

CA INTERMEDIATE



COST
REGULAR BATCH
200 HOURS
650+ QUESTIONS

COST
FAST TRACK BATCH
90 HOURS
400+ QUESTIONS

FM & ECO
REGULAR BATCH
200 HOURS WITH
500+ QUESTIONS

FM & ECO
FAST TRACK BATCH
90 HOURS WITH
300+ QUESTIONS

CA NAMIT ARORA SIR

Web: canamitarora.com

CONTACT: 9891314730, 9205617066

“PASS HONE KI NINJA TECHNIQUE”

COST MEGA MARATHON

BY CA NAMIT ARORA SIR

BY CA NAMIT ARORA SIR

“HELICOPTER SHOT”



**CA INTER
FM & ECO
MEGA MARATHON**

BY CA NAMIT ARORA

BY CA NAMIT ARORA

KEEP IN TOUCH

YOU TUBE: <https://www.youtube.com/user/canamitarora>

FACEBOOK PAGE: <https://www.facebook.com/namitaroraca/>

INSTAGRAM: <https://www.instagram.com/caaroranamit/>

TELEGRAM: <https://t.me/joinchat/AAAAAFSRNBoahZqILqkvrQ>

<https://t.me/namitaroraclasses>

WEBSITE: <https://www.canamitarora.com/>

Youtube: <https://www.youtube.com/user/canamitarora>

OUR SHINING STARS



ANKIT SINGH
90 MARKS



ARPITA TYAGI
AIR 32 AND HIGHEST MARKS IN DELHI 89 MARKS



JEEVAN ACHARYA
91 MARKS

90 + MARKS



VAIBHAV SINGAL
92 MARKS



JEEVAN ACHARYA
91 MARKS



KIRAN BHUSAL
91 MARKS



RAHUL
91 MARKS



ANKIT SINGH
90 MARKS

RANK HOLDERS



VAIBHAV SINGAL
AIR 23



NITIN GOEL
AIR 27



HIMANSHU GOEL
AIR 30



NISHANK PUNDIR
AIR 31



ARPITA TYAGI
AIR 32



DIKSHA BHARDWAJ
AIR 32



PIYUSH AGGARWAL
AIR 39



SURAJ BANIYA
AIR 41



MANZEETA KHADKA
AIR 47



KIRAN BHUSAL
AIR 48

"Hard work in Smart Way...."



CA NAMIT ARORA SIR

Contact # 9205617066, 9891314730

CA INTER

IMPORTANT THEORY NOTES

***COST AND MANAGEMENT
ACCOUNTING***

BY NAMIT ARORA SIR

CHAPTER 1

INTRODUCTION TO COST AND MANAGEMENT ACCOUNTING

1. Meaning and Definition

(i) Cost:

As a noun: The amount of expenditure (actual or notional) incurred on or attributable to a specified article, product or activity.

As a verb: To ascertain the cost of a specified thing or activity.

(ii) Costing: Costing is defined as “the technique and process of ascertaining costs”.

According to CIMA “an organisation’s costing system is the foundation of the internal financial information system for managers. It provides the information that management needs to plan and control the organisation’s activities and to make decisions about the future.”

(iii) Cost Accounting: Cost Accounting is defined as “the process of accounting for cost which begins with the recording of income and expenditure or the bases on which they are calculated and ends with the preparation of periodical statements and reports for ascertaining and controlling costs.”

(iv) Cost Accountancy: Cost Accountancy has been defined as “the application of costing and cost accounting principles, methods and techniques to the science, art and practice of cost control and the ascertainment of profitability. It includes the presentation of information derived there from for the purpose of managerial decision making.”

(v) Management Accounting: As per CIMA Official Terminology “Management accounting is the application of the principles of accounting and financial management to create, protect, preserve and increase value for the stakeholders of for-profit and not-for-profit enterprises in the public and private sectors.”

Management accounting is an integral part of management. It assists management by provision of relevant information for planning, organising, controlling, decision making etc.

(vi) Cost Management: It is an application of management accounting concepts, methods of collections, analysis and presentation of data to provide the information needed to plan, monitor and control costs.

2. OBJECTIVES OF COST ACCOUNTING

Cost Accounting is defined as "the process of accounting for cost which begins with the recording of income and expenditure or the bases on which they are calculated and ends with the preparation of periodical statements and reports for ascertaining and controlling costs." The main objectives of the cost accounting are as follows:

(a) Ascertainment of cost

There are two methods of ascertaining costs, viz., Post Costing and Continuous Costing. Post Costing means, analysis of actual information as recorded in financial books. Continuous Costing, aims at collecting information about cost as and when the activity takes place so that as soon as a job is completed the cost of completion would be known.

(b) Determination of selling price

Business enterprises run on a profit making basis. It is thus necessary that the revenue should be greater than the costs incurred. Cost accounting provides the information regarding the cost to make and sell the product or services produced.

(c) Cost control

It is a process to ensure that appropriate action is taken if costs exceed a pre-set allowance (as budgeted/ estimated) or actions to be taken if costs are expected to exceed the expected levels. To exercise cost control, the following steps should be observed:

1. Determine clearly the objective.

2. Measure the actual performance.
3. Investigate into the causes of failure to perform according to plan;
4. Institute corrective action.

(d) Cost Reduction

It may be defined “as the achievement of real and permanent reduction in the unit cost of goods manufactured or services rendered without impairing their suitability for the use intended or diminution in the quality of the product.”

(e) Ascertaining the profit of each activity

The profit of any activity can be ascertained by matching cost with the revenue of that activity. The purpose under this step is to determine costing profit or loss of any activity on an objective basis.

(f) Assisting management in decision making

Decision making is defined as a process of selecting a course of action out of two or more alternative courses. For making a choice between different courses of action, it is necessary to make a comparison of the outcomes, which may be arrived under different alternatives.

3. Difference between Cost Control and Cost Reduction

S.N	Cost Control	Cost Reduction
1	Cost control aims at maintaining the costs in accordance with the established standards.	Cost reduction is concerned with reducing costs. It challenges all standards and endeavours to better them continuously
2	Cost control seeks to attain lowest possible cost under existing conditions.	Cost reduction recognises no condition as permanent, since a change will result in lower cost.
3	In case of Cost Control, emphasis is on past and present	In case of cost reduction it is on present and future.
4	Cost Control is a preventive function	Cost reduction is a corrective function. It operates even when an efficient cost control system exists.
5	Cost control ends when targets are achieved	Cost reduction has no visible end.

4. SCOPE OF COST ACCOUNTING

Scope of cost accounting consists of the following functions:

(i) Costing: Costing is the technique and process of ascertaining costs of products or services. The cost ascertainment procedure is governed by some cost accounting principles and rules. Generally, cost is ascertained using some arithmetical process.

(ii) Cost Accounting: This is a process of accounting for cost which begins with the recording of expenditure and ends with the preparation of periodical statement and reports for ascertaining and controlling cost. Cost Accounting is a formal mechanism of cost ascertainment.

(iii) Cost Analysis: It involves the process of finding out the factors responsible for variance in actual costs from the budgeted costs and accordingly fixation of responsibility for cost differences. This also helps in better cost management and strategic decisions.

(iv) Cost Comparisons: Cost accounting also includes comparisons of cost from alternative courses of actions such as use of different technology for production, cost of making different products and activities, and cost of same product/ service over a period of time.

(v) Cost Control: It involves a detailed examination of each cost in the light of advantage received from the incurrence of the cost. Thus, we can state that cost is analyzed to know whether cost is exceeding its

budgeted cost and whether further cost reduction is possible.

(vi) Cost Reports: This is the ultimate function of cost accounting. These reports are primarily prepared for the use by the management at different levels. Cost Reports helps in planning and control, performance appraisal and managerial decision making.

(vii) Statutory Compliances: Maintaining cost accounting records as per the rules prescribed by the statute to maintain cost records relating to utilization of materials, labour and other items of cost as applicable to the production of goods or provision of services as provided in the Act and these rules.

5. RELATIONSHIP OF COST AND MANAGEMENT ACCOUNTING WITH OTHER RELATED DISCIPLINES

Cost and Management Accounting as a discipline is interrelated and dependent of other disciplines of accounting.

(a) Cost Accounting with Management Accounting

As we already studied that though Cost Accounting and Management Accounting is used synonymously but there are few differences. Management Accounting is an open ended discipline which enables managers to take informed decision. Management Accounting takes inputs from cost accounts, financial accounts, statistical and operation management tools etc.

Difference between Cost Accounting and Management Accounting

Basis	Cost Accounting	Management Accounting
Nature	It records the quantitative aspect only.	It records both qualitative and quantitative aspect.
Objective	It records the cost of producing a product and providing a service.	It Provides information to management for planning and co-ordination.
Area	It only deals with cost Ascertainment.	It is wider in scope as it includes financial accounting, budgeting, taxation, planning etc.
Recording of data	It uses both past and present figures.	It is focused with the projection of figures for future.
Development	Its development is related to industrial revolution.	It develops in accordance to the need of modern business world.
Rules and Regulation	It follows certain principles and procedures for recording costs of different products.	It does not follow any specific rules and regulations.

(b) Cost Accounting with Financial Accounting

Cost accounting accumulates and ascertain costs for goods sold and for inventories. It provides inputs to record costs in financial accounting system.

Difference between Financial Accounting and Cost Accounting

Basis	Financial Accounting	Cost Accounting
Objective	Providing information about the financial performance of an entity.	Ascertainment of cost for the purpose of cost control and decision making.
Nature	It classifies records, present and interprets transactions in monetary terms.	It classifies costs, records, present, and interprets it in a significant manner.
Recording of data	It records Historical data.	It makes use of both historical and pre-determined costs.
Users of information	The users of financial accounting statements are shareholders, creditors, financial	The cost accounting information is generally used by internal management.

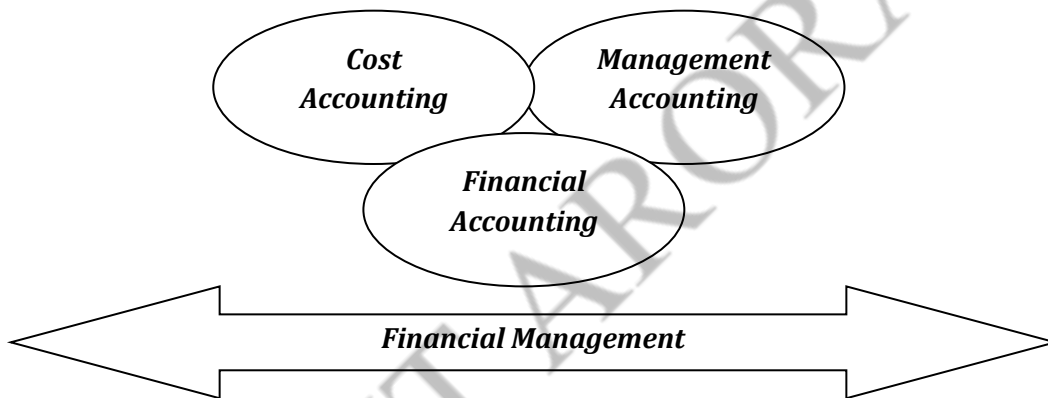
THEORY COST AND MANAGEMENT ACCOUNTING 4

	analysts and government and its agencies, etc.	But some time regulatory authorities also.
Analysis of cost and profit	It shows profit or loss of the organization either segment wise or as a whole.	It provides the cost details for each cost object i.e. product, process, job, contracts, etc.
Time period	Financial Statements are prepared usually for a year.	Reports and statements are prepared as and when required.
Presentation of information	A set format is used for presenting financial information.	In general, no set formats for presenting cost information is followed.

(c) Cost and Management Accounting with Financial Management

Cost and Management Accounting is an application of financial management. The techniques of financial management are used for decision making.

The relationship among Cost Accounting, Management Accounting, Financial Accounting and Financial Management can be understood with the help of the following diagram.



6. ROLE & FUNCTIONS OF COST AND MANAGEMENT ACCOUNTING

The role of a cost and management accounting system is to:

- (a)** Provide relevant information to management for decision making,
- (b)** Assist management for planning, measurement, evaluation and controlling of business activities,
- (c)** Help in allocation of cost to products and inventories for both external and internal users.

Though the term cost accounting and management accounting is used by various authors synonymously but in actual, cost accounting is concerned with accumulation and allocation of costs to different cost objects. Whereas, management accounting concerned with provision of information to internal users for decision making.

The functions of cost and management accounting includes:

- (a)** Collection and accumulation of cost for each element of cost.
- (b)** Assigning costs to cost objects to ascertain cost.
- (c)** Cost and management accounting department (whatever nomenclature may be used to denote the department) sets budget and standards for a particular period or activity beforehand and these are compared with the assigned and ascertained cost. Any deviation with the set standards are analysed and reported. All these mechanism is done to control costs.
- (d)** The main function of cost and management accounting is provision of relevant information to the management for decision making. An Information system environment is set up which is popularly known as management information system (MIS). The MIS provides relevant and timely information

THEORY COST AND MANAGEMENT ACCOUNTING 5

related to both internal and external to the organisation to enable management at all levels to take decisions. Decisions include cost optimisation, price fixation, implementation of any plan related with product, process, marketing etc.

- (e) The performance of a responsibility centre is measured and evaluated against the set standards. The function of cost and management accounting is to gather data like time taken, wastages, process idleness etc., analyse the data, prepare reports and take necessary actions.

7. USERS OF COST AND MANAGEMENT ACCOUNTING

Cost and management accounting information which are generated or collected are used by different stakeholders. The users of the information can be broadly categorised into internal and external to the entity.

Internal Users

Internal users, which use the cost and management accounting information may include the followings:

(a) **Managers:** The managers use the information

- to know the cost of a cost object and a cost centre
- to price for the product or service
- to measure and evaluate performance of responsibility centres
- to know the profitability- product-wise, department-wise, customer-wise etc.
- to evaluate the strategic options and to make decisions

(b) **Operational level staffs:** The operational level staffs like supervisors, foreman, team leaders are requiring information

- to know the objectives and performance goals for them
- to know product and service specifications like volume, quality and process etc.
- to know the performance parameters against which their performance is measured and evaluated.
- to know divisional (responsibility centre) profitability etc.

(c) **Employees:** Employees are concerned with the information related with time and attendance, incentives for work, performance standards etc.

External Users

External users, which use the cost and management accounting information may include the followings:

(a) **Regulatory Authorities:** Regulatory Authorities are concerned with cost accounting data and information for different purpose which includes tariff determination, providing subsidies, rate fixation etc. To do this the regulatory bodies require information on the basis of some standards and format in this regard.

(b) **Auditors:** The auditors while conducting audit of financial accounts or for some other special purpose audit like cost audit etc., requires information related with costing and reports reviewed by management etc.

(c) **Shareholders:** Shareholders are concerned with information that effect their investment in the entity. Management communicate the shareholders through periodic communique, annual reports etc. regarding new orders received, product expansion, market share for products etc.

(d) **Creditors and Lenders:** Creditor and lenders are concerned with data and information which affects an entity's ability to serve lenders or creditors. For example, any financial institutions which provides loan to an entity against book debts and stocks are more concerned with regular reporting on net debt position and stock balances.

8. ESSENTIALS OF A GOOD COST ACCOUNTING SYSTEM

The essential features, which a good Cost Accounting System should possess, are as follows:

(a) **Informative and Simple:** Cost Accounting System should be tailor-made, practical, simple and capable of meeting the requirements of a business concern. The system of costing should not sacrifice the utility

by introducing meticulous and unnecessary details.

- (b) **Accuracy:** The data to be used by the Cost Accounting System should be accurate; otherwise it may distort the output of the system and a wrong decision may be taken.
- (c) **Support from Management and subordinates:** Necessary cooperation and participation of executives from various departments of the concern is essential for developing a good system of Cost Accounting.
- (d) **Cost-Benefit:** The Cost of installing and operating the system should justify the results.
- (e) **Procedure:** A carefully phased programme should be prepared by using network analysis for the introduction of the system.
- (f) **Trust:** Management should have faith in the Costing System and should also provide a helping hand for its development and success.

9. INSTALLATION OF COSTING SYSTEM

Before installation of a system of cost accounting in a manufacturing organisation the under mentioned factors should be studied:

- (i) **Objective:** The objective of costing system, for example whether it is being introduced for fixing prices or for insisting a system of cost control.
- (ii) **Nature of Business or Industry:** The Industry in which business is operating. Every business industry has its own peculiar feature and costing objectives. According to its cost information requirement cost accounting methods are followed. For example Indian Oil Corporation Ltd. has to maintain process wise cost accounts to find out cost incurred on a particular process say in crude refinement process etc.
- (iii) **Organisational Hierarchy:** Costing system should fulfill the requirement of different level of management. Top management is concerned with the corporate strategy, strategic level management is concerned with marketing strategy, product diversification, product pricing etc. Operational level management needs the information on standard quantity to be consumed, report on idle time etc.
- (iv) **Knowing the product:** Nature of product determines the type of costing system to be implemented. The product which has by-products requires costing system which account for by-products as well. In case of perishable or short self- life, marginal costing method is required to know the contribution and minimum price at which it can be sold.
- (v) **Knowing the production process:** A good costing system can never be established without the complete knowledge of the production process. Cost apportionment can be done on the most appropriate and scientific basis if a cost accountant can identify degree of effort or resources consumed in a particular process. This also includes some basic technical know-how and process peculiarity.
- (vi) **Information synchronisation:** Establishment of a department or a system requires substantial amount of organisational resources. While drafting a costing system, information needs of various other departments should be taken into account. For example in a typical business organisation accounts department needs to submit monthly stock statement to its lender bank, quantity wise stock details at the time filing returns to tax authorities etc.
- (vii) **Method of maintenance of cost records:** The manner in which Cost and Financial accounts could be inter-locked into a single integral accounting system and in which results of separate sets of accounts, cost and financial, could be reconciled by means of control accounts.
- (viii) **Statutory compliances and audit:** Records are to be maintained to comply with statutory requirements, standards to be followed (Cost Accounting Standards and Accounting Standards).
- (ix) **Information Attributes:** Information generated from the Costing system should be possess all the attributes of an information i.e. complete, accurate, timeliness, confidentiality etc. This also meets the

requirements of management information system (MIS).

10. COST ACCOUNTING WITH THE USE OF INFORMATION TECHNOLOGY (IT)

The information technology in a business organisation has become essential for today's business environment. With the expansion of e-commerce and increasing competitive business environment, information technology is becoming an integral part of each activity in an organisation including cost and management accounting.

