) Clerical Work – Workload of clerks and other officials also gets reduced. Inthis method, the clerical work in the wage calculations is minimum because no records of output are required.

(iv) Amount of Wages – In this method, the employees can predict the wages in advance, similarly for the employer i.e., employer can predict his liability forthe payment of wages in future with accuracy which makes the arrangements of funds very easy.

(v) Quality – There is no restriction regarding the quantity of output, employees try to maintain the top quality of goods. The employees work with ease and patience. So it can be said that the output in this system is of good quality.

(vi) Protection – Workers are sure to get certain amount of wage so they can plan their expenditures and also can make their family budget. This method protects the wages of trainees, aged and other employees who temporarily fall sick.

(vii) No Wastage – There is no consideration of quantity, workers make the production by giving more importance to quality, which avoids wasteful handling of material, machines and tools.

(viii) Preference – Since time rate system of wage payment does not differentiate between efficient and inefficient workers, so it is preferred by workers and trade unions.

(ix) Popular Method – This is the most popular method. It is favoured ad practised by most of employers and employees.

(x) Lesser Administrative Expenses – Every worker takes his job and his duty sincerely and honestly and as such lesser inspection and supervision is required which reduces the administrative expenses.

Disadvantages of Time Rate System:

Following are the disadvantages of the time rate system of wage payment:

(i) Lack of Incentive for Efficiency – The major disadvantage of this method is the lack of incentives i.e., both efficient and inefficient workers get equal

remuneration on the same job, as such there is no incentive for efficient workers.

(ii) Need for More Supervision – The workers become careless, as no specific amount of work is required to be performed. This is why more supervision is required.

(iii) Loss of Efficiency – There is no discrimination in this method between the efficient and inefficient workers. So efficient workers have no incentives to work better in terms of quality and quantity, which decreases the morale and efficiency of the efficient workers.

(iv) Difficult Assessment of Work – As there is no record of individual's performance or output. So in this method it is very difficult to assess the workers' efficiency.

(v) Loss of Production – Carelessness and slackness of both workers and management results in loss of production.

(vi) Reduced Morale – This method destroys the morale of the workers, and even efficient workers come to the level of inefficient workers. Sometimes competition takes the negative side.

Suitability of Time Rate System:

The time rate system is suitable in the following situations:

(i) Work is of varied nature and standards of performance are difficult to set.

(ii) Where quality of goods is more important.

(iii) Where mental work is involved such as administration, management policy making.

(iv) Trade union is very strong and is opposed to output-related payment.

(v) Highly skilled and competent manpower is employed which does not require to be closely supervised.

(vi) When it is difficult to fix the standard time for doing the job.

(vii) When the job relates to office or is clerical work.

(viii) When collective effort of group of persons necessary to perform the job.

Piece Rate System:

Under this system the worker is paid on the basis of output i.e., amount of work done. The earnings of the workers are governed by the production quantities and wage rate per piece. The rate of wages is fixed in advance. Though the time is not important in this system, it is assumed that the worker will not take more than the average time to complete a job. The earnings of the worker depend upon the speed of his work and his own individual skill and efficiency.

As against the time rate system where every employee is paid the same wage, under this system the wage varies according to the worker. A superior worker will earn more than the inferior worker. The higher the output of the worker, the greater are his wages.

Formula:

Wages = Number of units produced x Rate per unit

For example, suppose piece rate prescribed is Rs.20 per unit produced.

If a worker produces 10 units, his wages will be as follows:

Wages = Number of units produced x Rate per unit

Wages = 10 x 20

Wages = Rs.200

Types of Piece Rate System:

There are four types of piece rate system:

(i) Straight Piece Rate System:

It is the simple method of payment under which payment is made to workers according to the units produced at fixed rate. Another type of this method is piece rate with guaranteed time rate with additional advantage of piece rate.

(ii) Taylor Differential Piece Rate System:

The differential piece rate system makes the correlation between theincrease in the efficiency of the worker and the increase in wage rates. With thisan efficient worker gets more wages in comparison to the inefficient one. The two wage rates are determined in this system i.e. higher wage rate for the

worker who produces more than the standard output and lower wage rate for the worker who produces standard or less than standard output.

(iii) Merrick Multiple Piece Rate System:

Under this system three piece rates are applied to workers with different levels of performance.

These are:

Performance level	Piece Rate
Less than 83% of standard output	Ordinary Piece rate
83% to 100% of standard output	110% of ordinary piece rate
More than 100% of standard output	120% of ordinary piece rate

(iv) Gantt's Task and Bonus Plan:

Under this the standard time is fixed for doing particular task and then workers' actual performance is compared with the standard time. If worker takes more time than the standard time then he is given wage for the time taken by him.

(a) If worker takes the standard time then he is given wages for the standard time + 20% as the bonus on the wages earned.

(b) If worker takes time less than the standard time then he is given wages equal to the standard time + 20% of the wages for the standard time.

