

1

BASIC CONCEPTS

Q 1. Define the terms 'cost centre' and 'cost unit'.

(May 13-2 Marks)

Write short notes on Cost Centre.

(May 97, Nov 02 - 4 marks)(May 95 - 4 marks)

Distinguish between Cost Unit and Cost Centre.

(May 11-4 Marks)

A. The term **Cost Unit** is defined as a unit of quantity of product, service or time (or a combination of these) in relation to which costs may be ascertained or expressed. It can be for a job, batch, or product group.

The term **Cost Centre** is defined as a location, person or an item of equipment or a group of these for which costs may be ascertained and used for the purposes of Cost Control. Cost Centres can be personal Cost Centres, impersonal Cost Centres, operation cost and process Cost Centres.

Thus each sub-unit of an organisation is known as a Cost Centre, if cost can be ascertained for it. In order to recover the cost incurred by a Cost Centre, it is necessary to express it as the cost of output. The unit of output in relation to which cost incurred by a Cost Centre is expressed is called a Cost Unit.

Q 2. What is meant by Profit Centre?

(Nov 97 - 4 marks)

A. It is defined as an activity centre of a business organisation. Chief of such a centre is fully responsible for all costs, revenues and profitability of its operation. The main objective of profit centre is to maximise the centre's profit. Creation of profit centres facilitates management control and implementation of the objectives of responsibility accounting. A profit centre may have a number of cost centres.

Q 3. Distinguish between Cost Centre and Profit Centre.

A. A Cost Centre is the smallest segment of activity or the area of responsibility for which costs are accumulated. A Profit Centre is that segment of activity of a business which is responsible for both revenue and expenses and discloses the profit of a particular segment of activity.

Important points of distinction between Cost Centre and Profit Centre are as below:

- (a) Cost Centres are created for accounting convenience of costs and their control. Whereas a profit centre is created because of decentralisation of operations.
- (b) A Cost Centre does not have target costs but efforts are made to minimise costs, but each profit centre has a profit target and enjoys authority to adopt such policies as are necessary to achieve its targets.

Q 4. Explain Profit centres and investment centres.

(Nov 08 - 2 Marks)

A. Centres which have the responsibility of generating and maximizing profits are called profit centres.

Those centres which are concerned with earning an adequate return on investment are known as Investment centres.

Q 5. List down the factors that you will consider before installing a costing system.

Enumerate the factors which are to be considered before installing a system of cost accounting in a manufacturing organization. *(May 96 - 10 marks)(Nov 99 - 5 marks)(Nov 10-4 Marks)*

A. Before setting up a system of cost accounting following factors should be studied:

(a) Objective

The objective of costing system, for example whether it is being introduced for fixing prices or for insisting a system of cost control.

(b) Type of Business

The areas of operation of business wherein the managements' action will be most beneficial. For instance, in a concern, which is anxious to expand its operations, increase in production would require maximum attention. On the other hand for a concern, which is not able, to sell the whole of its production the selling effort would require greater attention. The system of costing in each case should be designed to highlight, in significant areas, factors considered important for improving the efficiency of operations in that area.

(c) General organisation

The business, with a view of finding out the manner in which the system of cost control could be introduced without altering or extending the organization appreciably.

(d) The Technical Details

Technical aspects of the concern and the attitude and behaviour that will be successful in winning sympathetic assistance or support of the supervisory staff and workmen.

(e) Change in operations

The manner in which different variable expenses would be affected with expansion or cessation of different operations

(f) 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.

(g) Information

The maximum amount of information that would be sufficient and how the same should be secured without too much clerical labour, especially the possibility of collection of data on a separate printed form designed for each process; also the possibility of instruction as regards filling up of the forms in writing to ensure that these would be faithfully carried out.

(h) Accuracy

How the accuracy of the data collected can be verified? Who should be made responsible for making such verification in regard to each operation and the form of certificate that he should give to indicate the verification that he has carried out?

(i) Informative and Simple

The manner in which the benefits of introducing Cost Accounting could be explained to various persons in the concern, especially those in charge of production department and awareness created for the necessity of promptitude, frequency and regularity in collection of costing data.

(j) Support

Support of top management and employees are essential for installing a Cost Accounting System in any organization.