Information technology has changed the cost and management accounting functions dramatically with the introduction of Enterprise Resource Planning (ERP) system. Cost accounting and management information system got automated and improved. The new industrial revolution in the form of digital innovation which is popularly known as Industry 4.0, has more emphasis on digitisation and automation of business process to have a better control over cost to maintain market competitiveness. Cost Accounting system has seen lots of savings in terms of time, money and efforts. The impact of IT in cost accounting may include the followings:

1. After the introduction of ERPs, different functional activities get integrated and as a consequence, a single entry into the accounting system provides custom made reports for every purpose and saves an organisation from preparing different sets of documents. Reconciliation process of results of both cost and financial accounting systems become simpler and less sophisticated.
2. A move towards paperless environment can be seen where documents like Bill of Material, Material Requisition Note, Goods Received Note, labour utilisation report etc. are no longer required to be prepared in multiple copies, the related department can get e-copies from the system.
3. Information Technology with the help of internet (including intranet and extranet) helping in resource procurement and mobilisation. For example, production department can get materials from the stores without issuing material requisition note physically. Similarly, purchase orders can be initiated to the suppliers with the help of extranet. This enables an entity to shift towards Just-in-Time (JIT) approach of inventory management and production.
4. Cost information for a cost centre or cost object is ascertained with accuracy in timely manner. Each cost centre and cost object is codified and all related costs are assigned to the cost objects or cost centres using assigned codes. This automates the cost accumulation and ascertainment process. The cost information can be customised as per the requirement. For example, when an entity manufacture or provide services, are able to know information job-wise, batch-wise, process-wise, cost centre wise etc.
5. Uniformity in preparation of report, budgets and standards can be achieved with the help of IT. ERP software plays an important role in bringing uniformity irrespective of location, currency, language and regulations.
6. Cost and revenue variance reports are generated in real time basis which enables the management to take control measures immediately.
7. IT enables an entity to monitor and analyse each process of manufacturing or service activity closely to eliminate non value added activities.

The above are the examples of few areas where Cost Accounting is done with the help of IT.

11. COST OBJECTS

Cost object is anything for which a separate measurement of cost is required. Cost object may be a product, a service, a project, a customer, a brand category, an activity, a department or a programme etc.

Examples of cost object are:

Product: Smart phone, Tablet computer, SUV Car, Book etc.

Service: An airline flight from Delhi to Mumbai, Concurrent audit assignment, Utility bill payment facility etc.

Project: Metro Rail project, Road projects etc.

Activity: Quality inspection of materials, Placing of orders etc.

Process: Refinement of crudes in oil refineries, melting of billets or ingots in rolling mills etc.

Department: Production department, Finance & Accounts, Safety etc.

12. Cost Units

It is a unit of product, service or time (or combination of these) in relation to which costs may be ascertained or expressed.

We may for instance, determine the cost per ton of steel, per ton-kilometre of a transport service or cost per machine hour. Sometime, a single order or a contract constitutes a cost unit. A batch which consists of a group of identical items and maintains its identity through one or more stages of production may also be considered as a cost unit.

Cost units are usually the units of physical measurement like number, weight, area, volume, length, time and value.

A few typical examples of cost units are given below:

S.N.	Industry or Product	Cost Unit Basis
1	Power	Kilo-watt (kw) hours
2	Steel	Tonne
3	Chemicals	Litre, gallon, kilogram, ton etc.
4	Cement	Ton/ per bag etc
5	Transport	Passenger- kilometer
6	Gas	Cubic feet
S.N.	Industry Sector by CIMA	Cost Unit
1	Brewing	Barrel
2	Brick-making	1,000 bricks
3	Coal mining	Tonne/ton
4	Electricity	Kilowatt-hour (kwh)
5	Engineering	Contract, job
6	Oil	Barrel, tonne, litre
7	Hotel/Catering	Room/meal
8	Professional services	Chargeable hour, job, contract
9	Education	Course, enrolled student, successful student
10	Hospitals	Patient day
S.N.	Activity	Cost Unit
1	Credit control	Accounts maintained
2	Selling	Customer call, value of sales, orders taken
3	Materials storage/handling	Requisition unit issued/received, material movement, value issued/received
4	Personnel administration	Personnel record

Question 13

State the method of costing and the suggestive unit of cost for the following industries

(a) Transport (b) Power (c) Hotel (d) Hospital (e) Steel (f) Coal (g) Bicycles (h) Bridge Construction (i) Interior Decoration (j) Advertising (k) Furniture (l) Brick-works (m) Oil refining mill (n) Sugar company having its own sugarcane fields (o) Toy making (p) Cement (q) Radio assembling (r) Ship building

Solution

S.N.	Industry	Method of Costing	Suggestive Unit of Cost
(a)	Transport	Operating Costing	Passenger km or tonne km
(b)	Power	Operating Costing	Kilo-watt (kw) hours
(c)	Hotel	Operating Costing	Room day

(d)	Hospital	Operating Costing	Patient-day
(e)	Steel	Process Costing/ Single Costing	Tonne
(f)	Coal	Single Costing	Tonne
(g)	Bicycles	Multiple Costing	Number
(h)	Bridge Construction	Contract Costing	Project/ Unit
(i)	Interior Decoration	Job Costing	Assignment
(j)	Advertising	Job Costing	Assignment
(k)	Furniture	Job Costing	Number
(l)	Brick Works	Single Costing	1000 units/ units
(m)	Oil refining mill	Process Costing	Barrel/ Tonne/ Litre
(n)	Sugar company having its own sugarcane field	Process Costing	Tonne
(o)	Toy Making	Batch Costing	Units
(p)	Cement	Single Costing	Tonne/ per bag
(q)	Radio assembling	Multiple Costing	Units
(r)	Ship Building	Contract Costing	Project/ Unit

14. Cost Driver

A Cost driver is a factor or variable which effect level of cost. Generally, it is an activity which is responsible for cost incurrence. Level of activity or volume of production is the example of a cost driver. An activity may be an event, task, or unit of work etc.

CIMA Official terminology defines cost driver as “Factor influencing the level of cost. Often used in the context of ABC to denote the factor which links activity resource consumption to product outputs, for example the number of purchase orders would be a cost driver for procurement cost.”

Examples of cost drivers are number of machines setting ups, number of purchase orders, hours spent on product inspection, number of tests performed etc.

15. RESPONSIBILITY CENTRES

With the growth of an organisation, its functions, organisational structure and other related functions also grows in terms of volume and complexity. To have a better control over the organisation, management delegates its responsibility and authority to various departments or persons. These departments or persons are known as responsibility centres and are held responsible for performance in terms of expenditure, revenue, profitability and return on investment. Performance of these responsibility centres are measured against some set standards (input-output ratio, budgets etc.) and evaluated against organisational goal and performance targets. There are four types of responsibility centres:

- (a) Cost Centres
- (b) Revenue Centres
- (c) Profit Centres
- (d) Investment Centres

(a) Cost Centres:

The responsibility centre which is held accountable for incurrence of costs which are under its control. The performance of this responsibility centre is measured against pre-determined standards or budgets. The cost centres are of two types: (1) Standard Cost Centre and (2) Discretionary Cost Centre

(1) Standards Cost Centres: Cost Centre where output is measurable and input required for the output can be specified. Based on a well-established study, an estimate of standard units of input to produce a unit of output is set. The actual cost for inputs is compared with the standard cost. Any deviation (variance) in cost is measured and analysed into controllable and uncontrollable cost. The manager of the cost centre is supposed to comply with the standard and held responsible for adverse cost variances. **The input-output ratio for a standard cost centre is clearly identifiable.**

(2) Discretionary Cost Centre: The cost centre whose output cannot be measured in financial terms, thus input-output ratio cannot be defined. The cost of input is compared with allocated budget for the activity. Example of discretionary cost centres are Research & Development department, Advertisement department where output of these department cannot be measured with certainty and co-related with cost incurred on inputs.

(b) Revenue Centres:

The responsibility centres which are accountable for generation of revenue for the entity. Sales Department for example, is responsible for achievement of sales target and revenue generation. Though, revenue centres does not have control on expenditures it incurs but some time expenditures related with selling activities like commission to sales person etc. are incurred by revenue centres.

(c) Profit Centres:

These are the responsibility centres which have both responsibility of generation of revenue and incurrence of expenditures. Since, managers of profit centres are accountable for both costs as well as revenue, profitability is the basis for measurement of performance of these responsibility centres. Examples of profit centres are decentralised branches of an organisation.

(d) Investment Centres:

These are the responsibility centres which are not only responsible for profitability but also has the authority to make capital investment decisions. The performance of these responsibility centres are measured on the basis of Return on Investment (ROI) besides profit. Examples of investment centres are Maharatna, Navratna and Miniratna companies of Public Sector Undertakings of Central Government.

16. LIMITATIONS OF COST ACCOUNTING

Like other branches of accounting, cost accounting is also having certain limitations. The limitations of cost accounting are as follows:

- 1. Expensive:** It is expensive because analysis, allocation and absorption of overheads require considerable amount of additional work, and hence additional money.
- 2. Requirement of Reconciliation:** The results shown by cost accounts differ from those shown by financial accounts. Thus Preparation of reconciliation statements is necessary to verify their accuracy.
- 3. Duplication of Work:** It involves duplication of work as organization has to maintain two sets of accounts i.e. Financial Account and Cost Account.
- 4. Inefficiency:** Costing system itself does not control costs but its usage does.

18. CLASSIFICATION OF COSTS

It means the grouping of costs according to their common characteristics. The important ways of classification of costs are:

Classification of Costs

1. By Nature or element : (a) Material Cost (b) Labour Cost and (c) Other Expenses
2. By Functions : (a) Prime Cost (b) Factory/ Works Cost (c) Cost of Production (d) Cost of Goods Sold (e) Cost of Sales.
3. By Behaviour : (a) Fixed Cost (b) Variable Cost and (c) Semi-variable Cost.
4. By Controllability : (a) Controllable and (b) Uncontrollable.
5. By Normality : (a) Normal and (b) Abnormal.
6. By Managerial decision making

1. By Nature or Element

(a) Direct Materials: Materials which are present in the finished product(cost object) or can be economically identified in the product are called direct materials. For example, cloth in dress making;

THEORY COST AND MANAGEMENT ACCOUNTING 11

materials purchased for a specific job etc. However, in some cases a material may be direct but it is treated as indirect, because it is used in small quantities, it is not economically feasible to identify that quantity and those materials which are used for purposes ancillary to the business.

- (b) **Direct Employee (Labour):** Labour which can be economically identified or attributed wholly to a cost object is called direct labour. For example, employee engaged on the actual production of the product or in carrying out the necessary operations for converting the raw materials into finished product.
- (c) **Direct Expenses:** It includes all expenses other than direct material or direct labour which are specially incurred for a particular cost object and can be identified in an economically feasible way. For example, hire charges for some special machinery, cost of defective work.
- (d) **Indirect Materials:** Materials which do not normally form part of the finished product (cost object) are known as indirect materials. These are: (1) Stores used for maintaining machines and buildings (lubricants, cotton waste, bricks etc.); (2) Stores used by service departments like power house, boiler house, canteen etc.
- (e) **Indirect Labour:** Labour costs which cannot be allocated but can be apportioned to or absorbed by cost units or cost centres is known as indirect labour. Examples of indirect employees include foreman and supervisors; maintenance workers; etc.
- (f) **Indirect Expenses:** Expenses other than direct expenses are known as indirect expenses, that cannot be directly, conveniently and wholly allocated to cost centres. Factory rent and rates, insurance of plant and machinery, power, light, heating, repairing, telephone etc., are some examples of indirect expenses.
- (g) **Overheads:** It is the aggregate of indirect material costs, indirect labour costs and indirect expenses. The main groups into which overheads may be subdivided are the following:
 - **Production or Works Overheads:** Indirect expenses which are incurred in the factory and for the running of the factory. E.g.: rent, power etc.
 - **Administration Overheads:** Indirect expenses related to management and administration of business. E.g.: office rent, lighting, telephone etc.
 - **Selling Overheads:** Indirect expense incurred for marketing of a commodity. E.g.: Advertisement expenses, commission to sales persons etc.
 - **Distribution Overheads:** Indirect expense incurred to despatch of the goods E.g.: warehouse charges, packing and loading charges.

2. By Functions:

(a) Prime Cost (b) Factory/ Works Cost (c) Cost of Production (d) Cost of Goods Sold (e) Cost of Sales.

3. By Variability or Behaviour:

According to this classification costs are classified into three group viz., fixed, variable and semi-variable.

- (a) **Fixed costs:** These are the costs which are incurred for a period, and which, within certain output and turnover limits, tend to be unaffected by fluctuations in the levels of activity (output or turnover). They do not tend to increase or decrease with the changes in output. For example, rent, insurance of factory building etc., remain the same for different levels of production.
- (b) **Variable Costs:** These costs tend to vary with the volume of activity. Any increase in the activity results in an increase in the variable cost and vice-versa. For example, cost of direct labour, etc.
- (c) **Semi-variable costs:** These costs contain both fixed and variable components and are thus partly affected by fluctuations in the level of activity. Examples of semi variable costs are telephone bills, gas and electricity etc.

4. By Controllability:

Costs here may be classified into controllable and uncontrollable costs.

- (a) Controllable Costs:** Cost that can be controlled, typically by a cost, profit or investment centre manager is called controllable cost. Controllable costs incurred in a particular responsibility centre can be influenced by the action of the executive heading that responsibility centre. For example, direct costs comprising direct labour, direct material, direct expenses and some of the overheads are generally controllable by the shop level management.
- (b) Uncontrollable Costs:** Costs which cannot be influenced by the action of a specified member of an undertaking are known as uncontrollable costs. For example, expenditure incurred by, say, the tool room is controllable by the foreman in-charge of that section but the share of the tool-room expenditure which is apportioned to a machine shop is not to be controlled by the machine shop foreman.

Distinction between Controllable Cost and Uncontrollable Cost: The distinction between controllable and uncontrollable costs is not very sharp and is sometimes left to individual judgement. In fact, no cost is uncontrollable; it is only in relation to a particular individual that we may specify a particular cost to be either controllable or uncontrollable.

5. By Normality:

According to this basis cost may be categorised as follows:

- (a) Normal Cost:** It is the cost which is normally incurred at a given level of output under the conditions in which that level of output is normally attained.
- (b) Abnormal Cost:** It is the cost which is not normally incurred at a given level of output in the conditions in which that level of output is normally attained. It is charged to Costing Profit and loss Account.

6. By Costs for Managerial Decision Making:

According to this basis cost may be categorised as follows:

- (a) Pre-determined Cost:** A cost which is computed in advance before production or operations start, on the basis of specification of all the factors affecting cost, is known as a pre-determined cost.
- (b) Standard Cost:** A pre-determined cost, which is calculated from managements 'expected standard of efficient operation' and the relevant necessary expenditure. It may be used as a basis for price fixation and for cost control through variance analysis.
- (c) Marginal Cost:** The amount at any given volume of output by which aggregate costs are changed if the volume of output is increased or decreased by one unit.
- (d) Estimated Cost or Budgeted Cost:** Kohler defines estimated cost as "the expected cost of manufacture, or acquisition, often in terms of a unit of product computed on the basis of information available in advance of actual production or purchase". Estimated costs are prospective costs since they refer to prediction of costs.
- (e) Differential Cost (Incremental and decremental costs):** It represents the change (increase or decrease) in total cost (variable as well as fixed) due to change in activity level, technology, process or method of production, etc. For example, if any change is proposed in the existing level or in the existing method of production, the increase or decrease in total cost or in specific elements of cost as a result of this decision will be known as incremental cost or decremental cost.
- (f) Imputed Costs:** These costs are notional costs which do not involve any cash outlay. Interest on capital, the payment for which is not actually made, is an example of imputed cost. These costs are similar to opportunity costs.

THEORY COST AND MANAGEMENT ACCOUNTING 13

- (g) **Capitalised Costs:** These are costs which are initially recorded as assets and subsequently treated as expenses.
- (h) **Product Costs:** These are the costs which are associated with the purchase and sale of goods (in the case of merchandise inventory). In the production scenario, such costs are associated with the acquisition and conversion of materials and all other manufacturing inputs into finished product for sale. Hence, under marginal costing, variable manufacturing costs and under absorption costing, total manufacturing costs (variable and fixed) constitute inventoriable or product costs.
- (i) **Opportunity Cost:** This cost refers to the value of sacrifice made or benefit of opportunity foregone in accepting an alternative course of action. For example, a firm financing its expansion plan by withdrawing money from its bank deposits. In such a case the loss of interest on the bank deposit is the opportunity cost for carrying out the expansion plan.
- (j) **Shut down Costs:** Those costs, which continue to be, incurred even when a plant is temporarily shut-down.e.g. rent, rates, depreciation, etc. These costs cannot be eliminated with the closure of the plant. In other words, all fixed costs, which cannot be avoided during the temporary closure of a plant, will be known as shut down costs.
- (k) **Sunk Costs:** Historical costs incurred in the past are known as sunk costs. They play no role in decision making in the current period. For example, in the case of a decision relating to the replacement of a machine, the written down value of the existing machine is a sunk cost and therefore, not considered.
- (l) **Absolute Cost:** These costs refer to the cost of any product, process or unit in its totality. When costs are presented in a statement form, various cost components may be shown in absolute amount or as a percentage of total cost or as per unit cost or all together. Here the costs depicted in absolute amount may be called absolute costs and are base costs on which further analysis and decisions are based.
- (m) **Discretionary Costs:** Such costs are not tied to a clear cause and effect relationship between inputs and outputs. They usually arise from periodic decisions regarding the maximum outlay to be incurred. Examples include advertising, public relations, executive training etc.
- (n) **Period Costs:** These are the costs, which are not assigned to the products but are charged as expenses against the revenue of the period in which they are incurred. All non-manufacturing costs such as general & administrative expenses, selling and distribution expenses are recognised as period costs.
- (o) **Engineered Costs:** These are costs that result specifically from a clear cause and effect relationship between inputs and outputs. The relationship is usually personally observable. Examples of inputs are direct material costs, direct labour costs etc. Examples of output are cars, computers etc.
- (p) **Explicit Costs or Out-of-pocket Cost:** These costs are also known as out of pocket costs and refer to costs involving immediate payment of cash. Salaries, wages, postage and telegram, printing and stationery, interest on loan etc. are some examples of explicit costs involving immediate cash payment.
- (q) **Implicit Costs:** These costs do not involve any immediate cash payment. They are not recorded in the books of account. They are also known as economic costs.

19. METHODS OF COSTING

Different industries follow different methods of costing because of the differences in the nature of their work. The various methods of costing are as follows:

Methods	Description
Single or Output Costing	Here the cost of a product is ascertained, the product being the only one produce like bricks, coals, etc.
Batch Costing	It is the extension of job costing. A batch may represent a number of small orders passed through the factory in batch. Each batch here is treated as a unit of cost

THEORY COST AND MANAGEMENT ACCOUNTING 14

	and thus separately costed. Here cost per unit is determined by dividing the cost of the batch by the number of units produced in the batch.
Job Costing	In this method of costing, cost of each job is ascertained separately. It is suitable in all cases where work is undertaken on receiving a customer's order like a printing press, motor workshop, etc.
Contract Costing	Here the cost of each contract is ascertained separately. It is suitable for firms engaged in the construction of bridges, roads, buildings etc.
Process Costing	Here the cost of completing each stage of work is ascertained, like cost of making pulp and cost of making paper from pulp. In mechanical operations, the cost of each operation may be ascertained separately; the name given is operation costing.
Operating Costing	It is used in the case of concerns rendering services like transport, supply of water, retail trade etc.
Multiple Costing	It is a combination of two or more methods of costing outlined above. Suppose a firm manufactures bicycles including its components; the parts will be costed by the system of job or batch costing but the cost of assembling the bicycle will be computed by the Single or output costing method. The whole system of costing is known as multiple costing.