Advantages of Piece Rate System:

The following are the advantages of piece rate system:

(i) Increased Production – Production increases as every worker tries to produce more and more. Efforts on the part of very worker results in the amount of output.

(ii) Simple – Wages are based on the number of units produced by workers so both management and workers can calculate their wages in advance. On the basis of this they can plan their expenditures.

(iii) Better Employer Employee Relations – The relations between employer and employees improve as rate of wages is decided in advance and there are no chances of conflict.

(iv) Proper Use of Tools and Equipments – Every worker tries to produce more and more so it makes the efficient use of tools and equipments.

(v) Benefits to Consumers – The large-scale increased output reduces the cost of production and also the prices of the products. The customers get these productsat cheaper rates.

(vi) Easy Determination of Quotation Price – The employer is able to know the exact labour cost per unit. This will help to make quotations confidently and accurately.

(vii) Less Supervision – As compared with the time rate system, the supervision costs under this system are not high, because the workers are to be paid on the basis of performance. The very attraction of greater reward for greater effort drives them to work hard.

(viii) Reduction of Idle Time – The quantum of idle time is minimised as workers know that they will not be paid for idle time. Thus it persuades themnot to waste their time.

(ix) Minimisation of Loss due to Breakage – The workers handle the machines, tools and implements with great care which helps in minimisation of loss resulting from breakage. They know that the breakage will reduce their output which results in reduced wages.

Disadvantages of Piece Rate System:

Some important disadvantages of the system are given below:

(i) Difficulty in Fixation of Standard Piece Rate – Setting of a standard rate involves a lot of difficulties and a considerable amount of expense has to be incurred. If high piece rate is established, it is very difficult reduce it subsequently.

(ii) Ignores Quality – As more output means more wages, the workers are always in a hurry to produce more. This results in production of substandard items, high rate of rejection and ultimately increased production cost per unit.

(iii) Insecurity – The system does not provide guarantee of minimum wages to the workers. They feel insecure since they would get less wages during the period when their efficiency may get reduced due to factors beyond their control. Thus, at times, workers may be earning even below the subsistence level.

(iv) Conflict – The system may lead to conflict between the management and the workers, if the output is low due to some fault of the management, such as bad quality of raw material, frequent break downs failure of machinery etc.

(v) Expensive Control Systems – Management is compelled to intern expensive control systems of supervision and inspection for maintaining quality of output.

(vi) Speeding – Workers may Speed up the work to produce more which causes great injury to their health. Speeding also causes undue wastage of raw materials and wear and tear to machines.

(vii) Effect on Production Schedule – Workers may work at a seed for a day, earn more wages and then absent themselves for a few days, which may affect the uniform flow of production and the production as such may be disturbed.

(viii) Increased Cost of Production – Cost of production may increase due to more wastage of materials, high cost of supervision and inspection, and wearand tear of machines.

(ix) Frustration among Less Efficient Workers – The system will frustrate the less efficient workers and their efficiency may further decrease because of discontentment.

Suitability of Piece Rate System:

Piece rate system of payment of wages is considered suitable where:

(i) The quantity of work done can be precisely measured and standardised.

(ii) The work is of repetitive nature;

(iii) It is possible to fix a fair and acceptable piece rate;

(iv) The productivity is closely related to skill and efforts;

(v) The quality of goods can be controlled;

(vi) Time cards are maintained for ensuring regularity and punctuality ofworkers and uninterrupted flow of production; and

(vii) Materials, tools and machines are pettily available to cope with the possible increase in production.

Premium Plan

The object of a premium plan is to increase the production by giving an inducement to the workers in the form of higher wages for less time worked.

Under a premium plan, a standard time is fixed for the completion of a specific job or operation and the worker is paid for the time taken by him to complete the job or operation at an hourly rate plus wages for a certain fraction of the time saved by way of a bonus. It is to be recalled that standard time is the time taken by the average worker and this time is determined on the basis of time and motion study.

The plan is also known as incentive plan because a worker has theincentive to earn more wages by completing the work in less time. For example,if a worker is allowed 10 hours to complete the job and he is given bonus at the rate of 50% of time saved, he takes 6 hours to complete the job. In this case, he will get wages for 8 hours i.e., wages for 6 hours (actual time taken) plus wages for 2 hours (50% of time saved) as bonus.

This system of wage payment is in between the time wage system and piece work system. In time wage system, worker does not get any reward for the time saved and in piece work system, the worker gets full payment for the time saved whereas in a premium plan, both the worker and the employer share the labour cost of the time saved In the example cited above the worker will get wages.

(i) For 6 hours in time wage system,

(ii) For 10 hours in piece work system, and

(iii)For 8 hours in premium plan.

Thus, in a premium plan, the employer is able to save wages for a proportion of the time saved and on the other hand the worker is able to get extra wages for a fraction of the time saved.

Factors:

A satisfactory premium plan should take into consideration the following factors:

1. The plan should be simple and it should be easily understood by all workers.
2. The plan should appear reasonable both to the employer and the employee.

3. Standard time should be determined on the basis of time and motion study. An average worker should be able to complete the work within the allowed time.