Q 6. What are the essentials of an effective costing system?*(Nov 12-4 Marks)***Discuss the essential of a good cost accounting system?***(May 96 - 6 marks)(May 04 - 2 marks)*

A. 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.

(b) Accuracy: The data to be used by the Cost Accounting System should be accurate; otherwise it may distort the output of the system.

(c) Support from Management: 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) Precise Information: The system of costing should not sacrifice the utility by introducing meticulous and unnecessary details.

(f) Procedure: A carefully phased programme should be prepared by using network analysis for the introduction of the system.

(g) Trust: Management should have faith in the Costing System and should also provide a helping hand for its development and success.

Q 7. Distinguish between controllable costs and uncontrollable costs. (May 97 - 4 marks) (Nov 01 - 2 marks) (May 03 - 2 marks)

Explain controllable and non-controllable cost with examples. (PCC May 08 – 2 marks) (May 00 - 2 marks)

A. Controllable costs are those which can be influenced by the action of a specified member of an undertaking. A business organization is usually divided into a number of responsibility centres and each such centre is headed by an executive. Controllable costs incurred in a particular responsibility centre can be influenced by the action of the executive heading that responsibility centre. Direct costs comprising direct labour, direct materials, direct expenses and some of the overhead are generally controllable by the shop level management.

Non-controllable costs are those which cannot be influenced by the action of a specified member of an undertaking. For example, expenditure incurred by the tool room is controllable by the tool room manager but the share of the tool room expense which is apportioned to the machine shop cannot be controlled by the machine shop manager. It is only in relation to a particular individual that a cost may be specified as controllable or not.

Note: 1. A supervisor may be unable to control the amount of managerial remuneration allocated to his department but for the top management this would be a controllable cost.
2. Depreciation would be a non-controllable cost in the short-term but controllable in the long terms.

Q 8. Distinguish between:

- (i) **Variable cost and direct cost** (May 13-2 Marks)
(ii) **Estimated cost and standard cost.**

A. (i) Variable and direct cost:

A variable cost is a cost that changes in total in direct proportion to changes in the related total activity or volume. Cost of material is an example of variable cost.

Direct cost is a cost which can be identified either with a cost centre or with a cost unit. An example of direct cost is the allocation of direct materials to a department and then to the various jobs. All variable costs are direct-but each direct cost may not be variable.

(ii) Estimated cost and standard cost:

Estimated costs can be defined 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 cost are prospective costs since they refer to prediction of costs.

Standard Cost means a pre-determined cost. It attempts to show what the cost should be for clearly defined conditions and circumstances. Standard costs represent planned cost of a product. They are expected to be achieved under a particular production process under normal conditions.

Q 9. Enumerate the main objectives of introduction of a Cost Accounting System in a manufacturing organization (Nov 2002 - 3 mark, May 2010-2 Marks)

What are the main objectives of Cost Accounting? (May 01 - 2 marks)(PCC May 08 – 2 marks)

A. (i) 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 and cost reduction: To exercise cost control, the following steps should be observed:

- (i) Determine clearly the objective.
- (ii) Measure the actual performance.
- (iii) Investigate into the causes of failure to perform according to plan;
- (iv) Institute corrective action.

(d) Cost Reduction 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.

Q 10. Write short notes on any two of the following?

(i) Conversion cost

(May 2003 - 4 marks)

(ii) Sunk cost

(May 03 - 4 marks)(Nov 00 - 4 marks)

(iii) Opportunity cost

(May 03 - 4 marks)

(iv) Differential cost

(v) Pre-production Cost

(Nov 00 - 4 marks)

(vi) Training Costs

(Nov 00 - 4 marks)

A. (i) Conversion cost: It is the cost incurred to convert raw materials into finished goods. It is the sum of direct wages, direct expenses and manufacturing overheads.

(ii) Sunk cost: Historical costs or the costs incurred in the past are known as sunk cost. They play no role in the current decision making process and are termed as irrelevant costs. 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.

(iii) Opportunity cost: It 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.

(iv) 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.

(v) Pre-production cost: These costs form the part of development cost, incurred in making a trial production run, preliminary to formal production. These costs are incurred when a new factory is in the process of establishment or a new project is undertaken or a new product line or product is taken up, but there is no established or formal production to which such costs may be charged. These costs are normally treated as deferred revenue expenditure (except the portion which has been capitalised) and charged to the costs of future production.