The following table summarises the various methods of costing applied in different industries:

Nature of Output	Method	Cost	Examples of Industries
A Series of Processes	Process costing or Operation Costing	For each process	Sugar
Construction of building	Contract Costing	For each contract	Real estate
Similar units of a Single Product, produced by Single Process	Unit or output or Single Costing	For the entire activity, but averaged for the output	Cold Drinks
Rendering of Services	Operating Costing	For all services	Hospitals
Customer Specifications: single Unit	Job Costing	For each order/assignment/job	Advertising
Consisting of multiple varieties of activities and processes	Multiple Costing	Combination of any method	Car Assembly

20. TECHNIQUES OF COSTING

For ascertaining cost, following types of costing are usually used.

Techniques	Description
Uniform Costing	When a number of firms in an industry agree among themselves to follow the same system of costing in detail, adopting common terminology for various items and processes they are said to follow a system of uniform costing. Advantages of such a system are that <i>i.</i> A comparison of the performance of each of the firms can be made with that of another, or with the average performance in the industry. <i>ii.</i> Under such a system it is also possible to determine the cost of production of goods which is true for the industry as a whole. It is found useful when tax-relief or protection is sought from the Government.
Marginal Costing	It is defined as the ascertainment of marginal cost by differentiating between fixed and variable costs. It is used to ascertain effect of changes in volume or type of output on profit.

Standard Costing and Variance Analysis	It is the name given to the technique whereby standard costs are pre-determined and subsequently compared with the recorded actual costs. It is thus a technique of cost ascertainment and cost control. This technique may be used in conjunction with any method of costing. However, it is especially suitable where the manufacturing method involves production of standardised goods of repetitive nature.
Historical Costing	It is the ascertainment of costs after they have been incurred. This type of costing has limited utility. <ul style="list-style-type: none">• Post Costing: It means ascertainment of cost after production is completed.• Continuous costing: Cost is ascertained as soon as the job is completed or even when the job is in progress.
Absorption Costing	It is the practice of charging all costs, both variable and fixed to operations, processes or products. This differs from marginal costing where fixed costs are excluded.

CANAMIT ARORA SIR

THEORY COST AND MANAGEMENT ACCOUNTING 16

CHAPTER 2
MATERIALS COST

BASIC CONCEPTS

Materials

The general meaning of material is all commodities/ physical objects supplied to an organisation to be used in producing or manufacturing of finished or intermediate goods.

Bill of Material

It is a materials specification list or simply materials list. It is a schedule of standard quantities of materials required for any job or other unit of production. The materials specification list is prepared by the Engineering or Planning Department in a standard form.

Material Requisition Note

It is also known as material requisition slip; It is the voucher of the authority regarding issue of materials for use in the factory or in any of its departments. Generally it is prepared by the production department and materials are withdrawn on the basis of material requisition list or bill of materials.

Purchase Requisition

A purchase requisition is a form used for making a formal request to the purchasing department to purchase materials. This form is usually filled up by the store keeper for regular materials and by the departmental head for special materials (not stocked as regular items).

Purchase Order

It is a written request to the supplier to supply certain specified materials at specified rates and within a specified period.

Tender

This is a formal notification inviting interested vendors to submit their bid/ quotation for the specified material or service. This is a process to govern the opening, evaluation and selection of the vendors for the required material under specified terms and conditions, so that fairness of the selection can be ensured.

Request for Proposal (RFP)

Like tender this is also a selection process among the eligible vendors. This is a process of gathering information about the rate, quantity, technology, services and support etc., from the selected vendors who may be interested in supplying required material/ service under specified terms and conditions.

Quotation

This is a formal statement of promise made by an interested vendor in response to a tender notification to supply the goods or services required by a buyer at specified description and terms & conditions.

Good Received Note

This is a confirmation note prepared by the department who receives the goods or entitled to receive the goods (usually stores department), stating the quantity and description of goods received by it.

Material Returned Note

This is a note prepared by the department who receives the goods or entitled to receive the goods (usually stores department), stating the quantity and description of goods which are returned by it.

Bin Cards

Bin refers to a box/ container/ space where materials are kept. Card is placed with each of the bin (space) to record the details of material like receipt, issue and return.

Stock Control Card

It is a record keeping document maintained by stores department for every item of material. Recording includes receipt, issue, return, in hand and order given.

Stores Ledger

Stores Ledger is a collection of cards or loose leaves specially ruled for maintaining a record of both quantity and cost of stores received, issued and those in stock. It being a subsidiary ledger to the main cost ledger, it is maintained by the Cost Accounting Department.

Economic Order Quantity (E.O.Q)

The size of the order for which both ordering and carrying cost are at minimum is known as economic order quantity or E.O.Q.

E.O.Q is used in an optimizing stock control system

Ordering Costs

The costs which are associated with the purchasing or ordering of material. It includes costs of tender invitation, preparation of purchase orders and other expenses which are incurred for this purpose.

Carrying Costs

The costs for holding the inventories. It includes the cost of capital invested in inventories, cost of storage, insurance cost etc.

Re-order Stock Level

This level lies between minimum and the maximum levels in such a way that before the material ordered is received into the stores, there is sufficient quantity on hand to cover both normal and abnormal consumption situations. In other words, it is the level at which fresh order should be placed for replenishment of stock.

Minimum Stock Level

It indicates the lowest figure of inventory balance, which must be maintained in hand at all times, so that there is no stoppage of production due to non-availability of inventory.

Maximum Stock Level

It indicates the highest level of inventory which should not be exceeded at any time.

Average Inventory Level

This is the average of both minimum stock level and maximum stock level held by an organization.

Lead Time

This is the time interval between ordering and receipt of goods or the time interval between starting of production and its completion.

Lead Time Consumption

Materials consumed during the lead time are called lead time consumption.

Danger Stock Level

The stock level which is generally fixed below the minimum stock level. When the stock reaches this point immediate action is required to obtain fresh materials. At this level normal issues of the raw material inventory are stopped and emergency issues are only made.

Buffer Stock*

Stock of materials maintained to avoid any contingent interruption in supply of materials to the user department.

Safety Stock*

Stock of materials that are carried in excess of the expected lead time consumption of materials. It is kept as cushion against the unexpected demand for the material.

* Safety stock and Buffer stock are some time used interchangeably

Stock-out

This is a situation where requirement for the material exceeds its availability of stock.

ABC Analysis

It is a system of inventory control. It exercises discriminating control over different items of stores classified on the basis of the investment involved. Items are classified into the following categories:

A Category : Quantity less than 10 % but value more than 70%

B Category : Quantity less than 20 % but value about 20 %

C Category : Quantity about 70 % but value less than 10%

Two Bin System

Under this system each bin is divided into two parts - one, smaller part, should stock the quantity equal to the minimum stock or even the re-ordering level, and the other to keep the remaining quantity. Issues are made out of the larger part; but as soon as it becomes necessary to use quantity out of the smaller part of the bin, fresh order is placed.

System of Budget

The exact quantity of various types of inventories and the time when they would be required can be known by studying carefully production plans and production schedules. Based on this, inventories requirement budget can be prepared. Such a budget will discourage the unnecessary investment in inventories.

Perpetual Inventory Records

Perpetual inventory represents a system of records maintained by the stores department. It in fact comprises: (i) Bin Cards, and (ii) Stores Ledger.

Continuous Stock Verification

Continuous stock taking means the physical checking of those records (which are maintained under perpetual inventory) with actual stock.

Slow and Non-moving Inventories

The item of material inventory which are no more required by the production or other user department is called non-moving inventories. The inventory which is not required frequently or has fewer requirements is called slow moving inventories.

Input Output Ratio

Inventory control can also be exercised by the use of input output ratio analysis. Input-output ratio is the ratio of the quantity of input of material to production and the standard material content of the actual output.

Inventory Turnover Ratio

Computation of inventory turnover ratios for different items of material and comparison of the turnover rates provides a useful guidance for measuring inventory performance. High inventory turnover ratio indicates that the material in the question is a fast moving one. A low turnover ratio indicates over-investment and locking up of the working capital in inventories

First-in-First-out (FIFO) Method

The materials received first are to be issued first when material requisition is received. Materials left as closing stock will be at the price of latest purchases.

Last-in-First-out (LIFO) Method

The materials purchased last are to be issued first when material requisition is received. Closing stock is valued at the oldest stock price.

Simple Average Price Method

Under this method, materials issued are valued at average price, which is calculated by dividing the total of all units rate by the number of unit rate.

Material Issue Price = Total of unit price of each purchase/Total numbers of purchases

Weighted Average Price Method

This method gives due weights to quantities purchased and the purchase price, while, determining the issue price. The average issue price here is calculated by dividing the total cost of materials in the stock by total quantity of materials prior to each issue.

$$\text{Material Issue Price} = \text{Total Cost of materials in stock} / \text{Total quantity of materials}$$

Standard Price Method

Under this method, materials are priced at some predetermined rate or standard price irrespective of the actual purchase cost of the materials.

Replacement Price Method

Under this method, materials issued are valued at the replacement cost of the items. This method presupposes the determination of the replacement cost of materials at the time of each issue; viz., the cost at which identical materials could be currently purchased.

Waste

The portion of basic raw materials lost in processing having no recoverable value. Waste may be visible remnants of basic raw materials or invisible.

Scrap

It has been defined as the incidental residue from certain types of manufacture, usually of small amount and of low value, recoverable without further processing.

Spoilage

It is the term used for materials which are badly damaged in manufacturing operations, and they cannot be rectified economically and hence taken out of process to be disposed off in some manner without further processing

Defectives

It signifies those units or portions of production which can be rectified and turned out as good units by the application of additional material, labour or other service.

Question 1

How normal and abnormal loss of material arising during storage treated in Cost Accounts?

Solution

The difference between the book balance and actual physical stock, which may either be gain or loss, should be transferred to Inventory Adjustment Account pending scrutiny to ascertain the reason for the difference.

If on scrutiny, the difference arrived at is considered as normal, then such a difference should be transferred to overhead control account and if abnormal, it should be debited to costing profit and loss account.

In the case of normal losses, an alternative method may be used. Under this method the price of the material issued to production may be inflated so as to cover the normal loss.

Question 2

Distinguish clearly Bin cards and Stores Ledger.

Solution

Both bin cards and stores ledger are perpetual inventory records. None of them is a substitute for the other. These two records may be distinguished from the following points of view:

1. Bin cards are maintained by the store keeper, while the stores ledger is maintained by the cost accounting department.
2. Bin card is the stores recording document whereas the stores ledger is an accounting record.
3. Bin card contains information with regard to quantities i.e. their receipt, issue and balance while the stores ledger contains both quantitative and value information in respect of their receipts, issue and

balance.

4. In the bin card entries are made at the time when transaction takes place. But in the stores ledger entries are made only after the transaction has taken place.
5. Inter departmental transfer of materials appear only in stores ledger.
6. Bin cards record each transaction but stores ledger records the same information in a summarized form.

Question 3

Discuss the accounting treatment of defectives in Cost Accounts.

Solution

Defectives refer to those units or portions of production, which do not meet the prescribed specifications. Such units can be reworked or re-conditioned by the use of additional material, labour and /or processing and brought to the point of either standard or sub-standard units.

The possible way of treating defectives in Cost Accounts are as below:

1. When defectives are normal and it is not beneficial to identify them job-wise, then the following methods may be used.
 - a. Charged to good products: The cost of rectification of normal defectives is charged to good units. This method is used when defectives rectified are normal.
 - b. Charged to general overheads. If the department responsible for defectives cannot be identified, the rework costs are charged to general overheads.
 - c. Charged to departmental overheads: If the department responsible for defectives can be correctly identified, the rectification costs should be charged to that department.
2. When normal defectives are easily identifiable with specific job the rework costs are debited to the identified job.
3. When defectives are abnormal and are due to causes within the control of the organization, the rework cost should be charged to the Costing Profit and Loss Account.

Question 4

Explain the concept of "ABC Analysis" as a technique of inventory control.

Solution

ABC Analysis: This system exercises discriminating control over different items of inventory on the basis of the investment involved. Usually the items are classified into three categories according to their relative importance, namely, their value and frequency of replenishment during a period.

(i) 'A' Category: This category of items consists of only a small percentage i.e., about 10% of the total items handled by the stores but require heavy investment about 70% of inventory value, because of their high prices or heavy requirement or both. Items under this category can be controlled effectively by using a regular system which ensures neither over-stocking nor shortage of materials for production. Such a system plans its total material requirements by making budgets. The stocks of materials are controlled by fixing certain levels like maximum level, minimum level and re-order level.

(ii) 'B' Category: This category of items is relatively less important; they may be 20% of the total items of material handled by stores. The percentage of investment required is about 20% of the total investment in inventories. In the case these items, as the sum involved is moderate, the same degree of control as applied in 'A' category of items is not warranted. The orders for the items, belonging to this category may be placed after reviewing their situation periodically.

(iii) 'C' Category: This category of items does not require much investment; it may be about 10% of total inventory value but they are nearly 70% of the total items handled by store. For this category of items, there is no need of exercising constant control. Orders for items in this group may be placed either after six

months or once in a year, after ascertaining consumption requirements. In this case the objective is to economies on ordering and handling costs.

Question 5

Explain the concept of "Fast Moving, Slow Moving and Non Moving (FSN) Inventory" as a technique of inventory control.

Solution

Fast Moving, Slow Moving and Non Moving (FSN) Inventory: It is also known as FNS (Fast, Normal and Slow moving) classification of inventory Analysis. Under this system, inventories are controlled by classifying them on the basis of frequency of usage. The classification of items into these three categories depends on the nature and managerial discretion. A threshold range on the basis of inventory turnover is decided and classified accordingly.

(i) Fast Moving: This category of items are placed nearer to store issue point and the stock is reviewed frequently for making of fresh order.

(ii) Slow Moving: This category of items are given stored little far and stock is reviewed periodically for any obsolescence and may be shifted to Non-moving category.

(iii) Non Moving: This category of items are kept for disposal. This category of items is reported to the management and an appropriate provision for loss may be created.

Question 6

Explain the concept of "VED Analysis" as a technique of inventory control.

Solution

Vital, Essential and Desirable (VED): Under this system of inventory analysis, inventories are classified on the basis of its criticality for the production function and final product. Generally, this classification is done for spare parts which are used for production.

(i) Vital: Items are classified as vital when its unavailability can interrupt the production process and cause a production loss. Items under this category are strictly controlled by setting re-order level.

(ii) Essential: Items under this category are essential but not vital. The unavailability may cause sub standardisation and loss of efficiency in production process. Items under this category are reviewed periodically and get the second priority.

(iii) Desirable: Items under this category are optional in nature, unavailability does not cause any production or efficiency loss.

Question 7

Explain the concept of "High Cost, Medium Cost, Low Cost (HML)" as a technique of inventory control.

Solution

High Cost, Medium Cost, Low Cost (HML) Inventory: Under this system, inventory is classified on the basis of the cost of an individual item, unlike ABC analysis where inventories are classified on the basis of overall value of inventory. A range of cost is used to classify the inventory items into the three categories. High Cost inventories are given more priority for control, whereas Medium cost and Low cost items are comparatively given lesser priority.

Question 8

Distinguish between Re-order level and Re-order quantity

Solution

Re-order level is defined as that *level of an inventory* item where a fresh order for its replenishment is placed. Mathematically it can be determined by using the following formulae:

$$\begin{aligned}\text{Re-order level (ROL)} &= [\text{Maximum consumption} \times \text{Maximum re-order period}] \\ \text{Alternatively:} &= \text{Minimum level} + \text{Average consumption during average lead time}\end{aligned}$$

Re-order quantity (ROQ) is defined as that *quantity of an inventory* item for which order is placed again and again. Economic order quantity is a re-order quantity but not vice-a-versa. It can be determined by using the following mathematical expression:

$$\text{EOQ} = \text{ROQ} = \sqrt{\frac{2AO}{C}}$$

Thus, Re-order level is the level of stock which indicates the order for the further materials and on the other hand ROQ is the quantity of material that should be ordered.

Question 9

How is slow moving and non-moving item of stores detected and what steps are necessary to reduce such stocks?

Solution

The existence of slow moving and non-moving item of stores can be detected in the following ways.

1. By preparing and *perusing periodic reports* showing the status of different items or stores.
2. By calculating the *inventory turnover period* of various items in terms of number of days/ months of consumption.
3. By computing *inventory turnover ratio* periodically, relating to the issues as a percentage of average stock held.
4. By implementing the use of a well designed information system.

Necessary steps to reduce stock of slow moving and non-moving item of stores

1. Proper procedure and guidelines should be laid down for the disposal of non-moving items, before they further deteriorates in value.
2. Diversify production to use up such materials.
3. Use these materials as substitute, in place of other materials.

Question 10

Explain the advantages that would accrue in using the LIFO method of pricing for the valuation of raw material stock.

Solution

LIFO- Last-in-first-out A method of pricing for the valuation of raw material stock. It is based on the assumption that the items of the last batch (lot) purchased are the first to be issued. Therefore, under this method, the price of the last batch (lot) of raw material is used for pricing raw material issues until it is exhausted. If, however, the quantity of raw material issued is more than the quantity of the latest lot, the price of immediately preceding lot and so on will be taken for pricing the raw material issues.

The advantages that would accrue from the use of LIFO method of pricing the valuation of raw materials are as follows:

1. The cost of materials used is nearer to the current market price. Thus the cost of goods produced depends upon the trend of the market price of materials. This enables the matching of cost of production with current sales revenues.
2. Use of LIFO during the period of rising prices does not depict unnecessarily high profit in the income statement; compared to the first-in-first-out (FIFO) or average price methods. The profit shown by the use of LIFO is relatively lower, because the cost of production takes into account the rising trend of material prices.
3. When price of materials fall, the use of LIFO method accounts for rising the profits due to lower material cost. In spite of this finished product appears to be more competitive and at market prices.

4. Over a period, the use of LIFO will iron out the fluctuations in profit.
5. During inflationary period, the use of LIFO will show the correct profit and thus avoid paying unduly high taxes to some extent.

Question 11

Discuss briefly the considerations governing the fixation of the maximum and minimum levels of inventory.

Solution

(a) Considerations for the fixation of maximum level of inventory

Maximum level of an inventory item is its maximum quantity held in stock at any time. The mathematical formula used for its determination is as follows:

$$\text{Maximum level} = \text{Re-order level} - (\text{Min. Consumption} \times \text{Min. Re-order period}) + \text{ROQ}$$

The important considerations which should govern the fixation of maximum level for various inventory items are as follows:

- (1) The fixation of maximum level of an inventory item requires information about reorder level. The reorder level itself depends upon its maximum rate of consumption and maximum delivery period. It in fact is the product of maximum consumption of inventory item and its maximum delivery period.
- (2) Knowledge about minimum consumption and minimum delivery period for each inventory item should also be known.
- (3) The determination of maximum level also requires the figure of re-order quantity or economic order quantity. Economic order quantity means the quantity of inventory to be ordered so that total ordering and storage cost is minimum.
- (4) Availability of funds, storage capacity, nature of items and their price also are important for the fixation of maximum level.
- (5) In the case of important materials due to their irregular supply, the maximum level should be high.