4. Standard once fixed should not be altered unless there is a permanent change in the method of work.

5. To make a premium plan successful, workers should be motivated by the desire to earn more money. They should be motivated to attain standards.

6. Working conditions should be such that a worker can produce more with extra efforts.

7. The incentive should be sufficiently high for the efficiency above the standard so that workers may try hard to have performance above the standard.

8. The system should result in increased production and lower cost of production.

9. An incentive scheme should not penalise a worker for adverse results owing to conditions beyond his control.

10. Workers should be properly educated about the incentive scheme so that there may be no undue resentment among them.

11. A good incentive scheme should not put any limit on the earnings of workers. Workers should have sufficient scope of earnings.

12. Quality of the product should be assured. Undue haste at the cost of the quality should be discouraged. The incentive scheme should provide for adequate supervision and production control.

13. Indirect workers should also be covered in the incentive scheme.

Advantages of Premium Plans:

1. Increase in production with corresponding reduction in cost because of reduction in overhead cost per unit particularly where there are substantial fixed overheads.

2. More efficient workers may be attracted because of possibility of earning higher wages.

3. Labour turnover is reduced because of high morale of workers as a result of better wages earned by efficient workers.

4. Consumers get the benefit of lower production cost by way of lower selling price and better quality of goods.

Disadvantages of Premium Plans:

1. Difficulties are experienced in establishing performance levels and rates resulting into frequent and continuing labour disputes.

2. It is difficult to withdraw a scheme once it is introduced even if it is proved ata later date to be uneconomical from employer's point of view,

3. Non-acceptability of the incentive system by the trade unions may lead to strikes and lock outs.

4. Some incentive schemes are complicated and expensive to administer.

Bonus plan

Top of Form

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1. Gantt Task Bonus Plan is applicable especially where output is affiliatedto an individual employee and not a group.

2. Gantt Task Bonus Plan works well where the employer has set a standardtime for every task within the timeframe given.

3. Gantt Task Bonus Plan is suitable where the employer has set a minimumtime wage as guaranteed to all workers to avoid the risk of missing an income.

Advantages of using Gantt Task Bonus Plan to Compute Labor Cost

1. Gantt Task Bonus Plan is less punitive as compared to Taylor's differential piece rate is. Therefore, it is more acceptable by the workers.

2. Gantt Task Bonus Plan is simplified. So, all stakeholders can follow the computational logistics thereof.

3. Gantt Task Bonus Plan has a characteristic of wage or income assuranceto all employees who is below average workers.

4. Gantt Task Bonus Plan fairly differentiates the efficient and inefficient workers in a manner such that even the less performing is not pained much as it is in the case of Taylor's differential piece rate is.

5. Gantt Task Bonus Plan aids in further decrease of the fixed cost per unit due to increase in production associated with the incentive given.

6. Gantt Task Bonus Plan promotes efficiency for wages increase progressively with increase in efficiency. As a result, the firm enjoys optimal resource utilization for there is minimal wastage.

Disadvantages of using Gantt Task Bonus Plan to Compute Labor Cost

1. Element of worker discrimination.

Gantt Task Bonus Plan is characterized by discrimination element amongst the employees. This causes demoralization to some of the employees especially those who know that their productivity level is due to unavoidable factors such as domestic challenges.

2. Creates disunity amongst employees

Gantt Task Bonus Plan leads to lack of cooperation amongst employees. Hence no team spirit and this results to a decline in output.

3. No guaranteed efficiency although Gantt Task Bonus Plan has a guaranteed time wage.

Gantt Task Bonus Plan has set a guarantee plans to ensure that each employee goes home with a salary perk. However, this is not directly associatedwith an increased work efficiency.

UNIT – IV

OVER HEAD COST CONTROL

Definition

Overhead Cost Controlling allows us to collect and analyse costs that cannot be directly assigned to the production of goods and services of a company. As overhead grows, the proportion of directly assignable production costs shrinks.