(vi) Training cost: These costs comprise of – wages and salaries of the trainees or learners, pay and allowances of the training and teaching staff, payment of fees etc, for training or for attending courses of studies sponsored by outside agencies and cost of materials, tools and equipments used for training. Costs incurred for running the training department, the losses arising due to the initial lower production, extra spoilage etc. occurring while providing training facilities to the new recruits.

All these costs are booked under separate standing order numbers for the various functions. Usually there is a service cost centre, known as the Training Section, to which all the training costs are allocated. The total cost of training section is thereafter apportioned to production centers.

Q 11. Discuss cost classification based on variability and controllability.

(Nov 04 - 4 marks)

A. Cost classification based on variability

Fixed cost – These are costs, which do not change in total despite changes of a cost driver. A fixed cost is fixed only in relation to a given relevant range of the cost driver and a given time span. Rent, insurance, depreciation of factory building and equipment are examples of fixed costs where the final product produced is the cost object.

Variable costs – These are costs which change in total in proportion to changes of cost driver. Direct material, direct labour are examples of variable costs, in cases where the final product produced is the cost object.

Semi-variable costs – These are partly fixed and partly variable in relation to output e.g. telephone and electricity bill.

Cost classification based on controllability

Controllable costs – Are incurred in a particular responsibility center and relate to a defined time span. They can be influenced by the action of the executive heading the responsibility center e.g. direct costs.

Uncontrollable costs – Are costs are influenced by the action of the responsibility center manager e.g. expenditure incurred by the tool room are controllable by the foreman in charge of that section, but the share of tool room expenditure which are apportioned to the machine shop are not controllable by machine shop foreman.

Q 12. Define explicit costs. How is it different from implicit costs?

(May 01 - 2 marks)(May 07 - 2 marks)

Explain in brief the explicit cost with examples.

(PCC May 07 – 2 marks)

Explain in brief the Out of pocket cost with examples.

A. Explicit costs: These costs are also known as out of pocket costs. They refer to those costs which involves immediate payment of cash. Salaries, wages, postage and telegram, interest on loan etc. are some examples of explicit costs because they involve immediate cash payment. These payments are recorded in the books of account and can be easily measured.

Main points of difference: The following are the main points of difference between explicit and implicit costs.

- (i) Implicit costs do not involve any immediate cash payment. As such they are also known as imputed costs or economic costs.

- (ii) Implicit costs are not recorded in the books of account but yet, they are important for certain types of managerial decisions such as equipment replacement and relative profitability of two alternative courses of action.

Q 13. Discuss the four different methods of costing alongwith their applicability to concerned industry? (Nov 99 - 4 marks)

A. Four different methods of costing along with their applicability to concerned industry have been discussed as below:

1. *Job Costing*: The objective under this method of costing is to ascertain the cost of each job order. A job card is prepared for each job to accumulate costs. The cost of the job is determined by adding all costs against the job it is incurred. This method of costing is used in printing press, foundries and general engineering workshops, advertising etc.
2. *Batch Costing*: This system of costing is used where small components/parts of the same kind are required to be manufactured in large quantities. Here batch of similar products is treated as a job and cost of such a job is ascertained as discussed under 1, above. If in a cycle manufacturing unit, rims are produced in batches of 2,500 units each, then the cost will be determined in relation to a batch of 2,500 units.
3. *Contract Costing*: If a job is very big and takes a long time for its completion, then method used for costing is known as 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.
4. *Operating Costing*: The method of Costing used in service rendering undertakings is known as operating costing. This method of costing is used in undertakings like transport, supply of water, telephone services, hospitals, nursing homes etc.

Q 14. Distinguish between Period Costs and Discretionary Costs. (May, Nov 07 - 2 marks)

A. Period costs: There 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 and administrative expenses, selling and distribution expenses are period costs.

Discretionary costs: Such costs are not tied to a clear cause and effect relationship between inputs and outputs. They arise from periodic decisions regarding the maximum outlay to be incurred. Examples are – advertising, public relations, training etc.

Q 15. Briefly discuss, how the synergetic effect help in reduction in costs? (PCC May 07 – 2 marks)

A. Two or more products are produced and managed together.

The result of combined efforts is higher than sum of the results of individual products.

Analysis of synergetic effect is helpful in cost control.

Q 16. What items are generally included in good uniform costing manual?