(b) Considerations for the fixation of minimum level of inventory

Minimum level indicates the lowest figures of inventory balance, which must be maintained in hand at all times, so that there is no stoppage of production due to nonavailability of inventory. The formula used for its calculation is as follows:

$$\text{Minimum level of inventory} = \text{Re-order level} - (\text{Average consumption} \times \text{Average delivery time})$$

The main considerations for the fixation of minimum level of inventory are as follows:

1. Information about maximum consumption and maximum delivery period in respect of each item to determine its re-order level.
2. Average rate of consumption for each inventory item.
3. Average delivery period for each item. The period can be calculated by averaging the maximum and minimum period.

Question 12

What is material handling cost? How will you deal it in cost account?

Solution

Material handling cost:

It refers to the expenses involved in receiving, storing, issuing and handling materials. To deal with this cost in cost accounts there are two prevalent approaches as under:

First approach suggests the inclusion of these costs as part of the cost of materials by establishing a separate material handling rate e.g., at the rate of percentage of the cost of material issued or by using a separate material handling rate which may be established on the basis of weight of materials issued.

Under another approach these costs may be included along with those of manufacturing overhead and be charged over the products on the basis of direct labour or machine hours.

Question 13

At the time of physical stock taking, it was found that actual stock level was different from the clerical or computer records. What can be possible reasons for such differences? How will you deal with such differences?

Solution

Possible reasons for differences arising at the time of physical stock taking may be as follows when it was found that actual stock level was different from that of the clerical or computer records:

1. Wrong entry might have been made in stores ledger account or bin card,
2. The items of materials might have been placed in the wrong physical location in the store,
3. Arithmetical errors might have been made while calculating the stores balances on the bin cards or store-ledger when a manual system is operated,
4. Misappropriation of stock.

When a discrepancy is found at the time of stock taking, the individual stores ledger account and the bin card must be adjusted so that they are in agreement with the actual stock. For example, if the actual stock is less than the clerical or computer record the quantity and value of the appropriate store ledger account and bin card (quantity only) must be reduced and the difference in cost be charged to factory overhead account for stores losses.

Question 14

Discuss the accounting treatment of spoilage and defectives in Cost Accounting.

Solution

Accounting treatment of spoilage and defectives in Cost Accounting:

Normal spoilage cost (which is inherent in the operation) are included in cost either by charging the loss due to spoilage to the production order or charging it to production overhead so that it is spread over all products. Any value realized from the sale of spoilage is credited to production order or production overhead account, as the case may be.

The cost of abnormal spoilage (i.e. spoilage arising out of causes not inherent in manufacturing process) is charged to the Costing Profit and Loss Account. When spoiled work is due to rigid specifications, the cost of spoiled work is absorbed by good production, while the cost of disposal is charged to production overheads.

The problem of accounting for defective work is the problem of accounting of the costs of rectification or rework. The possible ways of treatment are as below:

1. Defectives that are considered inherent in the process and are identified as normal can be recovered by using the following methods.
 - a. Charged to good products
 - b. Charged to general overheads
 - c. Charged to department overheads
 - d. Charged to identifiable job.
2. If defectives are abnormal and are due to causes beyond the control of organisation, the rework, cost should be charged to Costing Profit and Loss Account.

Question 15

Write short note on perpetual inventory control.

Solution

Perpetual Inventory:

It represents a system of records maintained by the stores in department. It in fact comprises of:

- (i) Bin Cards, and (ii) Stores Ledger

Bin Card maintains a quantitative record of receipts, issues and closing balances of each item of stores. Separate bin cards are maintained for each item. Each card is filled up with the physical movement of goods i.e. on its receipt and issue.

THEORY COST AND MANAGEMENT ACCOUNTING 25

Like bin cards, the Stores Ledger is maintained to record all receipt and issue transactions in respect of materials. It is filled up with the help of goods received note and material requisitions.

A perpetual inventory is usually checked by a programme of continuous stock taking. Continuous stock taking means the physical checking of those records (which are maintained under perpetual inventory) with actual stock. Perpetual inventory is essentially necessary for material control. It incidentally helps continuous stock taking. The success of perpetual inventory depends upon the following:

1. The Stores Ledger-(showing quantities and amount of each item).
2. Stock Control Cards (or Bin Cards).
3. Reconciling the quantity balances shown by (a) & (b) above.
4. Checking the physical balances of a number of items every day systematically and by rotation.
5. Explaining promptly the causes of discrepancies, if any, between physical balances and book figures.
6. Making corrective entries were called for after step (e) and
7. Removing the causes of the discrepancies referred to step (e).

The main advantages of perpetual inventory are as follows :

- (1) Physical stocks can be counted and book balances adjusted as and when desired without waiting for the entire stock-taking to be done.
- (2) Quick compilation of Profit and Loss Accounts (for interim period) due to prompt availability of stock figures.
- (3) Discrepancies are easily located and thus corrective action can be promptly taken to avoid their recurrence.
- (4) A systematic review of the perpetual inventory reveals the existence of surplus, dormant, obsolete and slow-moving materials, so that remedial measures may be taken in time.
- (5) Fixation of the various levels and check of actual balances in hand with these levels assist the Storekeeper in maintaining stocks within limits and in initiating purchase requisitions for correct quantity at the proper time.

Question 16

Explain Bin Cards and Stock Control Cards.

Solution

Bin Cards are quantitative records of the stores receipt, issue and balance. It is kept for each and every item of stores by the store keeper. Here, the balance is taken out after each receipt or issue transaction

Stock Control Cards are also similar to Bin Cards. Stock control cards contain further information as regards stock on order. These cards are kept in cabinets or trays or loose binders.

Question 17

Explain why the Last in First out (LIFO) has an edge over First in First out (FIFO) or any other method of pricing material issues.

Solution

LIFO has following advantages:

1. The cost of the material issued will be reflecting the current market price.
2. The use of the method during the period of rising prices does not reflect undue high profit in the income statement.
3. In the case of falling price, profit tend to rise due to lower material cost, yet the finished goods appear to be more competitive and are at market price.
4. During the period of inflation, LIFO will tend to show the correct profit.

Question 18

Differentiate between "scrap" and "defectives" and how they are treated in cost accounting.

Solution

Scrap

Scrap is incidental residue from certain type of manufacture, usually of small amount and low value, recoverable without further processing. The cost of scrap is borne by good units and income from scrap is treated as other income.

Defectives

Defectives are portion of production which can be rectified by incurring additional cost. Normal defectives can be avoided by quality control. Normal defectives are charged to good products. Abnormal defectives are charged to Costing Profit and Loss Account

Question 19

Distinguish between Bill of Materials and Material Requisition Note.

Solution

Difference between Cost Bills of Material Material Requisition Note

S.N	<i>Bills of Materials</i>	<i>Materials Requisition Note</i>
1	It is document or list of materials prepared by the engineering/ drawing department.	It is prepared by the foreman of the consuming department.
2	It is a complete schedule of component parts and raw materials required for a particular job or work order.	It is a document authorizing Store-Keeper to issue material to the consuming department.
3	It often serves the purpose of a Store Requisition as it shows the complete schedule of materials required for a particular job i.e. it can replace stores requisition.	It cannot replace a bill of material.
4	It can be used for the purpose of quotation.	It is useful in arriving historical cost only.
5	It helps in keeping a quantitative control on materials draw through Stores Requisition.	It shows the material actually drawn from stores.

Question 20

“Perpetual inventory system comprises Bin Card and Stores Ledger, but the efficacy of the system depends on continuous stock taking.” Comment.

Solution

Perpetual Inventory system represents a system of records maintained by the stores department. Records comprise of (i) Bin Cards and (ii) Stores Ledger. Bin Card maintains a quantitative record of receipts, issues and closing balances of each item of stores. Like bin cards, the Stores Ledger is maintained to record all receipt and issue transactions in respect of materials. It is filled up with the help of goods received note and material requisitions. But a perpetual inventory system’s efficacy depends on the system of continuous stock taking.

Continuous stock taking means the physical checking of the records i.e. Bin cards and store ledger with actual physical stock. Perpetual inventory is essentially necessary for material control. It incidentally helps continuous stock taking.

The main advantages of continuous stock taking are as follows :

- (1) Physical stocks can be counted and book balances adjusted as and when desired without waiting for the entire stock-taking to be done.
- (2) Quick compilation of Profit and Loss Accounts (for interim period) due to prompt availability of stock figures.
- (3) Discrepancies are easily located and thus corrective action can be promptly taken to\ avoid their recurrence.
- (4) A systematic review of the perpetual inventory reveals the existence of surplus, dormant, obsolete and slow-moving materials, so that remedial measures may be taken in time.

- (5) Fixation of the various levels and check of actual balances in hand with these levels assist the Storekeeper in maintaining stocks within limits and in initiating purchase requisitions for correct quantity at the proper time.

Question 21

Steel Heart Pvt. Ltd. Manufactures TMT bars from MS Ingots and MS Billets. After production of TMT bars, sorting is carried out to find any defects or units that do not match with standard specification. The products which do not match with the standard product specification are treated as scrap. You are required to state the treatment of the products which do not match with the product specifications in Cost Accounts.

Solution

Scrap has been defined as the incidental residue from certain types of manufacture, usually of small amount and low value, recoverable without further processing. Scrap may be treated in cost accounts in the following ways:

1. When the scrap value is negligible:

It may be excluded from costs. In other words, the cost of scrap is borne by good units and income from scrap is treated as other income.

2. When the scrap value is not identifiable to a particular process or job:

The sales value of scrap net of selling and distribution cost, is deducted from overhead to reduce the overhead rate. A variation of this method is to deduct the net realisable value from material cost.

3. When scrap is identifiable with a particular job or process and its value is significant:

The scrap account should be charged with full cost. The credit is given to the job or process concerned. The profit or loss in the scrap account, on realisation, will be transferred to the Costing Profit and Loss Account.

22. Treatment of items associated with purchase of materials is tabulated as below

1. Trade discount **is deducted** from the purchase price if it is not shown as deduction in the invoice.
2. Like trade discount quantity discount is also shown as deduction from the invoice. It **is deducted** from the purchase price if not shown as deduction.
3. Cash discount **is not deducted** from the purchase price. It is treated as interest and finance charges. It is ignored.
4. Any subsidy/ grant/ incentive received from the Government or from other sources **deducted** from the cost of purchase.
5. Road Tax/ Toll Tax Road tax/ Toll tax if paid by the buyer then it **is included** with the cost of purchase.
6. Integrated Goods and Service Tax (IGST) is paid on inter-state supply of goods and provision of services and collected from the buyers. It **is excluded** from the cost of purchase if credit for the same is available. Unless mentioned specifically it should not form part of cost of purchase.
7. State Goods and Service Tax (SGST) is paid on intra-state supply and collected from the buyers. It **is excluded** from the cost of purchase if credit for the same is available. Unless mentioned specifically it should not form part of cost of purchase.
8. Central Goods and Service Tax (CGST) is paid on manufacture and supply of goods and collected from the buyer. It **is excluded** from the cost of purchase if the input credit is available for the same. Unless mentioned specifically CGST is not added with the cost of purchase.
9. Basic Custom Duty Basic Custom duty is paid on import of goods from outside India. It **is added** with the purchase cost.
10. Demurrage is a penalty imposed by the transporter for delay in uploading or offloading of materials. It is an abnormal cost and **not included** with cost of purchase.
11. Detention charges/ fines are imposed for noncompliance of rule or law by any statutory authority. It is an abnormal cost and **not included** with cost of purchase.
12. Penalty of any type is **not included** with the cost of purchase.

13. Insurance charges are paid for protecting goods during transit. It **is added** with the cost of purchase.
14. Commission or brokerage paid **is added** with the cost of purchase.
15. Freight inwards It **is added** with the cost of purchase as it is directly attributable to procurement of material.
16. Non-returnable containers: The cost of containers **is added** with the cost of purchase of materials. Returnable Containers: If on return of containers cost of containers is returned back then in this case cost of containers is not added with the cost of purchase. If the amount of refund on returning the container is less than the amount paid then only short fall is added with the cost of purchase.
17. **Shortage due to normal reasons:** Good units absorb the cost of shortage due to normal reasons. Losses due to breaking of bulk, evaporation, due to unavoidable conditions etc. are the reasons of normal loss.
18. **Shortage due to abnormal reasons:** shortage arises due to abnormal reasons such as material mishandling, pilferage, due to avoidable reasons are not absorbed by the good units. Losses due to abnormal reasons are debited to costing profit and loss account.

Question 23

Explain Just in Time (JIT) Inventory Management.

Solution

JIT is a system of inventory management with an approach to have a zero inventories in stores. According to this approach material should only be purchased when it is actually required for production.

JIT is based on two principles

- (a) Produce goods only when it is required and
- (b) the products should be delivered to customers at the time only when they want.

It is also known as 'Demand pull' or 'Pull through' system of production. In this system, production process actually starts after the order for the products is received. Based on the demand, production process starts and the requirement for raw materials is sent to the purchase department for purchase.

THEORY COST AND MANAGEMENT ACCOUNTING 29
CHAPTER 3
EMPLOYEE COST OR LABOUR COST

BASIC CONCEPTS

Labour Cost

The cost of wages and other benefits paid by employer to workers on the basis of time or on the basis of quantum of output as a result of physical or mental exertion.

Direct Labour

Labour cost that is specifically incurred for or can be readily charged to or identified with a specific job, contract, work order or any other unit of cost.

Indirect Labour

Labour cost which cannot be readily identified with products or services but are generally incurred in carrying out production activity.

Idle Time

Idle time refers to the labour time paid for but not utilized on production. Idle time thus represents the time for which wages are paid but no output is obtained.

Normal Idle Time

Idle time which *arises due to unavoidable reasons* under the given working environment. The cost of normal idle time should be charged to the cost of production.

Abnormal Idle Time

Idle time which *arises due to avoidable reasons* and can be checked if proper controls are in place. Cost incurred in abnormal idle time is charged to Costing Profit and Loss account.

Time Keeping

It refers to maintenance and recording of attendance of an employee.

Time Booking

It refers to the detailed recording of the actual time spent by an employee on a single job, process or in any other production related activities.

Overtime

Overtime is the amount of wages paid for working beyond normal working hours.

Overtime Premium

The rate for overtime work is higher than the normal time rate. The *extra amount so paid over the normal rate* is called overtime premium.

Labour Turnover

Labour turnover in an organization is the *rate of change in the composition of labour force* during a specified period measured against a suitable index.

Incentives

Incentive can be defined as the stimulation for effort and effectiveness by offering monetary and other benefits.

Time Rate System

Under this system workers are paid for their effort on the *basis of time* spent on the work i.e., hour, day, week or month etc.

Differential Time Rate

Under this method different hourly rates are fixed for different levels of efficiency. Upto a certain level a fixed rate is paid and *based on the efficiency level the hourly rate increases gradually.*

Straight Piece Work

Payment is made on the basis of a fixed amount per unit of output irrespective of time taken. It is the number of units produced by the worker multiplied by rate per unit.

Differential Piece Rate

Under differential piece rate system different piece rate slabs are used for different efficiency or activity level. Efficiency is measured against the standard output level.

Wage Abstract

A summary giving details of wages to be charged to individual jobs, work orders or processes for a specific period.

Job Evaluation

It is a process of analyzing and assessment of jobs to ascertain their relative worthiness from the management's points of view.

Merit Rating

It is a systematic evaluation of the personality and performance of each employee by his supervisor or some other qualified persons.

Time and Motion Study

It is the study of time taken and motions (movements) performed by workers while performing their jobs at the place of their work.

Question 1

Discuss the accounting treatment of Idle time and overtime wages.

Solution

Accounting treatment of idle time wages & overtime wages in cost accounts

Normal idle time is treated as a part of the cost of production. Thus, in the case of direct workers, an allowance for normal idle time is built into the labour cost rates. In the case of indirect workers, normal idle time is spread over all the products or jobs through the process of absorption of factory overheads.

Under Cost Accounting, the overtime premium is treated as follows

1. If overtime is resorted to at the desire of the customer, then the overtime premium may be charged to the job directly.
2. If overtime is required to cope with general production program or for meeting urgent orders, the overtime premium should be treated as overhead cost of particular department or cost center which works overtime.
3. Overtime worked on account of abnormal conditions should be charged to costing Profit & Loss Account.
4. If overtime is worked in a department due to the fault of another department the overtime premium should be charged to the latter department.

Question 2

Discuss the effect of overtime payment on productivity.

Solution

Effect of overtime payment on productivity:

Overtime work should be resorted to only when it is extremely essential because it involves extra cost. The overtime payment increases the cost of production in the following ways:

1. The overtime premium paid is an extra payment in addition to the normal rate.

2. The efficiency of operators during overtime work may fall and thus output may be less than normal output.
3. In order to earn more the workers may not concentrate on work during normal time and thus the output during normal hours may also fall.
4. Reduced output and increased premium of overtime will bring about an increase in cost of production.

Question 3

State the circumstances in which time rate system of wage payment can be preferred in a factory.

Solution

In the following circumstances the time rate system of wage payment is preferred in a factory.

1. Persons whose services cannot be directly or tangibly measured, e.g., general helpers, supervisory and clerical staff etc.
2. Workers engaged on highly skilled jobs or rendering skilled services, e.g., tool making, inspection and testing.
3. Where the pace of output is independent of the operator, e.g., automatic chemical plants.

Question 4

Discuss briefly, how you will deal with casual workers and workers employed on outdoor work in Cost Accounts.

Solution:

Casual and outdoor workers:

Casual workers (badli workers) are employed temporarily, for a short duration to cope with sporadic increase in volume of work. If the permanent labour force is not sufficient to cope effectively with a rush of work, additional labour (casual workers) are employed to work for a short duration.

Outdoor workers are those workers who do not carry out their work in the factory premises. Such workers either carry out the assigned work in their homes (e.g., knitwear, lamp shades) or at a site outside the factory.

Casual workers are engaged on daily basis. Wages are paid to them either at the end of the day's work or after a periodic interval. Wages paid are charged as direct or indirect labour cost depending on their identifiability with specific jobs, work orders, or department.

Rigid control should be exercised over the out-workers specially with regard to following:

1. Reconciliation of materials drawn/ issued from the store with the output.
2. Ensuring the completion of output during the stipulated time so as to meet the orders and contracts comfortably.

Question 6

It should be management's endeavour to increase inventory turnover but to reduce labour turnover. Expand and illustrate the idea contained in this statement.

Solution:

Inventory turnover: It is a ratio of the value of materials consumed during a period to the average value of inventory held during the period. A high inventory turnover indicates fast movement of stock.

Labour turnover: It is defined as an index denoting change in the labour force for an organization during a specified period. Labour turnover in excess of normal rate is termed as high and below it as low turnover.

Effects of high inventory turnover and low labour turnover: High inventory turnover reduces the investment of funds in inventory and thus accounts for the effective use of the concern's financial resources. It also accounts for the increase of profitability of a business concern. As against high labour turnover the low labour turnover is preferred because high labour turnover causes-decrease in production targets; increase in the chances of break-down of machines at the shop floor level; increase in the number of

accidents; loss of customers and their brand loyalty due to either non-supply of the finished goods or due to sub-standard production of finished goods; increase in the cost of selection, recruitment and training; increase in the material wastage and tools breakage.