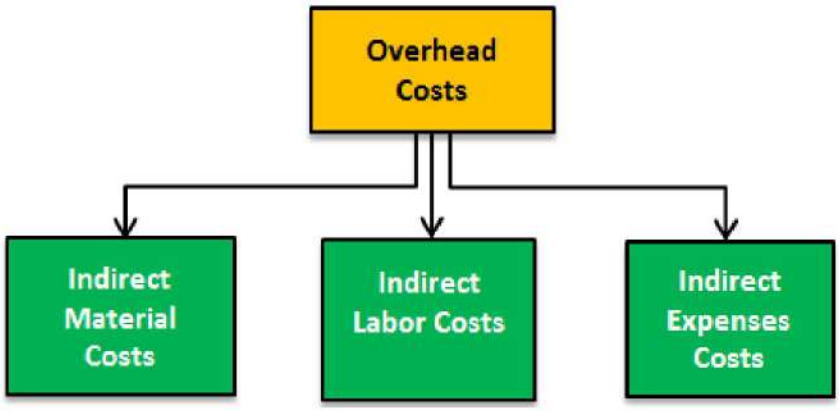
Understanding Overhead

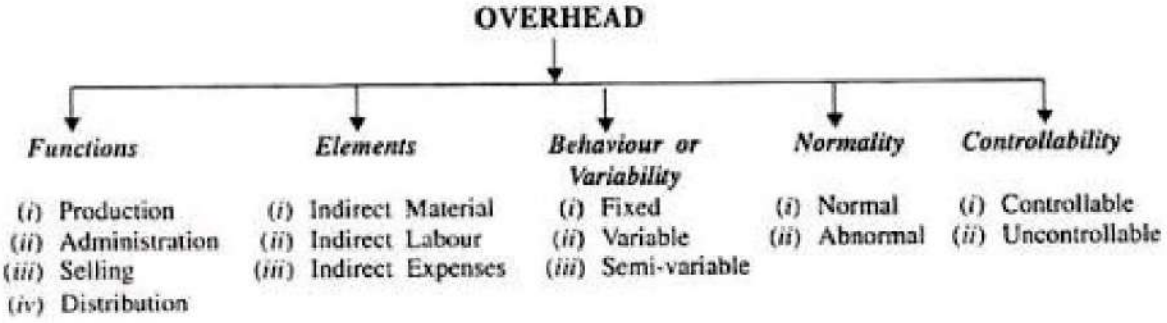
A company must pay overhead on an ongoing basis, regardless of how much or how little the company sells. For example, a service-based business with an office has overhead expenses, such as rent, utilities, and insurance that are in addition to direct costs (such as labor and supplies) of providing its service.

Expenses related to overhead appear on a company's income statement, and they directly affect the overall profitability of the business. The company must account for overhead expenses to determine its net income, also referred to as the bottom line. Net income is calculated by subtracting all production- related and overhead expenses from the company's net revenue, also referred to as the top line.

Overheads costing

Overhead expenses are all costs on the income statement except for direct labor, direct materials, and direct expenses. Overhead expenses include accounting fees, advertising, insurance, interest, legal fees, labor burden, rent, repairs, supplies, taxes, telephone bills, travel expenditures, and utilities.





Types of overheads

Examples of Overhead Costs

Overhead costs are important in determining how much a company must charge for its products or services in order to generate a profit. The most common overhead costs that any business incur include:

1. Rent

Rent is the cost that a business pays for using its business premises. If the property is purchased, then the business makes mortgage payments.

Rent is payable monthly, quarterly, or annually, as agreed in the tenant agreement with the landlord. When the business is experiencing slow sales, it can reduce this cost by negotiating the rental charges or by moving to less expensive premises.

2. Administrative costs

Administrative costs are costs related to the normal running of the business and may include costs incurred in paying salaries to a receptionist, accountant, cleaner, etc. Such costs are treated as overhead costs since they are not directly tied to a particular function of the business and they do not directly result in profit generation. Rather, administrative costs support the general running of the business.

Examples of administrative costs may include audit fees, legal fees, employee salaries, and entertainment costs. A business can reduce administrative expenses by laying off some of its employees, switching employees from full-time to part-time, hiring employees on a contract basis, or by eliminating certain expenses, such as entertainment and office supplies.

3. Utilities

Utilities are the basic services that the business requires to support its main functions. Examples of utilities include water, gas, electricity, internet, sewer, and phone service.A business can often reduce utility expenses by negotiating for lower rates from suppliers.

4. Insurance

Insurance is a cost incurred by a business to protect itself from financial loss. There are various types of insurance coverage, depending on the risk that may cause loss to the business. For example, a business may purchase property insurance to protect its property or business premises from certain risks such as flood, damage, or theft.

Another type of insurance is professional liability insurance that protects the business (such as an accounting firm or law firm) from liability arising from malpractice. Other types of insurance include health insurance, home insurance, renter's insurance, flood insurance, life insurance, disability insurance, etc.

5. Sales and marketing

Sales and marketing overheads are costs incurred in the marketing of the company's products or services to potential customers. Examples of sales and marketing overheads include promotional materials, trade shows, paid advertisements, wages of salespeople, and commissions for sales staff. The activities are geared toward making the company's products and services popular among customers and to compete with similar products in the market.

6. Repair and maintenance of motor vehicles and machinery

Rent and maintenance overheads are incurred in businesses that rely on motor vehicles and equipment in their normal functions. Such businesses include distributors, parcel delivery services, landscaping, transport services, and equipment leasing. Motor vehicles and machinery need to be maintained on a continuous basis and repaired whenever they break down.

Allocation and Apportionment of Overhead to Cost Centres

When all the items are collected properly under suitable account headings, the next step is allocation and apportionment of such expenses to cost centres. This is also known as departmentalisation of overhead. Departmentalisation of production overheads is the process of identifying production overhead expenses with different production/service departments or cost centres. It is done by means of allocation and apportionment of overheads among various departments.