(PCC May 07 – 3 marks)

A. Uniform costing manual includes essential information and instructions to implement accounting procedures.

- (a) Introduction: It includes objects and scope of the planning.
- (b) Accounting procedure and planning includes rules, and general principle to be followed.
- (c) Cost accounting planning includes methods of costing, relation between cost and financial accounts and methods of integration.

Q17. Distinguish between Cost reduction and Cost control (Nov 02, May 03, 04, Nov 04 - 4 marks)(Nov 07 - 3 marks)(Nov 11- 4Marks)

A.

Cost reduction	Cost control
1. It aims at achieving a reduction in unit cost of goods manufactured or services rendered without impairing their suitability for the use intended.	It aims at achieving the pre-determined cost targets and ends when the targets are achieved.
2. It does not recognise any condition as permanent and believe that by waste reduction, expense reduction and increased production cost reduction objective can be achieved.	It entails target setting, ascertaining the actual performance and comparing it with the targets, investigating the variances and taking remedial measures.
3. It assumes existence of concealed potential savings and challenges the norm.	It does not challenges norms or standards established for the purpose.
4. It is a corrective function.	It is a preventive function.

Q 18. Distinguish between product cost and period cost.

(PCC June 09 – 2 marks)

A. Product costs are associated with the purchase and sale of goods. 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 absorption cost, total manufacturing costs constitute inventoriable or product cost.

Periods costs are the costs, which are not assigned to the products but are charged as expense against revenue of the period in which they are incurred. General Administration, marketing, sales and distributor overheads are recognized as period costs.

Q 19. State and explain the differences between Financial Accounting, Cost Accounting and Management Accounting. (ME)

A. Relationship between cost accounting, financial accounting, management accounting and financial management:

Cost Accounting is a branch of accounting, which has been developed because of the limitations of Financial Accounting from the point of view of management control and internal reporting. Financial accounting performs admirably, the function of portraying a true and fair overall picture of the results or activities carried on by an enterprise during a period and its financial position at the end of the year. Also, on the basis of financial accounting, effective control can be exercised on the property and assets of the enterprise to ensure that they are not misused or misappropriated. To that extent financial accounting helps to assess the overall progress of a concern, its strength and weaknesses by providing the figures relating to several previous years. Data provided by Cost and Financial Accounting is further used for the management of all processes associated with the efficient acquisition and deployment of short, medium and long term financial resources. Such a process of management is known as Financial Management. The objective of Financial Management is to maximise the wealth of shareholders by taking effective Investment, Financing and Dividend decisions. On the other hand, Management Accounting refers to managerial processes and technologies that are focused on adding value to organisations by attaining the effective use of resources, in dynamic and competitive contexts. Hence, Management Accounting is a distinctive form of resource management which facilitates management's decision making by producing information for managers within an organisation.

Q 20. Name the various reports (Elaboration not needed) that may be provided by the Cost Accounting Department of a big manufacturing company for the use of its executives. (May 98 - 5 marks)

A. Various reports that may be provided by the Cost Accounting Department of a big manufacturing Company for the use of its executives are as under:

- (i) Cost Sheets
- (ii) Statements of material consumption
- (iii) Statements of labour utilisation
- (iv) Overheads incurred compared with budgets
- (v) Sales effected compared with budgets
- (vi) Reconciliation of actual profit with estimated profit
- (vii) The total cost of inventory carried
- (viii) The total cost of abnormally spoiled work in factory and abnormal losses in stores
- (ix) Labour turnover statements
- (x) Expenses incurred on research and development compared with budgeted amounts.

Q 21. Define the following:

(a) Imputed cost

(b) Capitalised cost

(PCC Nov 09 - 2 Marks)

A. (a) Imputed Cost: 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.

(b) Capitalised Cost: These are costs which are initially recorded as assets and subsequently treated as expenses.

Q 22. Define uniform costing.

(Nov 00, 07 - 6, 4 marks)

Write a short note on uniform costing.

(May 96 - 3 marks)

A. 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. In such a case, 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. 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.

Q 23. Discuss the various reports provided by Cost Accounting department. (Nov 07 - 4 marks)

A. The following are the various Reports provided by Cost Accounting Department:

- (i) Cost sheet setting out the total cost, analysed into various elements, giving comparative figure of previous period and other plants under the same management.
- (ii) Consumption of material statements.
- (iii) Labour utilization statements, details about total number of hours paid for, standard hours for output, idle time and causes thereof.
- (iv) Overheads incurred compared with budgets.
- (v) Reconciliation of actual profit earned with estimated or budgeted profit.
- (vi) Total cost of abnormally spoiled work in the factory and abnormal loss and store.
- (vii) Total cost of inventory carried, number of monthly stocks would be sufficient.
- (viii) Labour turnover and cost of recruitment and training of new employee.
- (ix) Expenses incurred on R & D as compared to budgeted amount.