All the above listed effects of high labour turnover account for the increase in the cost of production/ process/ service. This increase in the cost finally accounts for the reduction of concern's profitability. Thus, it is necessary to keep the labour turnover at a low level.

As such, it is correct that management should endeavour to increase inventory turnover and reduce labour turnover for optimum and best utilization of available resources and reduce the cost of production and thus increase the profitability of the organization.

Question 6

Explain the meaning of and the reasons for Idle time and discuss its treatment in cost accounting.

Solution:

Idle time refers to the labour time paid for but not utilized on production. It, in fact, represents the time for which wages are paid, but during which no output is given out by the workers. This is the period during which workers remain idle.

Reasons for idle time:

According to reasons, idle time can be classified into normal idle time and abnormal idle time. Normal idle time is the time which cannot be avoided or reduced in the normal course of business.

The main reasons for the occurrence of normal idle time are as follows:

1. Time taken by workers to travel the distance between the main gate of factory and the place of their work.
2. Time lost between the finish of one job and starting of next job.
3. Time spent to overcome fatigue.
4. Time spent to meet their personal needs like taking lunch, tea etc.

The main reasons for the occurrence of abnormal idle time are:

1. Due to machine break downs, power failure, non-availability of raw materials, tools or waiting for jobs due to defective planning.
2. Due to conscious management policy decision to stop work for some time.
3. In the case of seasonal goods producing units, it may not be possible for them to produce evenly throughout the year. Such a factor too results in the generation of abnormal idle time.

Treatment in Cost Accounting:

Normal idle time:

It is inherent in any job situation and thus it cannot be eliminated or reduced. For example: time gap between the finishing of one job and the starting of another; time lost due to fatigue etc.

The cost of normal idle time should be charged to the cost of production. This may be done by inflating the labour rate. It may be transferred to factory overheads for absorption, by adopting a factory overhead absorption rate.

Abnormal idle time:

It is defined as the idle time which arises on account of abnormal causes; e.g. strikes; lockouts; floods; major breakdown of machinery; fire etc. Such an idle time is uncontrollable. The cost of abnormal idle time due to any reason should be charged to Costing Profit & Loss Account.

Question 7

Discuss the objectives of time keeping & time booking.

Solution:

Objectives of time keeping and time booking:

Time keeping has the following two objectives

1. **Preparation of Payroll:** Wage bills are prepared by the payroll department on the basis of information provided by the time keeping department.
2. **Computation of Cost:** Labour cost of different jobs, departments or cost centers are computed by costing department on the basis of information provided by the time keeping department.

The objectives of time booking are as follows:

1. To ascertain the labour time spent on a job and the idle labour hours.
2. To ascertain labour cost of various jobs and products.
3. To calculate the amount of wages and bonus payable under the wage incentive scheme.
4. To compute and determine overhead rates and absorption of overheads under the labour and machine hour method.
5. To evaluate the performance of labour by comparing actual time booked with standard or budgeted time.

Question 8

Distinguish between Job Evaluation and Merit Rating.

Solution:

Job Evaluation: It can be defined as the process of analysis and assessment of jobs to ascertain reliably their relative worth and to provide management with a reasonably sound basis for determining the basic internal wage and salary structure for the various job positions. In other words, job evaluation provides a rationale for differential wages and salaries for different groups of employees and ensures that these differentials are consistent and equitable.

Merit Rating: It is a systematic evaluation of the personality and performance of each employee by his supervisor or some other qualified persons.

Thus the main points of distinction between job evaluation and merit rating are as follows:

1. Job evaluation is the assessment of the relative worth of jobs within a company and merit rating is the assessment of the relative worth of the man behind a job. In other words job evaluation rate the jobs while merit rating rate employees on their jobs.
2. Job evaluation and its accomplishment are means to set up a rational wage and salary structure whereas merit rating provides scientific basis for determining fair wages for each worker based on his ability and performance.
3. Job evaluation simplifies wage administration by bringing uniformity in wage rates. On the other hand merit rating is used to determine fair rate of pay for different workers on the basis of their performance.

Question 9

What do you mean by time and motions study? Why is it so important to management?

Solution:

Time and motions study:

It is the study of time taken and motions (movements) performed by workers while performing their jobs at the place of their work. Time and motion study has played a significant role in controlling and reducing labour cost.

Time Study is concerned with the determination of standard time required by a person of average ability to perform a job. Motion study, on the other hand, is concerned with determining the proper method of performing a job so that there are no wasteful movements, hiring the worker unnecessarily. However, both the studies are conducted simultaneously.

Since materials, tools, equipment and general arrangement of work, all have vital bearing on the method and time required for its completion. Therefore, their study would be incomplete and would not yield its full benefit without a proper consideration of these factors.

Time and motion study is important to management because of the following features:

1. Improved methods, layout, and design of work ensure effective use of men, material and resources.
2. Unnecessary and wasteful methods are pin-pointed with a view to either improving them or eliminating them altogether. This leads to reduction in the work content of an operation, economy in human efforts and reduction of fatigue.
3. Highest possible level of efficiency is achieved in all respect.
4. Provides information for setting labour standards - a step towards labour cost control and cost reduction.
5. Useful for fixing wage rates and introducing effective incentive scheme.

Question 10

What do you understand by labour turnover?

Solution:

Labour turnover in an organization is the rate of change in the composition of labour force during a specified period measured against a suitable index. The standard of usual labour turnover in the industry or labour turnover rate for a past period may be taken as the index or norm against which actual turnover rate should be compared.

Question 11

Discuss the two types of cost associated with labour turnover.

Solution

Two types of costs which are associated with labour turnover are:

1. *Preventive costs:* This includes costs incurred to keep the labour turnover at a low level i.e., cost of medical schemes. If a company incurs high preventive costs, the rate of labour turnover is usually low.
2. *Replacement costs:* These are the costs which arise due to high labour turnover. If men leave soon after they acquire the necessary training and experience of work, additional costs will have to be incurred on new workers, i.e., cost of advertising, recruitment, selection, training and induction, extra cost also incurred due to abnormal breakage of tools and machines, defectives, low output, accidents etc., caused due to the inefficiency and inexperienced new workers.

It is obvious that a company will incur very high replacement costs if the rate of labour turnover is high. Similarly, only adequate preventive costs can keep labour turnover at a low level. Each company must, therefore, workout the optimum level of labour turnover keeping in view its personnel policies and the behaviour of replacement costs and preventive costs at various levels of labour turnover rates.

Question 12

Distinguish between Direct and Indirect labour.

Solution

Direct labour cost is the labour costs that is specifically incurred for or can be readily charged to or identified with a specific job, contract, work-order or any other unit of cost.

Indirect labour costs are labour costs which cannot be readily identified with products or services but are generally incurred in carrying out production activity.

The importance of the distinction lies in the fact that whereas direct labour cost can be identified with and charged to the job, indirect labour costs cannot be so charged and are, therefore, to be treated as part of the factory overheads to be included in the cost of production.

Question 13

What do you understand by overtime premium? What is the effect of overtime payment on productivity and cost? Discuss the treatment of overtime premium in cost accounts and suggest a procedure for control of overtime work.

Solution

Work done beyond normal working hours is known as overtime work. Overtime payment is the amount of wages paid for working beyond normal working hours. The rate for overtime work is higher than the normal time rate; usually it is at double the normal rates. The extra amount so paid over the normal rate is called overtime premium. Overtime work should be resorted to only when it is extremely essential because it involves extra cost. The overtime payment affects to increase the cost of production in the following ways:

1. The premium paid is an extra payment in addition to the normal rate.
2. The efficiency of operators during overtime work may fall and thus the output may be lesser than normal output.
3. In order to earn more the workers may not concentrate on work during normal time and thus the output during normal hours may also fall.
4. Reduced output and increased premium will bring about an increase in costs of production.

Under cost accounting the overtime premium is treated as follows:

1. If overtime is resorted to, at the desire of the customer, then overtime premium may be charged to the job directly.
2. If overtime is due to a general pressure of work to increase the output, the premium may be charged to general overheads.
3. If overtime is due to the negligence or delay, it may be charged to the department concerned.
4. If it is due to circumstances beyond control, e.g. fire, strike etc. it may be charged to Costing Profit and Loss Account.

It is necessary that proper Control over the overtime work should be exercised in order to keep it to the minimum. The procedure based on following steps may be adopted for such control.

1. Watch on the output during normal hours should be maintained to ensure that overtime is not granted when normal output is not obtained during the normal hours, without any special reasons.
2. Statement concerning overtime work to be prepared along with justifications, at appropriate places for putting up before competent authority.
3. Prior sanction about overtime should be obtained from competent authority.
4. Actual rate of output produced during the overtime period should be compared with normal rate of output.
5. Periodical reports on overtime wages should be sent to top management for taking corrective action.
6. If possible an upper limit may be fixed for each category of worker in respect of overtime.

Question 14

Enumerate the various methods of Time booking

Solution:

The various methods of time booking are:

- (a) Job ticket, (b) Combined time and job ticket, (c) Daily time sheet, (d) Piece work card, (e) Clock card.

Question 15

Enumerate the remedial steps to be taken to minimize the labour turnover.

Solution

The following steps are useful for minimizing labour turnover:

- (a) **Exit interview:** An interview to be arranged with each outgoing employee to ascertain the reasons of his leaving the organization.
- (b) **Job analysis and evaluation:** to ascertain the requirement of each job. Organization should make use of a scientific system of recruitment, placement and promotion for employees.
- (c) Organization should create healthy atmosphere, providing education, medical and housing facilities for workers.
- (d) Committee for settling workers grievances.

Question 16

Discuss accounting treatment of idle capacity costs in cost accounting.

Solution:

1. If idle capacity is due to unavoidable reasons such as repairs & maintenance, changeover of job etc., a supplementary overhead rate may be used to recover the idle capacity cost. In this case, the costs are charged to production capacity utilized.
2. If idle capacity cost is due to avoidable reasons such as faulty planning, power failure etc, the cost should be charged to Costing P&L A/c.
3. If idle capacity is due to seasonal factors, then the cost should be charged to cost of production by inflating overhead rates.

Question 17

Enumerate the causes of labour turnover.

Solution

Causes of Labour Turnover: The main causes of labour turnover in an organisation/ industry can be broadly classified under the following three heads:

(a) Personal Causes; (b) Unavoidable Causes; and (c) Avoidable Causes.

Personal causes are those which induce or compel workers to leave their jobs; such causes include the following:

1. Change of jobs for betterment.
2. Premature retirement due to ill health or old age.
3. Domestic problems and family responsibilities.
4. Discontent over the jobs and working environment.

Unavoidable causes are those under which it becomes obligatory on the part of management to ask one or more of their employees to leave the organisation; such causes are summed up as listed below:

(1) Seasonal nature of the business; (2) Shortage of raw material, power, slack market for the product etc.; (3) Change in the plant location; (4) Disability, making a worker unfit for work; (5) Disciplinary measures.

Avoidable causes are those which require the attention of management on a continuous basis so as to keep the labour turnover ratio as low as possible. The main causes under this case are indicated below:

1. Dissatisfaction with job, remuneration, hours of work, working conditions, etc.,
2. Strained relationship with management, supervisors or fellow workers;
3. Lack of training facilities and promotional avenues;
4. Lack of recreational and medical facilities;
5. Low wages and allowances.

CHAPTER 4 OVERHEADS

BASIC CONCEPTS

Overheads

Overheads represent expenditure on labour, materials or services that cannot be economically identified with specific saleable cost unit.

Types of Overheads on the Basis of Function

1. Factory or Manufacturing Overheads
2. Office and Administration Overheads
3. Selling and Distribution Overheads
4. Research and Development Overheads

Types of Overheads on the Basis of Nature

1. Fixed Overhead: Expenses that are not affected by any variation in the volume of activity.
2. Variable: Expenses that change in proportion to the change in the volume of activity.
3. Semi variable: The expenses that do not change when there is a small change in the level of activity but change whenever there is a slightly big change or change in the same direction as change in the level of activity but not in the same proportion.

Cost Allocation

The term 'allocation' refers to assignment or allotment of an entire item of cost to a particular cost center or cost unit.

Cost Apportionment

Apportionment implies the allotment of proportions of items of cost to cost centres or departments.

Reapportionment

The process of assigning service department overheads to production departments is called reassignment or re-apportionment.

Absorption

The process of recovering overheads of a department or any other cost center from its output is called recovery or absorption.

Methods used for Re-appointment Direct Redistribution Method

Under this method service department costs are apportioned over the production departments only, ignoring the services rendered by one service department to the other service department.

Step Method or Non-reciprocal method

This method gives cognizance to the service rendered by service department to another service department. The sequence here begins with the department that renders service to the maximum number of other service departments.

Reciprocal Service Method

This method is used when different service departments render services to each other, in addition to rendering services to production departments. In such cases various service departments have to share overheads of each other. The methods available for dealing with reciprocal services are

1. Simultaneous equation method; 2. Repeated distribution method and 3. Trial and error method.

Simultaneous Equation Method

Under this method at first the costs of service department is ascertained with the help of equations and then the cost so ascertained is re-distributed to the production departments on the basis of given percentage.

Repeated Distribution Method

Under this method service departments' costs are distributed to other service and production departments on agreed percentages and this process continues to be repeated till the figures of service departments are either exhausted or reduced to a very small amount.

Trial and Error Method

Under this method the cost of one service department is apportioned to another service department/s. The cost of another service department plus the share received from the first cost centre is again apportioned to the first cost centre. This process is repeated till the amount to be apportioned becomes negligible.

Methods for the Computation of the Overheads Rate Percentage of Direct Material Method

Under this method, the cost of direct material consumed is taken as the base for calculating the amount of overhead absorbed.

Percentage of Prime Cost Method

This method is based on the fact that both materials as well as labour contribute in raising factory overheads. Hence, the total of the two (and other direct expenses) i.e. Prime cost are taken as base for absorbing the factory overhead.

Percentage of Direct Labour Cost Method

Under this method, the cost of direct labour is taken as the base for calculating the amount of overhead absorbed.

Labour Hour Rate Method

This method is an improvement on the percentage of direct labour cost method, as it fully recognises the significance of the time element in the incurring and absorbing the manufacturing overheads. Under this method, direct labour hours are taken as the base for calculating the amount of overhead absorbed.

Machine Hour Rate Method

Under this method, machine hours are taken as the base for calculating the amount of overhead absorbed.

Types of Overhead Rates:

Predetermined Overhead Rate

This rate is determined in advance by estimating the amount of the overhead for the period in which it is to be used.

Blanket Overhead Rate

Blanket overhead rate refers to the computation of one single overhead rate for the whole factory. It is to be distinguished from the departmental overhead rate which refers to a separator

Departmental Overhead Rate

Where the product lines are varied or machinery is used to a varying degree in the different departments, i.e. where conditions throughout the factory are not uniform, the use of departmental rates is to be preferred for each individual cost centre or department.

Question 1

What is blanket overhead rate? In which situations, blanket rate is to be used and why?

Solution

Blanket overhead rate is one single overhead absorption rate for the whole factory. It may be computed by using the following formula:

Blanket overhead rate = $\frac{\text{Overhead costs for the whole factory}}{\text{Total units of the selected base}}$

* The selected base can be the total output; total labour hours; machine hours etc.

Situation for using blanket rate:

The use of blanket rate may be considered appropriate for factories which produce only one major product on a continuous basis. It may also be used in those units in which all products utilise same amount of time in

each department. If such conditions do not exist, the use of blanket rate will give misleading results in the determination of the production cost, specially when such a cost ascertainment is carried out for giving quotations for tenders.

Question 2

Discuss the step method and reciprocal service method of secondary distribution of overheads.

Solution

Step method and Reciprocal Service method of secondary distribution of overheads

Step method

This method gives cognizance to the service rendered by service department to another service department, thus sequence of apportionments has to be selected. The sequence here begins with the department that renders service to the maximum number of other service department. After this, the cost of service department serving the next largest number of department is apportioned.

Reciprocal service method

This method recognises the fact that where there are two or more service department, they may render services to each other and, therefore, these inter departmental services are to be given due weight while re-distributing the expense of service department. The methods available for dealing with reciprocal servicing are:

1. Simultaneous equation method
2. Repeated distribution method
3. Trial and error method

Question 3

Discuss the problems of controlling the selling and distribution overheads.

Solution

Problems of controlling the selling & distribution overheads are

1. The incidence of selling & distribution overheads depends on external factors such as distance of market, nature of competition etc. which are beyond the control of management.
2. They are dependent upon customers' behaviour, liking etc.
3. These expenses are of the nature of policy costs and hence not amenable to control.

The above problems of controlling selling & distribution overheads can be tackled by adopting the following steps:

1. Comparing the figures of selling & distribution overhead with the figures of previous period.
2. Selling & distribution overhead budgets may be used to control such overhead expenses by making a comparison of budgetary figures with actual figures of overhead expenses, ascertaining variances and finally taking suitable actions,
3. Standards of selling & distribution expenses may be set up for salesmen, territories, products etc. The laid down standards on comparison with actual overhead expenses will reveal variances, which can be controlled by suitable action.

Question 4

Distinguish between cost allocation and cost absorption.

Solution

Cost allocation and Cost absorption

Cost allocation is the allotment of whole item of cost to a cost centre or a cost unit. In other words, it is the process of identifying, assigning or allowing cost to a cost centre or a cost, unit.

Cost absorption is the process of absorbing all indirect costs or overhead costs allocated or apportioned over particular cost center or production department by the units produced.

Question 5

Discuss in brief three main methods of allocating support departments costs to operating departments. Out of these three, which method is conceptually preferable?

Solution

The three main methods of allocating support departments costs to operating departments are:

1. *Direct re-distribution method:* Under this method, support department costs are directly apportioned to various production departments only. This method does not consider the service provided by one support department to another support department.
2. *Step method:* Under this method the cost of the support departments that serves the maximum numbers of departments is first apportioned to other support departments and production departments. After this the cost of support department serving the next largest number of departments is apportioned. In this manner we finally arrive on the cost of production departments only.
3. *Reciprocal service method:* This method recognises the fact that where there are two or more support departments they may render services to each other and, therefore, these inter-departmental services are to be given due weight while re-distributing the expenses of the support departments. The methods available for dealing with reciprocal services are:
 - a. Simultaneous equation method
 - b. Repeated distribution method
 - c. Trial and error method.

The reciprocal service method is conceptually preferable. This method is widely used even if the number of service departments is more than two because due to the availability of computer software it is not difficult to solve sets of simultaneous equations.

Question 6

Explain Single and Multiple Overhead Rates.

Solution

Single and Multiple Overhead Rates

Single overhead rate:

It is one single overhead absorption rate for the whole factory. It may be computed as follows:

Single overhead rate = Overhead costs for the entire factory ÷ Total quantity of the base selected

The base can be total output, total labour hours, total machine hours, etc.

The single overhead rate may be applied in factories which produces only one major product on a continuous basis. It may also be used in factories where the work performed in each department is fairly uniform and standardized.

Multiple overhead rate:

It involves computation of separate rates for each production department, service department, cost center and each product for both fixed and variable overheads. It may be computed as follows:

Multiple overhead rate = Overhead allocated/ apportioned to each department/ cost centre or product
Corresponding base

Under multiple overheads rate, jobs or products are charged with varying amount of factory overheads depending on the type and number of departments through which they pass.