Thus, it involves:

(i) Allocation and apportionment of overheads among production and service departments and
(ii) Reapportionment of service departments overheads among production departments.

Following factors must be taken into consideration while organising a concern into a number of departments:

(i) Every manufacturing process is divided into its natural divisions in order to maintain natural flow of raw materials from the time of the purchase till its conversion into finished goods and sale.

(ii) For ensuring smooth flow of production, the sequence of operations is taken into consideration while determining the location of the various departments.

(iii) For physical control on production and maintaining efficiency of the concern, division of responsibility must be taken into consideration while organising departments. Division of responsibility as far as possible should be clear, without ambiguity and dual control.

Types of Departments:

In a manufacturing concern, there are three types of departments:

(a) Manufacturing or producing departments

(b) Service departments

(c) Partly producing departments.

Allocation of Overhead Expenses:

Allocation is the process of identification of overheads with cost centres. An expense which is directly identifiable with a specific cost centre is allocated to that centre. So it is the allotment of whole item of cost to a cost centre or cost unit or refers to the charging of expenses which can be identified wholly with a particular department. For example, the whole of overtime wages paid to the workers relating to a particular department should be charged to that department.

Similarly, the cost of repairs and maintenance of a particular machine should be charged to that particular department wherein the machine is located. Power, if separate meters are provided at each cost centre and fuel oil for boilersare other examples of allocation. So, the term allocation means the allotment of the whole item without division to a particular department or cost centre.

Apportionment of Overhead Expenses:

Cost apportionment is the allotment of proportions of items to cost centres or cost units on an equitable basis. The term refers to the allotment of expenses which cannot identify wholly with a particular department. Such expenses require division and apportionment over two or more cost centres or units.

So cost apportionment will arise in case of expenses common to more than one cost centre or unit. It is defined as the allotment to two or more cost centres of proportions of the common items of cost on the estimated basis of benefit received. Common items of overheads are rent and rates, depreciation, repairs and maintenance, lighting, works manager's salary etc.

Bases of Apportionment:

Suitable bases have to be found out for apportioning the items of overhead cost to production and service departments and then for

reapportionment of service departments costs to other service and production departments. The basis adopted should be such by which the expenses being apportioned must be measurable by the basis adopted and there must be proper correlation between the expenses and the basis.

Therefore, the common expenses have to be apportioned or distributed over the departments on some equitable basis. The process of distribution is usually known as 'Primary Distribution'.

Following are the main bases of overhead apportionment utilised in manufacturing concerns:

(i) Direct Allocation:

Overheads are directly allocated to various departments on the basis of expenses for each department respectively. Examples are: overtime premium of workers engaged in a particular department, power (when separate meters are available), jobbing repairs etc.

(ii) Direct Labour/Machine Hours:

Under this basis, the overhead expenses are distributed to various departments in the ratio of total number of labour or machine hours worked in each department. Majority of general overhead items are apportioned on this basis.

(iii) Value of Materials Passing through Cost Centres:

This basis is adopted for expenses associated with material such as material handling expenses.

(iv) Direct Wages:

According to this basis, expenses are distributed amongst the departments in the ratio of direct wages bills of the various departments. This method is used only for those items of expenses which are booked with the amounts of wages, e.g., workers' insurance, their contribution to provident fund, workers' compensation etc.

(v) Number of Workers:

The total number of workers working in each department is taken as a basis for apportioning overhead expenses amongst departments. Where the expenditure depends more on the number of employees than on wages bill or

number of labour hours, this method is used. This method is used for the apportionment of certain expenses as welfare and recreation expenses, medical expenses, time keeping, supervision etc.

(vi) Floor Area of Departments:

This basis is adopted for the apportionment of certain expenses like lighting and heating, rent, rates, taxes, maintenance on building, air conditioning, fire precaution services etc.

(vii) Capital Values:

In this method, the capital values of certain assets like machinery and building are used as basis for the apportionment of certain expenses.

Illustration 1:

What basis would you follow for distribution of the following overhead expenses to departments?

(a) Store Service Expenses,

(b) Employees' State Insurance,

(c) Factory Rent,

(d) Municipal Rent, Rates and Taxes,

(e) Insurance on Building and Machinery,

(f) Welfare Department Expenses,

(g) Creche Expenses,

(h) Steam,

(i) Electric Light,

(j) Fire Insurance.

SOLUTION

Expenses	*Basis of apportionment*
(*a*) Store Service Expenses	Value of materials consumed
(*b*) E.S.I.	Wages of each department
(*c*) Factory Rent	Floor area
(*d*) Municipal Rent, Rates and Taxes	Floor area
(*e*) Insurance on Building and Machinery	Insurable value
(*f*) Welfare Department Expenses	Number of employees
(*g*) Creche Expenses	Number of female employees
(*h*) Steam	Potential demand
(*i*) Electric Light	Calculated units
(*j*) Fire Insurance	(*i*) For capital items—value of capital items (*ii*) For stores—Average value of goods in stock.