2

Material

Q 1. Distinguish between Bill of Material and Material Requisition Note.

(May 12-4 Marks)

Write notes on Bill of Material.

(May 98 - 4 marks)

A. Bill of Material: It is a comprehensive list of materials with exact description and specifications, required for a job or other production units. This also provides information about required quantities so that if there is any deviation from the standards, it can easily be detected. It is prepared by the Engineering or Planning Department in a standard form.

Material requisition Note: It is a formal written demand or request, usually from the production department to store for the supply of specified materials, stores etc. It authorizes the storekeeper to issue the requisitioned materials and record the same on bin card.

The purpose of bill of material is to act as a single authorization for the issue of all materials and stores items mentioned in it. It provides an advance intimation to store department about the requirements of materials. It reduces paper work. It serves as a work order to the production department and a document for computing the cost of material for a particular job or work order to the cost department.

The purpose of material requisition note is to draw material from the store by concerned departments.

(OR)

Bills of material	Material Requisition Note
1. It is document by the drawing office	1. 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.	2. 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 shown the complete schedule of materials required for a particular job i.e. it can replace stores requisition.	3. It cannot replace a bill of material.
4. It can be used for the purpose of quotation	4. It is useful in arriving historical cost only.
5. It helps in keeping a quantitative control on materials draw through stores Requisition.	5. It shows the material actually drawn from stores.

Q 2. What are the main objectives of material control? Explain the important requirements to attain these objectives.

A. Objectives of system of material control:

(i) Ensuring that no activity, particularly production, suffers from interruption for want of materials and stores. This requires constant availability of every item that may be needed howsoever small its cost may be.

(ii) Seeing to it that all the materials and stores are acquired at the lowest possible.

(iii) Minimisation of the total cost involved, both for acquiring stocks and for holding them.

(iv) Avoidance of unnecessary losses and wastages that may arise from deterioration in quality due to defective or long storage or from obsolescence.

(v) Maintenance of proper records to ensure that reliable information is available for all items of materials and stores. This will help in detecting losses & pilferages. It will facilitate proper production planning.

Requirements of material control:

Material control requirements are as follows:

1. Proper co-ordination of all departments involved viz., finance, purchasing, receiving, inspection, storage, accounting and payment.
2. Determining purchase procedure to see that purchases are made, after making suitable enquiries, at the most favourable terms to the firm.
3. Use of standard forms for placing the order, noting receipt of goods, authorising issue of the materials etc.
4. Preparation of budgets concerning materials, supplies and equipment to ensure economy in purchasing and use of materials.
5. Storage of all materials and supplies in a well designated location with proper safeguards.
6. Operation of a system of perpetual inventory together with continuous stock checking so that it is possible to determine at any time the amount and value of each kind of material in stock.

Q 3. Discuss briefly how the following items are to be treated in costs:-

- (i) **Carriage inwards raw materials**
- (ii) **Storage losses**
- (iii) **Cash discount received**
- (iv) **Insurance costs on stocks of raw materials.**

A. (i) Carriage inwards on raw materials: It represents the expenditure incurred in bringing raw materials to factory from outside. This expense is directly allocated to materials and thus forms a part of the cost of such materials. When this is not practicable and allocation to specific items of materials is difficult, the expense is treated as manufacturing overhead and is charged to cost of production at a predetermined rate. In some of the undertakings the practice is to charge these expenses as a percentage of cost, weight or some other physical unit of material.

(ii) Storage losses: The losses arising out of storage of material can be classified into two categories. The treatment of losses under each category in Cost Accounts is as under:-

(a) Losses due to reasons like evaporation, shrinkage, absorption and moisture, etc. are considered as normal losses. Such losses are absorbed by good production units by inflating the cost of material issued for production.

(b) Losses due to fire, flood, storm, theft etc. are treated as abnormal losses. If these losses are heavy and are not recoverable from the insurance authorities, it is preferred to charge them to Costing Profit and Loss Account.