However, the number of overheads rate which a firm may compute would depend upon two opposing factors viz. the degree of accuracy desired and the clerical cost involved.

Question 7

How do you deal with the following in cost accounts?

(i) Fringe benefits (ii) Bad debts.

Solution:

Treatment of Cost Accounts

1. **Fringe benefits:** the benefits paid to workers in every organisation in addition to their normal wages or salaries are known as fringe benefits. They include – Housing facility, children education allowance, holiday pay, leave pay, leave travel concession to home town or any place in India, etc.

Expenditure incurred on fringe benefits in respect of factory workers should be apportioned among all the production and service departments on the basis of the number of workers in each department.

2. **Bad debts:** There is no unanimity among various authors about the treatment of bad debts. Some authors believe that bad debts are financial losses and therefore should not be included in the cost of a particular product or job. Another view is that, bad debts are a part of selling and distribution overhead, especially where they arise in the normal course of trading. Therefore they should be treated in cost accounts in the same way as any other selling and distribution expense.

Question 8

Distinguish between fixed and variable overheads.

Solution:

Fixed and Variable Overheads: Fixed overheads do not vary with the volume of production within certain limits. In other words, the amount of fixed overhead tends to remain constant for volumes of production within the installed capacity of plant. For example, rent of office, salary of works manger, etc. Variable overhead varies in direct proportion to the volume of production. It increases or decreases in direct relation to any increase or decrease in output.

Question 9

How would you treat the idle capacity costs in Cost Accounts?

Solution:

Treatment of idle capacity cost in Cost Accounts:

It is that part of the capacity of a plant, machine or equipment which cannot be effectively utilised in production. The idle capacity may arise due to lack of product demand, non availability of raw-material, shortage of skilled labour, shortage of power, etc. Costs associated with idle capacity are mostly fixed in nature. These costs remain unabsorbed or unrecovered due to under-utilisation of plant and service capacity. Idle capacity costs are treated in the following ways in Cost Accounts.

1. If the idle capacity cost is due to unavoidable reasons - a supplementary overhead rate may be used to recover the idle capacity cost. In this case, the costs are charged to the production capacity utilised.
2. If the idle capacity cost is due to avoidable reasons - such as faulty planning, etc. The cost should be charged to Costing Profit and Loss Account.
3. If the idle capacity cost is due to trade depression, etc., - being abnormal in nature the cost should also be charged to the Costing Profit and Loss Account.

Question 10

Discuss the treatment in cost accounts of the cost of small tools of short effective life.

Solution

Small tools are mechanical appliances used for various operations on a work place, specially in engineering industries. Such tools include drill bits, chisels, screw cutter, files etc.

Treatment of cost of small tools of short effective life:

1. Small tools purchased may be capitalized and depreciated over life if their life is ascertainable. Revaluation method of depreciation may be used in respect of very small tools of short effective life. Depreciation of small tools may be charged to:

- a. Factory overheads
 - b. Overheads of the department using the small tool.
2. Cost of small tools should be charged fully to the departments to which they have been issued, if their life is not ascertainable.

Question 11

Explain what do you mean by Chargeable Expenses and state its treatment in Cost Accounts.

Solution:

All expenses, other than direct materials and direct labour cost which are specifically and solely incurred on production, process or job are treated as chargeable or direct expenses. These expenses in cost accounting are treated as part of prime cost,

Examples of chargeable expenses include - Rental of a machine or plant hired for specific job, royalty, and cost of making a specific pattern, design, drawing or making tools for a job.

Question 12

Define Selling and Distribution Expenses. Discuss the accounting for selling and distribution expenses.

Solution

Selling expenses: Expenses incurred for the purpose of promoting, marketing and sales of different products.

Distribution expenses: Expenses relating to delivery and despatch of goods/products to customers.

These expenses may be recovered by using any one of following method of recovery.

1. Percentage on cost of production / cost of goods sold.
2. Percentage on selling price.
3. Rate per unit sold.

Question 13

Indicate the base or bases that you would recommend to apportion overhead costs to production department:

(i) Supplies (ii) Repairs (iii) Maintenance of building (iv) Executive salaries (v) Rent (vi) Power and light (vii) Fire insurance (viii) Indirect labour.

Solution

Item Bases of apportionment

1. Supplies: Actual supplies made to different departments
2. Repair: Direct labour hours; Machine hours; Direct labour wages; Plant value.
3. Maintenance of building: Floor area occupied by each department
4. Executive salaries: Actual basis; Number of workers.
5. Rent: Floor area
6. Power and light: K W hours or H P (power) Number of light points; Floor space; Meter readings (light)
7. Fire insurance: Capital cost of plant and building; Value of stock
8. Indirect labour: Direct labour cost.

Question 14

Explain briefly the conditions when supplementary rates are used.

Solution

When the amount of under absorbed and over absorbed overhead is significant or large, because of differences due to wrong estimation, then the cost of product needs to be adjusted by using supplementary rates (under and over absorption/ actual overhead) to avoid misleading impression.

Question 15

Explain the cost accounting treatment of unsuccessful Research and Development cost.

Solution

Cost of unsuccessful research is treated as factory overhead, provided the expenditure is normal and is provided in the budget. If it is not budgeted, it is written off to the profit and loss account. If the research is extended for long time, some failure cost is spread over to successful research.

Question 16

Discuss the difference between allocation and apportionment of overhead.

Solution

The following are the differences between allocation and apportionment:

1. Allocation costs are directly allocated to cost centre. Overheads which cannot be directly allocated are apportioned on some suitable basis.
2. Allocation allots whole amount of cost to cost centre or cost unit where as apportionment allots part of cost to cost centre or cost unit.
3. No basis required for allocation. Apportionment is made on the basis of area, assets value, number of workers etc.

Question 17

Explain the treatment of over and under absorption of Overheads in Cost accounting.

Solution

Treatment of over and under absorption of overheads are:

- (i) **Writing off to costing P&L A/c:** Small difference between the actual and absorbed amount should simply be transferred to costing P&L A/c, if difference is large then investigate the causes and after that abnormal loss shall be transferred to costing P&L A/c.
- (ii) **Use of supplementary Rate:** Under this method the balance of under and over absorbed overheads may be charged to cost of W.I.P., finished stock and cost of sales proportionately with the help of supplementary rate of overhead.
- (iii) **Carry Forward to Subsequent Year:** Difference should be carried forward in the expectation that next year the position will be automatically corrected. This would really mean that costing data of two years would be wrong.

Question 18

What are the methods of re-apportionment of service department expenses over the production departments? Discuss.

Solution

Methods of re-apportionment of service department expenses over the production departments

- (i) Direct re-distribution method.
- (ii) Step method or non-reciprocal method.
- (iii) Reciprocal Service method

Direct re-distribution Method: Service department costs under this method are apportioned over the production departments only, ignoring services rendered by one service department to another. The basis of apportionment could be no. of workers. H.P. of machines.

Step Method or Non-Reciprocal Method

This method gives cognizance to the service rendered by service department to another service department. Therefore, as compared to previous method, this method is more complicated because a sequence of apportionments has to be selected here. The sequence here begins with the department that renders service to the maximum number of other service departments.

Reciprocal service Method

This method recognises the fact that where there are two or more service departments they may render service to each other and, there these inter-departmental services are to be given due weight while re-distributing the expenses of service department.

The methods available for dealing with reciprocal services are:

- a. Simultaneous equation method
- b. Repeated distribution method
- c. Trial & Error method.

CA NAMIT ARORA SIR

THEORY COST AND MANAGEMENT ACCOUNTING 45

CHAPTER 5
COST SHEET

Question 1

Explain, what do you mean by cost sheet or cost statement.

Solution

One of the objectives of cost accounting system is ascertainment of cost for a cost object. The cost objects may be a product, service or any cost centre. Ascertainment of cost includes elementwise collection of costs, accumulation of the costs so collected for a certain volume or period and then arrange all these accumulated costs into a sheet to calculate total cost for the cost object. In this chapter, a product or a service will be the cost object for cost calculation and cost ascertainment. A Cost Sheet or Cost Statement is "a document which provides a detailed cost information. In a typical cost sheet, cost information are presented on the basis of functional classification. However, other classification may also be adopted as per the requirements of users of the information.

Question 2

Explain the functional classification of element of cost.

Solution

Under this classification, costs are divided according to the function for which they have been incurred. The following are the classification of costs based on functions:

- (a) Direct Material Cost
- (b) Direct Employee (labour) Cost
- (c) Direct Expenses
- (d) Production/ Manufacturing Overheads
- (e) Administration Overheads
- (f) Selling Overheads
- (g) Distribution Overheads
- (h) Research and Development costs etc.

Question 3

Explain the heads in a cost sheet.

Solution

The costs as classified on the basis of functions are grouped into the following cost heads in a cost sheet:

- (a) Prime Cost
- (b) Cost of Production
- (c) Cost of Goods Sold
- (d) Cost of Sales

Question 4

Explain the advantages of cost sheet or cost statement.

Solution

The main advantages of a Cost Sheet are as follows:

- (a) It provides the total cost figure as well as cost per unit of production.
- (b) It helps in cost comparison.
- (c) It facilitates the preparation of cost estimates required for submitting tenders.
- (d) It provides sufficient help in arriving at the figure of selling price.
- (e) It facilitates cost control by disclosing operational efficiency.

CHAPTER 6 COST ACCOUNTING SYSTEM & RECONCILIATION

BASIC TERMS

Cost Control Accounts

These are accounts maintained for the purpose of exercising control over the costing ledgers and also to complete the double entry in cost accounts.

Integral System of Accounting

A system of accounting where both costing and financial transactions are recorded in the same set of books.

Non-integral System of Accounting

A system of accounting where two sets of books are maintained (i) for costing transactions; and (ii) for financial transactions.

Reconciliation

In the Non-Integral System of Accounting, since the cost and financial accounts are kept separately, it is imperative that those should be reconciled; otherwise the cost accounts would not be reliable. The reason for differences in the cost & financial accounts can be of purely financial nature (Income and expenses) and notional nature.

Overhead Adjustment Account*

This account is to be debited for under-recovery of overhead and credited with over-recovery of overhead amount. The net balance in this account is transferred to Costing Profit & Loss Account.

* Sometimes, Overhead Adjustment Account is dispensed with and under/over absorbed overheads is directly transferred to Costing Profit & Loss Account from the respective overhead accounts.

Question 1

What are the essential pre-requisites of integrated accounting system?

Solution

Essential pre-requisites of Integrated Accounting System:

1. The management's decision about the extent of integration of the two sets of books. Some concerns find it useful to integrate upto the stage of primary cost or factory cost while other prefer full integration of the entire accounting records.
2. A suitable coding system must be made available so as to serve the accounting purposes of financial and cost accounts.
3. An agreed routine, with regard to the treatment of provision for accruals, prepaid expenses, other adjustment necessary for preparation of interim accounts.
4. Perfect coordination should exist between the staff responsible for the financial and cost aspects of the accounts and an efficient processing of accounting documents should be ensured.

Under this system there is no need for a separate cost ledger. Of course, there will be a number of subsidiary ledgers; in addition to the useful Customers Ledger and the Bought Ledger, there will be: (a) Stores Ledger; (b) Finished Stock Ledger and (c) W-I-P Ledger.

Question 2

What are the advantages of integrated accounting?

Solution

The main advantages of Integrated Accounting are as follows:

1. Since there is one set of accounts, thus there is one figure of profit. Hence the question of reconciliation of costing profit and financial profit does not arise.

2. There is no duplication of recording of entries and efforts to maintain separate set of books.
3. Costing data are available from books of original entry and hence no delay is caused in obtaining information.
4. The operation of the system is facilitated with the use of mechanized accounting.
5. Centralization of accounting function results in economy.

Question 3

Why is it necessary to reconcile the Profits between the Cost Accounts and Financial Accounts?

Solution

When the cost and financial accounts are kept separately, It is imperative that these should be reconciled, otherwise the cost accounts would not be reliable. The reconciliation of two set of accounts can be made, if both the sets contain sufficient detail as would enable the causes of differences to be located. It is therefore, important that in the financial accounts, the expenses should be analysed in the same way as in cost accounts. It is important to know the causes which generally give rise to differences in the costs & financial accounts. These are:

1. Items included in financial accounts but not in cost accounts
 - a. Income-tax
 - b. Transfer to reserve
 - c. Dividends paid
 - d. Goodwill / preliminary expenses written off
 - e. Pure financial items
 - f. Interest, dividends
 - g. Losses on sale of investments
 - h. Expenses of Co's share transfer office
 - i. Damages & penalties
2. Items included in cost accounts but not in financial accounts
 - a. Opportunity cost of capital
 - b. Notional rent
 - c. Under / Over absorption of expenses in cost accounts
 - d. Different bases of inventory valuation

Motivation for reconciliation is:

- a. To ensure reliability of cost data
- b. To ensure ascertainment of correct product cost
- c. To ensure correct decision making by the management based on Cost & Financial data
- d. To report fruitful financial / cost data.

Question 4

What are the reasons for disagreement of profits as per cost accounts and financial accounts? Discuss.

Solution:

The various reasons for disagreement of profits shown by the two sets of books viz., cost and financial may be listed as below:

1. **Items appearing only in financial accounts:** The following items of income and expenditure are normally included in financial accounts and not in cost accounts. Their inclusion in cost accounts might lead to unwise managerial decisions. These items are:
 - (i) Income:
 - a. Profit on sale of assets
 - b. Interest received
 - c. Dividend received
 - d. Rent receivable

e. Share Transfer fees

(ii) Expenditure:

- a. Loss on sale of assets
- b. Uninsured destruction of assets
- c. Loss due to scrapping of plant and machinery
- d. Preliminary expenses written off
- e. Goodwill written off
- f. Underwriting commission and debenture discount written off
- g. Interest on mortgage and loans
- h. Fines and penalties
- i. Appropriation
- j. Dividends
- k. Reserves
- l. Dividend equalization fund, Sinking fund etc.

2. **Items appearing only in cost accounts:** There are some items which are included in cost accounts but not in financial account. These are:

- a. Notional interest on capital;
- b. Notional rent on premises owned.

3. **Under or over-absorption of overhead:** In cost accounts overheads are charged to production at pre-determined rates where in financial accounts actual amount of overhead is charged, the difference gives rise under or over-absorption; causing a difference in profits.

4. **Different bases of stock valuation:** In financial books, stocks are valued at cost or market price, whichever is lower. In cost books, however, stock of materials may be valued on FIFO or LIFO basis and work-in-progress may be valued at prime cost or works cost. Differences in store valuation may thus cause a difference between the two profits.

5. **Depreciation:** The amount of depreciation charge may be different in the two sets of books either because of the different methods of calculating depreciation or the rates adopted. In company accounts, for instance, the straight line method may be adopted whereas in financial accounts it may be the diminishing balance method.

Question 5

When is the reconciliation statement of Cost and Financial accounts not required?

Solution

When the Cost and Financial Accounts are integrated, there is no need to have a separate reconciliation statement between the two sets of accounts. Integration means that the same set of accounts fulfil the requirement of both i.e., Cost and Financial Accounts.

Question 6

“Is reconciliation of cost accounts and financial accounts necessary in case of integrated accounting system?”

Solution

In integrated accounting system cost and financial accounts are kept in the same set of books. Such a system will have to afford full information required for Costing as well as for Financial Accounts. In other words, information and data should be recorded in such a way so as to enable the firm to ascertain the cost (together with the necessary analysis) of each product, job, process, operation or any other identifiable activity. It also ensures the ascertainment of marginal cost, variances, abnormal losses and gains. In fact all information that management requires from a system of Costing for doing its work properly is made available. The integrated accounts give full information in such a manner so that the profit and loss account

and the balance sheet can be prepared according to the requirements of law and the management maintains full control over the liabilities and assets of its business. Since, only one set of books are kept for both cost accounting and financial accounting purpose so there is no necessity of reconciliation of cost and financial accounts

CA NAMIT ARORA SIR

THEORY COST AND MANAGEMENT ACCOUNTING 50
CHAPTER 7
UNIT, JOB, BATCH COSTING

BASIC TERMS

Job Costing

According to this method costs are collected and accumulated according to jobs, contracts, products or work orders. Each job or unit of production is treated as a separate entity for the purpose of costing. Job costing is carried out for the purpose of ascertaining cost of each job and takes into account the cost of materials, labour and overhead etc.

Batch Costing

This is a form of job costing. Under job costing, executed job is used as a cost unit, whereas under batch costing, a lot of similar units which comprises the batch may be used as a cost unit for ascertaining cost. In the case of batch costing separate cost sheets are maintained for each batch of products by assigning a batch number.

Unit Costing

Unit costing is a method of costing used where the output produced by an entity is identical and each unit of output require identical cost.

Question 1

Describe job Costing and Batch Costing giving example of industries where these are used?

Solution

Job Costing: It is a method of costing which is used when the work is undertaken as per the customer's special requirement. When an inquiry is received from the customer, costs expected to be incurred on the job are estimated and on the basis of this estimate, a price is quoted to the customer. Actual cost of materials, labour and overheads are accumulated and on the completion of job, these actual costs are compared with the quoted price and thus the profit or loss on it is determined.

Job costing is applicable in printing press, hardware, ship-building, heavy machinery, foundry, general engineering works, machine tools, interior decoration, repairs and other similar work.

Batch Costing: It is a variant of job costing. Under batch costing, a lot of similar units which comprises the batch may be used as a unit for ascertaining cost. In the case of batch costing separate cost sheets are maintained for each batch of products by assigning a batch number. Cost per unit in a batch is ascertained by dividing the total cost of a batch by the number of units produced in that batch.

Such a method of costing is used in the case of pharmaceutical or drug industries, readymade garment industries, industries, manufacturing electronic parts of T.V. radio sets etc.

Question 2

Distinguish between Job Costing & Batch Costing?

Solution

S.N	<i>Job Costing</i>	<i>Batch Costing</i>
1	Method of costing used for nonstandard and non-repetitive products produced as per customer specifications and against specific orders.	Homogeneous products produced in a continuous production flow in lots.
2	Costs are determined for each job.	Cost determined in aggregate for the entire Batch and then arrived at on per unit basis.
3	Jobs are different from each other and independent of each other. Each Job is unique.	Products produced in a batch are homogeneous and lack of individuality

Question 3

Distinguish between Job Costing and Process Costing?

Solution

Difference between Job Costing and Process Costing

<i>S.N</i>	<i>Job Costing</i>	<i>Process Costing</i>
1	A Job is carried out or a product is produced by specific orders.	The process of producing the product has a continuous flow and the product produced is homogeneous.
2	Costs are determined for each job.	Costs are compiled on time basis i.e., for production of a given accounting period for each process or department.
3	Each job is separate and independent of other jobs.	Products lose their individual identity as they are manufactured in a continuous flow.
4	Each job or order has a number and costs are collected against the same job number.	The unit cost of process is an average cost for the period.
5	Costs are computed when a job is completed. The cost of a job may be determined by adding all costs against the job.	Costs are calculated at the end of the cost period. The unit cost of a process may be computed by dividing the total cost for the period by the output of the process during that period.
6	As production is not continuous and each job may be different, so more managerial attention is required for effective control.	Process of production is usually standardized and is therefore, quite stable. Hence control here is comparatively easier.