Following illustration will indicate how allocation and apportionment of expenses are done in practice and finally the total overhead of each department is obtained from the Departmental Distribution Summary.

Departmentalisation of overhead expenses has the following advantages:

1. Allocation and apportionment of overhead expenses to the respective departments facilitate control of overhead cost by means of budgets predetermined.

2. Apportionment of service department cost to production and other service departments facilitates control of the uses made of the services rendered to respective departments.

3. Absorption of overhead costs in the products produced by departmentaloverhead rates facilitates ascertainment of cost as the overhead costs of the respective departments are taken into consideration in determining the overheadrates.

4. The basis used in the predetermination of the departmental overhead rates may be used for control of actual basis in comparison to the quantity predetermined.

5. Analysis of under or over absorption of overhead discloses the reasons for variances which indicate the remedial measures to be taken.

6. For working out correctly the cost of work-in-progress. If the overhead is not departmentalized, the cost of work-in-progress will be loaded with a proportion of overhead of all the departments including those in which the product is yet to be processed.

Principles of Apportionment of Overhead Costs:

(i) Service or Use or Benefit Derived:

If the service rendered by a particular item of expense to different departments can be measured, overhead can be conveniently apportioned on this basis. Thus,the cost of maintenance may be apportioned to different departments on the

basis of machine hours or capital value of the machines, rent charges to be distributed according to the floor space occupied by each department.

(ii) Ability to Pay Method:

Under this method, overhead should be distributed in proportion to the sales ability, income or profitability of the departments, territories, basis of products etc. Thus, jobs or products making higher profits take a higher share of the overhead expenses. This method is inequitable and is not generally advisable to relieve inefficient units at the cost of efficient units.

(iii) Efficiency Method:

Under this method, the apportionment of expenses is made on the basis of production targets. If the target is exceeded, the unit cost reduces indicating a more than average efficiency. If the target is not achieved, the unit cost goes up,disclosing thereby the inefficiency of the department.

(iv) Survey Method:

In certain cases it may not be possible to measure exactly the extent of benefit wick the various departments receive as this may vary from period to period, a survey is made of the various factors involved and the share ofoverhead costs to be borne by each cost centre is determined.

Thus, the salaries of foreman serving two departments can be apportioned after a proper survey which may reveal that 30% of such salary should be apportioned to one department and 70% to the other department. The cost of lighting, when not metered, may similarly be apportioned on a survey of the number and wattage of light points and the hours of use in each cost centre.

UNIT – V TECHNIQUES OF COSTING

Job costing and process costing are the two basic methods of costing. Job costing is suitable to industries which manufacture or execute the work according to the specifications of the customers. Process costing is suitable to industries where production is continuous and the units produced are identical. All other methods are combinations, extensions or improvements of these basic methods.

The methods of costing are explained in detail:

Method # 1 Job Costing:

It is also called specific order costing. It is adopted by industries where there is no standard product and each job or work order is different from the others. The job is done strictly according to the specifications given by the customer and usually the job takes only a short time for completion. Thepurpose of job costing is to ascertain the cost of each job separately. Job costingis used by printing presses, motor repair shops, automobile garages, film studios, engineering industries etc.

Method # 2 Contract Costing:

It is also known as terminal costing. Basically, this method is similar to job costing. However, it is used where the job is big and spread over a long period of time. The work is done according to the specifications of the customer.

The purpose of contract costing is to ascertain the cost incurred on each contract separately. Hence a separate account is prepared for each contract. This method is used by firms engaged in ship building, construction of buildings, bridges, dams and roads.

Method # 3 Batch Costing:

It is an extension of job costing. A batch is a group of identical products. All the units in a particular batch are uniform in nature and size. Hence each batch is treated as a cost unit and costed separately. The total cost of a batch is ascertained and it is divided by the number of units in the batch to determine the

cost per unit. Batch costing is adopted by manufacturers of biscuits, ready-made garments, spare parts medicines etc.

Method # 4 Process Costing:

It is called continuous costing. In certain industries, the raw material passes through different processes before it takes the shape of a final product. In other words, the finished product of one process becomes the raw material for the subsequent process. Process costing is used in such industries.

A separate account is opened for each process to find out the total cost as well as cost per unit at the end of each process. Process costing is applied to continuous process industries such as chemicals, textiles, paper, soap, lather etc.

Method # 5 Unit Costing:

This method is also known as single or output costing. It is suitable to industries where production is continuous and units are identical. The objective of this method is to ascertain the total cost as well as the cost per unit. A cost sheet is prepared taking into account the cost of material, labour and overheads. Unit costing is applicable in the case of mines, oil drilling units, cement works, brick works and units manufacturing cycles, radios, washing machines etc.

Method # 6 Operating Costing:

This method is followed by industries which render services. To ascertain the cost of such services, composite units like passenger kilometers and tone kilometers are used for ascertaining costs. For example, in the case of a bus company, operating costing indicates the cost of carrying a passenger per kilometer. Operating costing is adopted by airways railways, road transport companies (goods as well as passengers) hotels, cinema halls, power houses etc.

Method # 7 Operation Costing:

This is a more detailed application of process costing. It involves costing by every operation. This method is used where there is mass production of repetitive nature involving a number of operations. The main purpose of this method is to ascertain the cost of each operation.

For instance, the manufacture of handles for bicycles involves a number of operations such as cutting steel sheets into proper strips, moulding, machining and finally polishing. The cost of these operations may be found out separately. Operation costing provides a minute analysis of costs to achieve

accuracy and it is applied in industries such as spare parts, toy making and engineering.

Method # 8 Multiple Costing:

It is also known as composite costing. It refers to a combination of two or more of the above methods of costing. It is adopted in industries where several parts are produced separately and assembled to a single product.

Contract Costing:

Contract is an agreement enforceable by law. The contractor agrees to complete the work and to mention the price known as contract price. Contract costing is the technique of ascertaining the cost of a contract.

A contract ledger book is kept in which a separate account is opened.

The format of contract account is as under:

Contract Account

To Materials		By Material returned	
To Wages		By Material sold	
To Direct charges		By Loss on materials	
To Plant		By Materials at site	
To Indirect charges		By Plant at site	
To Sub-contract cost		By Contract Price	
To Extra work done		By Work in progress :	
To outstanding expenses		Work certified	
To Profit on materials		Work uncertified	
To Balance c/d			

Work Certified – Work is certified by the contractee and advance is giventо the contractor. Full payment is not made but money is retained known as retention money. Where the contract is incomplete and profit is to be ascertained on the basis of contract.

Work done but not certified – Work done by the contractor but which is not certified by the contracted is known as work done but not certified.

Contract Price – It is the value of the contract agreed to be paid to the contractor on the satisfactory completion of the contract. On completion of the contract, the contract A/C is credited with the contract price.

Ascertainment of Profit on Contract:

As per accounting standard AS7 contract issued by the two methods are used to determine the profit on contract done by the contractor:

(i) On year to year basis

(ii) On completion of the contract.

On Completion of Contract – The excess of credit over the debit side of the contract A/C is known as profit. In case of loss, the whole amount is transferred to P/L A/C.

On Incomplete Contract – Where a contract takes more than one year in completion, a part of the profit is transferred to P/L account.

The excess of credit over the debit items in case of incomplete contract is not treated as true profit. A reserve has to be created for the unseen future until the contract is not completed.

The general rule of profit are as under:

(1) If the value of certified work is less than 1/4th of contract price, no profit is taken into account. The balance of contract A/c is transferred to work in Progress A/C.

(2) If the certified work is more than 1/4th of contract price, but less than 1/2 of the contract price, only 1/3 of the computed profit should be credited to P/L A/C. The balance of computed profit is a reserve and is transferred to work in progress A/C.

$$\textbf{Formula : Profit} = \text{computed Profit} \times \frac{1}{3} \times \frac{\text{Cash Received}}{\text{Work Certified}}$$

(3) If the value of certified work is 1/2 or more than 1/2 of the contract price, 2/3 of the computed profit is credited to P/L A/C.

(4) If the contract work has done sufficiently advanced, the profit is ascertained as under –

$$\text{(i) Profit} \times \frac{\text{Work Certified}}{\text{Contract Price}}$$

$$\text{(ii) Profit} \times \frac{\text{Cash Received}}{\text{Contract Price}}$$

Cost Plus Contract:

When contractor and contractee are new in the trade, they may agree that the payment would be made as total cost of work plus a rate of percentage on total cost. Such a contract is known as cost plus contract.

As the contractor will get a rate percent on the total cost as his profit, he may feel interested in increasing the cost as much as possible.

To avoid it, the contractor and contractee may agree not to include the following items in arriving the total cost:

1. Rent of self-owned building.
2. Charitable donations.
3. Expenses not related to contract.
4. Interest on owned capital.
5. Salary of the contractor.
6. Fines and Penalties.

Job Costing:

Job costing is the method of costing used to determine the cost of non-standard jobs carried out. In this method, cost units are identified. Under each order placed with the firm remain quite different from other orders. Job costing is applicable to job printers, builders, contractors etc.

Procedure for Job Costing:

The procedure in job costing is as follows:

(1) Estimation – The cost of each job has to be estimated separately and prices are to be quoted separately.

(2) Production order – A production order is issued to proceed with the work regarding the job. This order contains all relevant production information. Each production order is given a number. It is prepared in three copies.

(3) Accounting – The costs of all the jobs are written in work in progress account on completion of a job this account is credited.

(4) Planning – On accepting the order, the planning department prepares a suitable design for the job and prepare requirements of material, labour etc.

(5) Job cost sheet – The costing department prepares job cost sheet for each job.It is a document in which details of the cost of job etc. It is prepared for a specific job.

(6) Completion of job – On completion of job completion report is submitted. This report is an indication that further expenses are closed.

Recording of Costs:

The cost of materials labour and overheads are recorded according to the principles of recording. Expenses of materials, labour and overheads etc. are written in it.