Question 4

In Batch Costing, how is Economic Batch Quantity determined? Or

Z Ltd. Produces product ZZ in batches, management of the Z Ltd. wants to know the number of batches of product ZZ to be produced where the cost incurred on batch setup and carrying cost of production is at optimum level.

Solution:

In batch costing the most important problem is the determination of 'Economic Batch Quantity' The determination of economic batch quantity involves two types of costs viz, (i) set up cost and (ii) carrying cost. With the increase in the batch size, there is an increase in the carrying cost but the set-up cost per unit of the product is reduced; this situation is reversed when the batch size is reduced. Thus there is one particular batch size for which both set up and carrying costs are minimum. This size of a batch is known as economic or optimum batch quantity.

Economic batch quantity can be determined with the help of a table, graph or mathematical formula. The mathematical formula usually used for its determination is as follows:

$$EBQ = \sqrt{2DS \div C}$$

D = Annual demand for the product; S = Setting up cost per batch; C = Carrying cost p.u. Pa.

THEORY COST AND MANAGEMENT ACCOUNTING 52

CHAPTER 8
CONTRACT COSTING

Question 1

Write note on cost-plus-contracts.

Solution

These contracts provide for the payment by the contractee of the actual cost of construction plus a stipulated profit, mutually decided between the two parties.

The main features of these contracts are as follows:

1. The practice of cost-plus contracts is adopted in the case of those contracts where the probable cost of the contracts cannot be ascertained in advance with a reasonable accuracy.
2. These contracts are preferred when the cost of material and labour is not steady and the contract completion may take number of years.
3. The different costs to be included in the execution of the contract are mutually agreed, so that no dispute may arise in future in this respect. Under such type of contracts, contractee is allowed to check or scrutinize the concerned books, documents and accounts.
4. Such a contract offers a fair price to the contractee and also a reasonable profit to the contractor.

The contract price here is ascertained by adding a fixed and mutually pre-decided component of profit to the total cost of the work.

Question 2

Write notes on Escalation Clause.

Solution

This clause is usually provided in the contracts as a safeguard against any likely changes in the price or utilization of material and labour. If during the period of execution of a contract, the prices of materials or labour rise beyond a certain limit, the contract price will be increased by an agreed amount. Inclusion of such a term in a contract deed is known as an 'escalation clause'.

An escalation clause usually relates to change in price of inputs, it may also be extended to increased consumption or utilization of quantities of materials, labour etc (where it is beyond the control of the contractor). In such a situation the contractor has to satisfy the contractee that the increased utilization is not due to his inefficiency.

Question 3

Explain the following:

1. **Notional profit in Contract costing**
2. **Retention money in Contract costing**

Solution

1. **Notional profit in Contract costing:** It represents the difference between the value of work certified and cost of work certified.
$$\text{Notional Profit} = \text{Value of work certified} - (\text{Cost of works to date} - \text{Cost of work not yet certified})$$
2. **Retention Money in Contract Costing:** A contractor does not receive the full payment of the work certified by the surveyor. Contractee retains some amount to be paid after some time, when it is ensured that there is no default in the work done by the contractor. If any deficiency or defect is noticed, it is to be rectified by the contractor before the release of the retention money. Thus, the retention money provides a safeguard against the default risk in the contracts.

Question 4

What is cost plus contract? State its advantages.

Solution

Cost plus contract: Under cost plus contract, the contract price is ascertained by adding a percentage of profit to the total cost of the work. Such types of contracts are entered into when it is not possible to estimate the contract cost with reasonable accuracy due to unstable condition of material, labour services etc.

Following are the advantages of cost plus contract:

1. The contractor is assured of a fixed percentage of profit. There is no risk of incurring any loss on the contract.
2. It is useful specially when the work to be done is not definitely fixed at the time of making the estimate.
3. Contractee can ensure himself about the 'cost of contract' as he is empowered to examine the books and documents of the contractor to ascertain the veracity of the cost of contract.

Question 5

Explain the importance of an Escalation Clause in contract cost.

Solution

During the execution of a contract, the prices of materials, or labour etc., may rise beyond a certain limit. In such a case the contract price will be increased by an agreed amount. Inclusion of such a clause in a contract deed is called an Escalation Clause.

CANAMIT ARORA SIR

CHAPTER 9

OPERATING/SERVICE COSTING

Question 1

Explain briefly, what do you understand by Operating Costing. How are composite units computed?

Solution

Operating Costing: It is method of ascertaining costs of providing or operating a service. This method of costing is applied by those undertakings which provide services rather than production of commodities. This method of costing is used by transport companies, gas and water works departments, electricity supply companies, canteens, hospitals, theatres, schools etc.

Composite units may be computed in two ways:

1. Absolute (weighted average) tones- km., quintal- km. etc.
2. Commercial (simple average) tonnes- km., quintal-km. etc.

Absolute tonnes-km. are the sum total of tonnes-km. arrived at by multiplying various distances by respective load quantities carried.

Commercial tonnes-km., are arrived at by multiplying total distance km., by average load quantity.

Question 2

What do you understand by Operating Costs? Describe its essential features and state where it can be usefully implemented?

Solution

Operating Costs are the costs incurred by undertakings which do not manufacture any product but provide a service. Such undertakings for example are — Transport concerns, Gas agencies; Electricity Undertakings; Hospitals; Theatres etc. Because of the varied nature of activities carried out by the service undertakings, the cost system used is obviously different from that followed in manufacturing concerns.

The essential features of operating costs are as follows:

1. The operating costs can be classified under three categories. For example in the case of transport undertaking these three categories are as follows:
 - a. Operating and running charges: It includes expenses of variable nature. For example expenses on petrol, diesel, lubricating oil, and grease etc.
 - b. Maintenance charges: These expenses are of semi-variable nature and includes the cost of tyres and tubes, repairs and maintenance, spares and accessories, overhaul, etc.
 - c. Fixed or standing charges: These includes garage rent, insurance, road licence, depreciation, interest on capital, salary of operating manager, etc.
2. The cost unit used is composite like passenger-mile; Kilowatt-hour, etc.

It can be implemented in all firms of transport, airlines, bus-service, etc., and by all firms of distribution undertakings.

Question 3

Distinguish between Operating Costing and Operation Costing.

Solution

Operating Costing: It is a method of costing applied by undertakings which provide service rather than production of commodities. Like unit costing and process costing, operating costing is thus a form of operation costing.

The emphasis under operating costing is on the ascertainment of cost of rendering services rather than on the cost of manufacturing a product. It is applied by transport companies, gas and water works, electricity supply companies, canteens, hospitals, theatres, school etc. Within an organisation itself certain departments

too are known as service departments which provide ancillary services to the production departments. For example maintenance department; power house, boiler house, canteen, hospital, internal transport etc.

Operation Costing: It represents a refinement of process costing. In this each operation instead of each process or stage of production is separately costed. This may offer better scope for control. At the end of each operation, the unit operation cost may be computed by dividing the total operation cost by total output.

CA NAMIT ARORA SIR

CHAPTER 10

PROCESS & OPERATION COSTING

Question 1

Explain briefly the procedure for the valuation of Work-in-process.

Solution

Valuation of Work-in process: The valuation of work-in-process can be made in the following three ways, depending upon the assumptions made regarding the flow of costs.

1. FIFO method:

According to this method the units first entering the process are completed first. Thus the units completed during a period would consist partly of the units which were incomplete at the beginning of the period and partly of the units introduced during the period.

The cost of completed units is affected by the value of the opening inventory, which is based on the cost of the previous period. The closing inventory of work-in-process is valued at its current cost.

2. LIFO method:

According to this method units last entering the process are to be completed first. The completed units will be shown at their current cost and the closing-work in process will continue to appear at the cost of the opening inventory of work-in-progress along with current cost of work in progress if any.

3. Average cost method:

According to this method opening inventory of work-in-process and its costs are merged with the production and cost of the current period, respectively. An average cost per unit is determined by dividing the total cost by the total equivalent units, to ascertain the value of the units completed and units in process.

Question 2

Explain equivalent units.

Solution

When opening and closing stocks of work-in-process exist, unit costs cannot be computed by simply dividing the total cost by total number of units still in process. We can convert the work-in-process units into finished units called equivalent units so that the unit cost of these units can be obtained.

$$\text{Equivalent Completed Units} = \frac{\text{Actual number of units in the process of manufacture} \times \text{Percentage of work completed}}{\text{Percentage of work completed}}$$

It consists of balance of work done on opening work-in-process, current production done fully and part of work done on closing WIP with regard to different elements of costs viz., material, labour and overhead.

Question 3

“Operation costing is defined as refinement of Process costing.” Explain it.

Solution

Operation costing is concerned with the determination of the cost of each operation rather than the process:

1. In the industries where process consists of distinct operations, the operation costing method is applied.
2. It offers better control and facilitates the computation of unit operation cost at the end of each operation.

Question 4

What is inter-process profit? State its advantages and disadvantages.

Solution

In some process industries the output of one process is transferred to the next process not at cost but at

market value or cost plus a percentage of profit. *The difference between cost and the transfer price is known as inter-process profits.*

The advantages and disadvantages of using inter-process profit, in the case of process type industries are as follows:

Advantages:

1. Comparison between the cost of output and its market price at the stage of completion is facilitated.
2. Each process is made to stand by itself as to the profitability.

Disadvantages:

1. The use of inter-process profits involves complication.
2. The system shows profits which are not realised because of stock not sold out

CA NAMIT ARORA SIR

THEORY COST AND MANAGEMENT ACCOUNTING 58

CHAPTER 11
JOINT PRODUCTS & BY PRODUCTS

BASIC TERMS

Joint Products

Two or more products of equal importance, produced, simultaneously from the same process, with each having a significant relative sale value are known as joint products.

By Products

Products recovered from material discarded in a main process, or from the production of some major products.

Co Products

Two or more products which are contemporary but do not emerge necessarily from the same material in the same process.

Methods of Apportioning joint costs over Joint Products

1. Physical Unit Method

Joint Costs are apportioned on the basis of some physical base, such as weight or measure expressed in gallon, tonnes, etc.

2. Average Unit Cost Method

Under this method process cost (upto the point of separation) is divided by total units of joint products produced.

3. Survey Method

It is based on the technical survey of all factors involved in the production and distribution of products. Under this method joint costs are apportioned over the joint products on the basis of percentage/ point value assigned to the products according to their relative importance.

4. Contribution Margin Method

According to this method, joint costs are segregated into two parts-variable and fixed. The variable costs are apportioned over the joint products on the basis of units produced (average method) or physical quantities. In case the products are further processed after the point of separation, then all variable cost incurred be added to the variable costs determined earlier. In this way total variable cost is arrived which is deducted from their respective sales values to ascertain their contribution. The fixed costs are then apportioned over the joint products on the basis of the contribution ratios.

5. Market Value at the Time of Separation

This method is used for apportioning joint costs to joint products upto the split off point. It is difficult to apply if the market values of the products at the point of separation are not available. The joint cost may be apportioned in the ratio of sales values of different joint products.

6. Market Value after further Processing

Here the basis of apportionment of joint costs is the total sales value of finished products at the further processing. The use of this method is unfair where further processing costs after the point of separation are disproportionate or when all the joint products are not subjected to further processing.

7. Net Realisable Value Method

Here joint costs is apportioned on the basis of net realisable value of the joint products,
Net Realisable Value = Sale value of joint products (at finished stage) - estimated profit margin - selling & distribution expenses, if any - post split off cost/further processing cost

Methods of Apportioning joint costs over By Products

1. Market value or realization value method

The realisation on the disposal of the by-product may be deducted from the total cost of production so as to arrive at the cost of the main product.

2. Standard Cost in technical estimates

The standard may be determined by averaging costs recorded in the past and making technical estimates of the number of units of original raw material going into the main product and the number forming the by-product or by adopting some other consistent basis.

This method may be adopted where the by-product is not saleable in the condition in which it emerges or comparative prices of similar products are not available.

3. Comparative price Method

Value of the by-product is ascertained with reference to the price of a similar or an alternative material.

4. Re-use basis

The value put on the by-product should be same as that of the materials introduced into the process.

Question 1

Distinguish between Joint products and By-products.

Solution

Joint Products are defined as the products which are produced simultaneously from same basic raw materials by a common process or processes but none of the products is relatively of more importance or value as compared with the other. For example spirit, kerosene oil, fuel oil, lubricating oil, wax, tar and asphalt are the examples of joint products.

By products, on the other hand, are the products of minor importance jointly produced with other products of relatively more importance or value by the common process and using the same basic materials. These products remain inseparable upto the point of split off. For example in Dairy industries, batter or cheese is the main product, but butter milk is the by-product.

Points of Distinction:

1. Joint products are the products of equal economic importance, while the by-products are of lesser importance.
2. Joint products are produced in the same process, whereas by-products are produced from the scrap or the discarded materials of the main product.
3. Joint products are not produced incidentally, but by-products emerge incidentally also.

Question 2

Discuss the treatment of by-product cost in Cost Accounting.

Solution

Treatment of by-product cost in Cost Accounting:

1. When they are of small total value, the amount realized from their sale may be dealt as follows:
 - a. Sales value of the by-product may be credited to Costing Profit & Loss Account and no credit be given in Cost Accounting. The credit to Costing Profit & Loss Account here is treated either as a miscellaneous income or as additional sales revenue.
 - b. The sale proceeds of the by-product may be treated as deduction from the total costs. The sales proceeds should be deducted either from production cost or cost of sales.
2. When they require further processing:

In this case, the net realizable value of the by-product at the split-off point may be arrived at by subtracting the further processing cost from realizable value of by-products. If the value is small, it may be treated as discussed in (i) above.

THEORY COST AND MANAGEMENT ACCOUNTING 60
CHAPTER 12
STANDARD COSTING

Question 1

Describe three distinct groups of variances that arise in standard costing.

Solution

The three distinct groups of variances that arise in standard costing are:

1. **Variances of efficiency:** These are the variance, which arise due to efficiency or inefficiency in use of material, labour etc.
2. **Variances of prices and rates:** These are the variances, which arise due to changes in procurement price and standard price.
3. **Variances due to volume:** These represent the effect of difference between actual activity and standard level of activity.

Question 2

“Calculation of variances in standard costing is not an end in itself, but a means to an end.” Discuss.

Solution

The crux of standard costing lies in variance analysis. Standard costing is the technique whereby standard costs are predetermined and subsequently compared with the recorded actual costs. It is a technique of cost ascertainment and cost control. It establishes predetermined estimates of the cost of products and services based on management’s standards of efficient operation. It thus lays emphasis on “what the cost should be”. These should be costs are when compared with the actual costs. The difference between standard cost and actual cost of actual output is defined as the variance.

The variance in other words in the difference between the actual performance and the standard performance. The calculations of variances are simple. A variance may be favourable or unfavourable. If the actual cost is less than the standard cost, the variance is favourable but if the actual cost is more than the standard cost, the variance will be unfavourable. They are easily expressible and do not provide detailed analysis to enable management of exercise control over them. It is not enough to know the figures of these variances from month to month. We in fact are required to trace their origin and causes of occurrence for taking necessary remedial steps to reduce / eliminate them.

A detailed probe into the variance particularly the controllable variances helps the management to ascertain:

1. the amount of variance
2. the factors or causes of their occurrence
3. the responsibility to be laid on executives and departments and
4. corrective actions which should be taken to obviate or reduce the variances.

Mere calculation and analysis of variances is of no use. The success of variance analysis depends upon how quickly and effectively the corrective actions can be taken on the analysed variances. In fact variance gives information. The manager needs to act on the information provided for taking corrective action. Information is the means and action taken on it is the end. In other words, the calculation of variances in standard costing is not an end in itself, but a means to an end.

Question 3

Describe the various steps involved in adopting standard costing system in an organization.

Solution

The Steps of standard costing is as below:

1. **Setting of Standards:** The first step is to set standards which are to be achieved.
2. **Ascertainment of actual costs:** Actual cost for each component of cost is ascertained. Actual costs are

ascertained from books of account, material invoices, wage sheet, charge slip etc.

3. **Comparison of actual cost and standard cost:** Actual costs are compared with the standards costs and variances are determined.
4. **Investigation of variances:** Variances arises are investigated for further action. Based on this performance is evaluated and appropriate actions are taken.
5. **Disposition of variances:** Variances arise are disposed off by transferring it the relevant accounts (costing profit and loss account) as per the accounting method (plan) adopted.

CA NAMIT ARORA SIR

THEORY COST AND MANAGEMENT ACCOUNTING 62

CHAPTER 13
MARGINAL COSTING

Question 1

Explain and illustrate cash break-even chart.

Solution

In cash break-even chart, only cash fixed costs are considered. Non-cash items like depreciation etc. are excluded from the fixed cost for computation of break-even point. It depicts the level of output or sales at which the sales revenue will equal to total cash outflow.

It is computed as under:

$$\text{Cash BEP (Units)} = \text{Cash Fixed Cost} \div \text{Contribution per Units}$$

Question 2

Write short notes on Angle of Incidence.

Solution

This angle is formed by the intersection of sales line and total cost line at the break-even point. This angle shows the rate at which profits are being earned once the break-even point has been reached. The wider the angle the greater is the rate of earning profits. A large angle of incidence with a high margin of safety indicates extremely favourable position.

Question 3

Discuss basic assumptions of Cost Volume Profit analysis.

Solution

Assumptions of CVP Analysis:

1. Changes in the levels of revenues and costs arise only because of changes in the number of products (or service) units produced and sold.
2. Total cost can be separated into two components: Fixed and variable
3. Graphically, the behaviour of total revenues and total cost are linear in relation to output level within a relevant range.
4. Selling price, variable cost per unit and total fixed costs are known and constant.
5. All revenues and costs can be added, sub traded and compared without taking into account the time value of money.

Question 4

Elaborate the practical application of Marginal Costing.

Solution

Practical applications of Marginal costing:

1. Pricing Policy:

Since marginal cost per unit is constant from period to period, firm decisions on pricing policy can be taken particularly in short term.

2. Decision Making:

Marginal costing helps the management in taking a number of business decisions like make or buy, discontinuance of a particular product, replacement of machines, etc.

3. Ascertaining Realistic Profit:

Under the marginal costing technique, the stock of finished goods and work-in-progress are carried on marginal cost basis and the fixed expenses are written off to profit and loss account as period cost. This shows the true profit of the period.

4. Determination of production level:

Marginal costing helps in the preparation of break-even analysis which shows the effect of increasing or decreasing production activity on the profitability of the company.

CA NAMIT ARORA SIR

CHAPTER 14

BUDGETS AND BUDGETARY CONTROL

Question 1

Explain briefly the concept of 'flexible budget'.

Solution**Flexible Budget**

A flexible budget is defined as "a budget which, by recognizing the difference between fixed, semi-variable and variable cost is designed to change in relation to the level of activity attained". In flexibility budgetary control system, a series of budgets are prepared one for the each of a number of alternative production levels or volumes. Flexible budgets represent the amount of expense that is reasonably necessary to achieve each level of output specified. In other words, the allowances given under flexibility budgetary control system serve as standards of what costs should be at each level of output.

Question 2

Discuss the components of budgetary control system.