Production Order

No. ..... Customer reference No.
Code No. ..... Quantity.....
Bills ..... Date of order.....
Tool list No. ..... Date of start.....
Operation No..... Machine No. .....

Deptt No.	Job No.	Hour	Operation		Quantity	
			No.	Details	Made	Rejected

Cost Control:

Cost control over costs may be used by comparison of actual costs with the estimates worked out. The cost sheet of the preceding period of the same job may help in detecting the variations. The budgets prepared for common jobs helps in controlling costs.

Different Methods of Costing – Job Costing and Process Costing

Cost accounting is a process of ascertaining or estimating costs. Hence, it consists of a body of methods and techniques by which cost of products and services are determined and presented. These could be regarded as the tools of cost accountants.

Methods of cost accounting signify the systems used to assign cost elements to cost objects. These are the procedures by which product costs are accumulated. Different methods of cost finding are used because businesses

vary in their nature and the type of products or services they produce. There are two main types of costing systems/methods based on actual cost.

These are:

1. Job costing

2. Process costing

1. Job Costing:

Job costing is one of the two basic systems of cost accounting. It is designed to accumulate cost data for a manufacturing firm that produces goods to specific orders.

The features of a job costing are:

(i) Each job is of a comparatively short duration,

(ii) Work is undertaken to customer's special requirements,

(iii) Each job moves through stages as an identifiable unit. Examples are, repairjob in a garage, printing orders in a printing press.

The important variant of job costing are:

(a) Contract costing; and

(b) Batch costing.

(a) Contract (Termina) Costing:

It is a method of costing in which each contract is taken as a separate costing unit for the purpose of cost ascertainment and control. The objective isto find out the profit or loss on each contract separately. The terms of the contract usually allow for progress payment during the course of construction. This method is employed by firms engaged in ship-building, civil engineering for roads, bridges, dams, industrial estates, heavy engineering, factory construction, etc.

(b) Batch Costing:

It is a form of job costing in which a batch of identical products is takenas the cost unit. The manufacture of wooden pencils may be by batch so that a batch includes pencils of different colours, size or lead softness. Other examples

include drugs, cigarettes, footwear, clothing, printing, engineering equipment, etc.

2. Process Costing:

It is a method of costing in which costs are accumulated by single processes for selected period of time.

The features of process costing are:

(i) Manufacturing activity is carried on continuously.

(ii) The output of one process becomes the input of the next process.

(iii) When there are more than one process, costs flow from one process to the other process.

(iv) It is not possible to trace the identity of a particular lot of output to any particular lot of input.

(v) The end product is usually units.

(vi) Joint products/by-products occur in the process.

Each process is treated as a cost centre and a separate account is opened for it. All costs relating to each process are debited to the respective process account. The output passing through the process is also recorded. The total cost for a period divided by the units processed in that period gives the cost per unit in that process. This method is suitable for chemical works, sugar, paint manufacturers, oil refineries, bottling companies, breweries, rubber and tanning industries.

The important variants of process costing are:

(a) Single or output costing,

(b) Operation costing and

(c) Service costing.

(d) Multiple (Composite) Costing.

(a) Single or Output or Unit Costing:

It is a method of costing in which cost is ascertained in convenient unitsof product turned out by continuous manufacturing activity. The unit of costing is chosen according to the nature of the product.

If the number of articles produced are a few, costs are accumulated for each unit of production, e.g. automobile in an assembly plant. In case of bulk production, the unit of cost is conveniently fixed, e.g. a tonne of coal, a gallonof oil, a metre of textile fabric, a bale of cotton, a thousand bricks, a thousand cigarettes, etc. This method is applied in case of automobiles, refrigerators, typewriters, television and radio sets, mines and quarries, steel plants, brick works, paper manufacture, etc.

(b) Operation Costing:

Here the cost unit is an operation rather than the whole process (a process consists of a sequence of operations). Yarn spinning is a process but it does involve a series of operations. It is employed by concerns where standardized goods or services are produced from a sequence of repetitive and more or less continuous operations. The concerns could be those engaged in the manufacture of bicycles, ceiling fans, weighing machines, etc.

(c) Operating Costing:

Also known as service costing, it is a distinct type of costing where services are being provided rather than goods manufactured. Since here costs are computed for a period, it is treated as a variant of process costing. This method is employed by undertakings like transport, electricity, gas, hospitals, hotels, educational institutions, etc. Naturally, the cost unit depends upon the service provided, e.g. tonne-km, passenger-km, patient-day, student-hour, etc.

(d) Multiple (Composite) Costing:

In the real world, companies hardly use pure job costing or pure process costing. They employ a hybrid or a mix of the two systems. What is common isa blend of the two systems, combining the elements of both. For example, Favreluba or Citizens companies, no doubt, produce a wide variety of gents and ladies watches on a mass scale.

But within these watches, they make wide distinctions on the basis of jewels, gold plating, quartz, digital, etc. The same holds good in respect of soft drinks, television sets, automobiles, and the like.

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