Solution**Components of budgetary control system**

The policy of a business for a defined period is represented by the master budget the details of which are given in a number of individual budgets called functional budgets. The functional budgets are broadly grouped under the following heads:

1. Physical Budgets – Sales Quantity, Product Quantity., Inventory, Manpower budget.
2. Cost Budgets – Manufacturing Cost, Administration Cost, Sales & Distribution cost, R & D Cost.
3. Profit Budget.

Question 3

List the eight functional budgets prepared by a business.

Solution

The various commonly used Functional budgets are:

1. Sales Budget
2. Production Budget
3. Plant Utilisation Budget
4. Direct Material Usage Budget
5. Direct Material Purchase Budget
6. Direct Labour (Personnel) Budget
7. Factory Overhead Budget
8. Production Cost Budget.

Question 4

Distinguish between Fixed and flexible budget.

Solution**Difference between Fixed and Flexible Budgets**

S.N	<i>Fixed Budget</i>	<i>Flexible Budget</i>
1	It does not change with actual volume of activity achieved. Thus it is rigid.	It can be re-casted on the basis of activity level to be achieved. Thus it is not rigid.
2	It operates on one level of activity and under one set of conditions.	It consists of various budgets for different level of activity.
3	If the budgeted and actual activity levels	It facilitates the cost ascertainment and price

	differ significantly, then cost ascertainment and price fixation do not give a correct picture.	fixation at different levels of activity.
4	Comparisons of actual and budgeted targets are meaningless particularly when there is difference between two levels.	It provided meaningful basis of comparison of actual and budgeted targets.

Question 5

Explain the Essentials of budget.

Solution

Essentials of budget

1. It is prepared in advance and is based on a future plan of actions.
2. It relates to a future period and is based on objectives to be attained.
3. It is a statement expressed in monetary and/ or physical units prepared for the implementation of policy formulated by management.

Question 6

State the considerations on which capital expenditure budget is prepared.

Solution

The preparation of Capital Expenditure Budget is based on the following considerations:

1. Overhead on production facilities of certain departments as indicated by the plant utilisation budget.
2. Future development plans to increase output by expansion of plant facilities.
3. Replacement requests from the concerned departments.
4. Factors like sales potential to absorb the increased output, possibility of price reductions, increased costs of advertising and sales promotion to absorb increased output, etc.

Question 7

Describe the steps involved in the budgetary control technique.

Solution

There are certain steps involved in the budgetary control technique. They are as follows:

1. Definition of objectives:

A budget being a plan for the achievement of certain operational objectives, it is desirable that the same are defined precisely. The objectives should be written out; the areas of control demarcated; and items of revenue and expenditure to be covered by the budget stated.

2. Location of the key (or budget) factor:

There is usually one factor (sometimes there may be more than one) which sets a limit to the total activity. Such a factor is known as key factor. For proper budgeting, it must be located and estimated properly.

3. Appointment of controller:

Formulation of a budget usually required whole time services of a senior executive known as budget controller; he must be assisted in this work by a Budget Committee, consisting of all the heads of department along with the Managing Director as the Chairman.

4. Budget Manual:

Effective budgetary planning relies on the provision of adequate information which are contained in the budget manual. A budget manual is a collection of documents that contains key information for those involved in the planning process.

5. Budget period:

The period covered by a budget is known as budget period. The Budget Committee determines the length of the budget period suitable for the business. It may be months or quarters or such periods as coincide with period of trading activity.

6. Standard of activity or output:

For preparing budgets for the future, past statistics cannot be completely relied upon, for the past usually represents a combination of good and bad factors. Therefore, though results of the past should be studied but these should only be applied when there is a likelihood of similar conditions repeating in the future.

Question 8

Describe the salient features of budget manual.

Solution

Salient features of Budget Manual

1. Budget manual contains many information which are required for effective budgetary planning.
2. A budget manual is a collection of documents that contains key information for those involved in the planning process.
3. An introductory explanation of the budgetary planning and control process, including a statement of the budgetary objective and desired results is included in Budget Manual
4. Budget Manual contains a form of organisation chart to show who is responsible for the preparation of each functional budget and the way in which the budgets are interrelated.
5. In contains a timetable for the preparation of each budget.
6. Copies of all forms to be completed by those responsible for preparing budgets, with explanations concerning their completion is included in Budget Manual.

CANAMIT ARORA SIR

CHAPTER 15

ACTIVITY BASED COSTING

1. MEANING AND DEFINITION

ABC is a technique which involves identification of cost with each cost driving activity and making it as the basis for apportionment of costs over different cost objects/ jobs/ products/ customers or services. ABC assigns cost to activities based on their use of resources. It then assigns cost to cost objects, such as products or customers, based on their use of activities. ABC can track the flow of activities in organization by creating a link between the activity (resource consumption) and the cost object.

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

2. Usefulness/Suitability of ABC

ABC is particularly needed by organisations for product costing in the following situation:

1. High amount of Overhead: When Production overheads are high and significant cost, ABC will be very much useful instead of traditional costing system.

2. Wide range of products: ABC is most suitable, when, there is a diversity in the product range or there are multiple products.

3. Presence of Non-volume related activities: When non-volume related activities e.g. material handling, inspection set-up, are present significantly and traditional system cannot be applied, ABC is a superior and better option. ABC will identify non-value-adding activities in the production process that might be a suitable focus for attention or elimination.

4. Stiff competition: When the organisation is facing stiff competition and there is an urgent requirement to compute cost accurately and to fix the selling price according to the market situation, ABC is very useful. ABC also can facilitate in reducing cost by identifying non-value-adding activities in the production process that might be a suitable focus for attention or elimination.

3. MEANING OF TERMS USED IN ABC

(i) Activity: Activity, here, refers to an event that incurs cost.

(ii) A Cost Object: It is an item for which cost measurement is required e.g. a product or a customer.

(iii) A Cost Driver: It is a factor that causes a change in the cost of an activity. There are two categories of cost driver. Example Production runs

- **A Resource Cost Driver:** It is a measure of the quantity of resources consumed by an activity. It is used to assign the cost of a resource to an activity or cost pool.
- **An Activity Cost Driver:** It is a measure of the frequency and intensity of demand, placed on activities by cost objects. It is used to assign activity costs to cost objects.

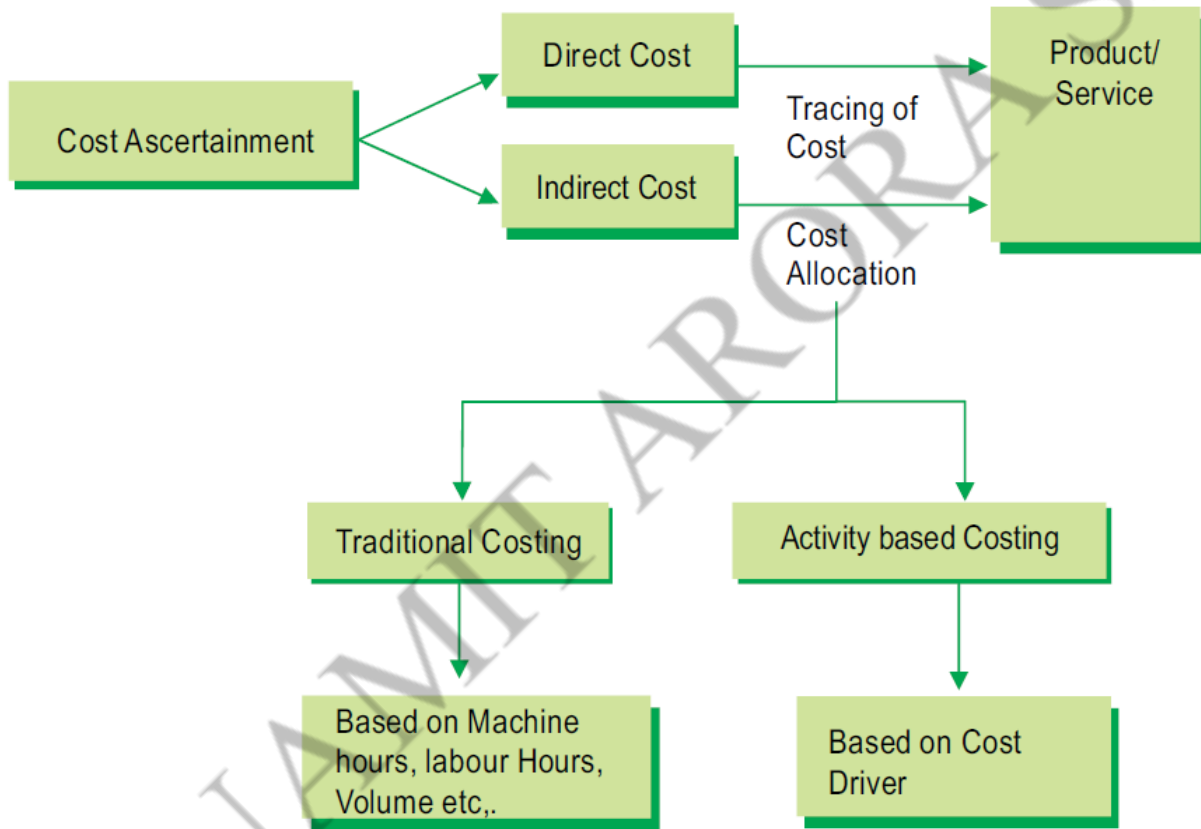
(iv) Cost Pool: It represents a group of various individual cost items. It consists of costs that have same cause effect relationship. Example Machine set-up.

Examples of Cost Drivers:

<i>Business functions</i>	<i>Cost Driver</i>
Research and Development	Number of research projects Personnel hours on a project
Design of products, services and procedures	Number of products in design

	Number of parts per product Number of engineering hours
Customer Service	Number of service calls Number of products serviced Hours spent on servicing products
Marketing	Number of advertisements Number of sales personnel Sales revenue
Distribution	Number of units distributed Number of customers

4. TRADITIONAL ABSORPTION COSTING VS ABC



Cost Allocation under Traditional and Activity Based Costing system

Cost Allocation under Traditional and Activity Based Costing system

In traditional absorption costing overheads are first related to cost centres (Production & Service Centres) and then to cost objects, i.e., products. In ABC overheads are related to activities or grouped into cost pools. Then they are related to the cost objects, e.g., products. The two processes are, therefore, very similar, but the first stage is different as ABC uses activities instead of functional departments (cost centres). The problem with functional departments is that they tend to include a series of different activities, which incur a number of different costs that behave in different ways. Activities also tend to run across functions; for instance, procurement of materials often includes raising a requisition note in a manufacturing department or stores. It is not raised in the purchasing department where most procurement costs are incurred. Activity costs tend to behave in a similar way to each other i.e., they have the same cost driver. Therefore, ABC gives a more realistic picture of the way in which costs behave.

5. Difference between Activity Based Costing and Traditional Absorption Costing

Activity Based Costing	Traditional Absorption Costing
Overheads are related to activities and grouped into activity cost pools.	Overheads are related to cost centers/ departments.
Costs are related to activities and hence are more realistic.	Costs are related to cost centers and hence not realistic of cost behaviour.
Activity-wise cost drivers are determined.	Time (Hours) are assumed to be the only cost driver governing costs in all departments.
Activity-wise recovery rates are determined and there is no concept of a single overhead recovery rate.	Either multiple overhead recovery rate (for each department) or a single overhead recovery rate may be determined for absorbing overheads.
Cost are assigned to cost objects, e.g. customers, products, services, departments, etc.	Costs are assigned to Cost Units i.e. to products, or jobs or hours.
Essential activities can be simplified and unnecessary activities can be eliminated. Thus the corresponding costs are also reduced/ minimized. Hence ABC aids cost control.	Cost Centers/ departments cannot be eliminated. Hence not suitable for cost control.

6. LEVEL OF ACTIVITIES UNDER ABC METHODOLOGY/ COST HIERARCHY

These categories are generally accepted today but were first identified by Cooper (1990). The categories of activities help to determine the type of activity cost driver required. The categories of activities are:

Level of Activities	Meaning	Example
1. Unit level activities	These are those activities for which the consumption of resources can be identified with the number of units produced.	<ul style="list-style-type: none"> ➤ The use of indirect materials/ consumables tends to increase in proportion to the number of units produced. ➤ The inspection or testing of every item produced, if this was deemed necessary or, perhaps more likely, every 100th item produced.
2. Batch level activities	The activities such as setting up of a machine or processing a purchase order are performed each time a batch of goods is produced. The cost of batch related activities varies with number of batches made, but is common (or fixed) for all units within the batch.	<ul style="list-style-type: none"> ➤ Material ordering—where an order is placed for every batch of production ➤ Machine set-up costs—where machines need resetting between each different batch of production. ➤ Inspection of products where the first item in every batch is inspected rather than every 100th item quoted above.
3. Product level activities	These are the activities which are performed to support different products in product line	<ul style="list-style-type: none"> ➤ Designing the product, ➤ Producing parts specifications ➤ Keeping technical drawings of products up to date.
4. Facilities level activities	These are the activities which cannot be directly attributed to individual products. These activities are necessary to sustain the manufacturing process and are common and joint to all products manufactured.	<ul style="list-style-type: none"> ➤ Maintenance of buildings ➤ Plant security

7. ADVANTAGES OF ACTIVITY BASED COSTING

The main advantages of using Activity Based Costing are:

1. More accurate costing of products/services.
2. Overhead allocation is done on logical basis.
3. It enables better pricing policies by supplying accurate cost information.
4. Utilizes unit cost rather than just total cost
5. Help to identify non-value added activities which facilitates cost reduction.
6. It is very much helpful to organization with multiple products.
7. It highlights problem areas which require attention of the management.

8. LIMITATIONS OF ACTIVITY BASED COSTING

The main limitations using Activity Based Costing are:

1. It is more expensive particularly in comparison with Traditional costing system.
2. It is not helpful to small Organization.
3. It may not be applied to organization with very limited products.
4. Selection of most suitable cost driver may not be useful.

9. PRACTICAL APPLICATIONS OF ACTIVITY BASED COSTING AS ABM

a. Activity Based Management (ABM)

The term Activity based management (ABM) is used to describe the cost management application of ABC. The use of ABC as a costing tool to manage costs at activity level is known as Activity Based Cost Management (ABM). ABM is a discipline that focuses on the efficient and effective management of activities as the route to continuously improving the value received by customers. ABM utilizes cost information gathered through ABC.

b. Various analysis in Activity Based Management

(1) Cost Driver Analysis: The factors that cause activities to be performed need to be identified in order to manage activity costs. Cost driver analysis identifies these causal factors.

(2) Activity Analysis:

(a) Value-Added Activities (VA): The value-added activities are those activities which are indispensable in order to complete the process. The customers are usually willing to pay (in some way) for these services. For example, polishing furniture by a manufacturer dealing in furniture is a value added activity.

(b) Non-Value-Added Activities (NVA): The NVA activity represents work that is not valued by the external or internal customer. NVA activities do not improve the quality or function of a product or service, but they can adversely affect costs and prices. Moving materials and machine set up for a production run are examples of NVA activities.

(3) Performance Analysis: Performance analysis involves the identification of appropriate measures to report the performance of activity centres or other organisational units, consistent with each unit's goals and objectives.

c. Activity Based Management in Business

Activity based management can be used in the following ways

(i) Cost Reduction: ABM helps the organisation to identify costs against activities and to find opportunities to streamline or reduce the costs or eliminate the entire activity, especially if there is no value added.

(ii) Business Process Re-engineering: Business process re-engineering involves examining business processes and making substantial changes to how organisation currently operates. ABM is a powerful tool

for measuring business performance, determining the cost of business output and is used as a means of identifying opportunities to improve process efficiency and effectiveness.

(iii) Benchmarking: Benchmarking is a process of comparing of ABC-derived activity costs of one segment of company with those of other segments. It requires uniformity in the definition of activities and measurement of their costs.

(iv) Performance Measurement: Many organisations are now focusing on activity performance as a means of facing competitors and managing costs by monitoring the efficiency and effectiveness of activities.

10. Facilitate Activity Based Budgeting (ABB)

Activity based budgeting (ABB) analyse the resource input or cost for each activity. It provides a framework for estimating the amount of resources required in accordance with the budgeted level of activity. Actual results can be compared with budgeted results to highlight both in financial and non-financial terms those activities with major discrepancies from budget for potential reduction in supply of resources. It is a planning and control system which seeks to support the objectives of continuous improvement.

It means planning and controlling the expected activities of the organization to derive a cost-effective budget that meet forecast workload and agreed strategic goals.

Key Elements of ABB

The three key elements of activity based budgeting are as follows:-

- Type of work to be done
- Quantity of work to be done
- Cost of work to be done

Benefits of ABB

- Activity Based Budgeting (ABB) can enhance accuracy of financial forecasts and increasing management understanding.
- When automated, ABB can rapidly and accurately produce financial plans and models based on varying levels of volume assumptions.
- ABB eliminates much of the needless rework created by traditional budgeting techniques.

CA INTERMEDIATE



COST
REGULAR BATCH
200 HOURS
650+ QUESTIONS

COST
FAST TRACK BATCH
90 HOURS
400+ QUESTIONS

FM & ECO
REGULAR BATCH
200 HOURS WITH
500+ QUESTIONS

FM & ECO
FAST TRACK BATCH
90 HOURS WITH
300+ QUESTIONS

CA NAMIT ARORA SIR

Web: canamitarora.com

CONTACT: 9891314730, 9205617066

“PASS HONE KI NINJA TECHNIQUE”

COST MEGA MARATHON

BY CA NAMIT ARORA SIR

BY CA NAMIT ARORA SIR

“HELICOPTER SHOT”



CA INTER
FM & ECO
MEGA MARATHON

BY CA NAMIT ARORA

BY CA NAMIT ARORA

KEEP IN TOUCH

YOU TUBE: <https://www.youtube.com/user/canamitarora>

FACEBOOK PAGE: <https://www.facebook.com/namitaroraca/>

INSTAGRAM: <https://www.instagram.com/caaroranamit/>

TELEGRAM: <https://t.me/joinchat/AAAAAFSRNBoahZqILqkvrQ>

<https://t.me/namitaroraclasses>

WEBSITE: <https://www.canamitarora.com/>

Youtube: <https://www.youtube.com/user/canamitarora>

OUR SHINING STARS



ANKIT SINGH
90 MARKS



ARPITA TYAGI
AIR 32 AND HIGHEST MARKS IN DELHI 89 MARKS



JEEVAN ACHARYA
91 MARKS

90 + MARKS



VAIBHAV SINGAL
92 MARKS



JEEVAN ACHARYA
91 MARKS



KIRAN BHUSAL
91 MARKS



RAHUL
91 MARKS



ANKIT SINGH
90 MARKS

RANK HOLDERS



VAIBHAV SINGAL
AIR 23



NITIN GOEL
AIR 27



HIMANSHU GOEL
AIR 30



NISHANK PUNDIR
AIR 31



ARPITA TYAGI
AIR 32



DIKSHA BHARDWAJ
AIR 32



PIYUSH AGGARWAL
AIR 39



SURAJ BANIYA
AIR 41



MANZEETA KHADKA
AIR 47



KIRAN BHUSAL
AIR 48

"Hard work in Smart Way...."



CA NAMIT ARORA SIR

Contact # 9205617066, 9891314730