(iii) Cash discount received: It is an allowance given by the vendor for prompt payment of material price. The opinion among accountants about its treatment differs. Two prevalent approaches for treating the cash discount received are as follows:-

(a) The cash discount received in the course of materials buying should be deducted from the invoice price of the materials. This way the discount received will reduce the purchase price of the materials.

(b) It may be treated as an item of financial nature and therefore be kept outside the purview of cost accounting. However, it can be dealt in the following manner.

The full invoice price should be charged to the material account crediting the suppliers with the net invoice price, and the discount earned account with the amount of cash discount received. If the prompt payment could not be made, the discount lost is debited to the discount lost account. Any difference between the discount earned and discount lost may be treated as an item of administrative overhead.

(iv).Insurance costs on stocks of raw materials: The amount paid as insurance costs (insurance premium) on stocks of raw materials is meant for covering the risk which may arise due to fire, theft, riot etc. The insurance cost is apportioned over different materials on the basis of their value. This cost may be charged directly to the cost of material.

Q 4. Write short note on (i) Replacement Price and (ii) Standard Price

A. (i) Replacement Price Method: Replacement price is defined as the price at which it is possible to purchase an item, identical to that which is being replaced or revalued. Under this method, materials issued are valued at the replacement cost of the items. This method pre-supposes 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. The product cost under this method is at current market price, which is the main objective of the replacement price method.

This method is useful to determine true cost of production and to value material issues in periods of rising prices, because the cost of material considered in cost of production would be able to replace the materials at the increased price.

Advantage: Product cost reflects the current market prices and it can be compared with the selling price.

Disadvantage: The use of the method requires the determination of market price of material before each issue of material. Such a requirement creates problems.

(ii) 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. Standard cost is usually fixed after taking into consideration the following factors:

- (i) Current prices,
- (ii) Anticipated market trends, and
- (iii) Discount available and transport charges etc.

Standard prices are fixed for each material and the requisitions are priced at the standard price. This method is useful for controlling material cost and determining the efficiency of purchase department. In the case of highly fluctuating prices of materials, it is difficult to fix their standard cost on long-term basis.

Advantages:

- (1) The use of the standard price method simplifies the task of valuing issues of materials.
- (2) It facilitates the control of material cost and the task of judging the efficiency of purchase department.
- (3) It reduces the clerical work.

Disadvantages:

- (1) The use of standard price does not reflect the market price and thus results in a profit or loss.
- (2) The fixation of standard price becomes difficult when prices fluctuate frequently.

Q 5. Explain the concept of "ABC Analysis" as a technique of inventory control.

(May 00 - 3 marks)(Nov 04 - 4 marks)(PCC May 08 – 3 marks)(Nov 11-4 Marks)

What do you understand by ABC analysis of inventory control? *(Nov 98 - 6 marks)*

Write short note on ABC Analysis. *(May 96 - 4 marks)*

Also explain the role/importance of ABC analysis in material control.

A. ABC Analysis as a technique of Inventory Control:

It is a system of inventory control. It exercises discriminating control over different items of stores classified on the basis of investment involved. Usually they are divided into three categories according to their importance, namely, their value and frequency of replenishment during a period.

‘A’ category of items consists of only a small percentage i.e. about 10% of total items handled by the stores but require heavy investment about 70% of inventory value, because of their high price or heavy requirement or both.

‘B’ category of items are relatively less important – 20% of the total items of material handled by stores and % of investment required is about 20% of total investment in inventories.

‘C’ category – 70% of total items handled and 10% of value.

For 'A' category items, stocks levels and EOQ are used and effective monitoring is done.

For 'B' category same tools as in 'A' category are applied.

For 'C' category of items, there is no need of exercising constant control. Orders for items in this group may be placed after 6 months or once in a year, after ascertaining consumption requirement.

Importance of ABC Analysis:

ABC analysis helps the management in the following ways:

(1) The investment in inventories is optimised through a close and direct control over A items. This would naturally release funds which can then be channelised into more profitable areas.

(2) The ordering and carrying costs are reduced since the management would attempt to optimise such costs so far as they relate to the bulk of the items.

(3) If the management seeks to exercise direct control over all the items of inventory, the inventory control system would become very expensive. ABC analysis therefore cuts down the cost of the system and relates its cost to the attendant benefits.

(4) With scientific control of inventories, the stock turnover rate can be maintained at comparatively high levels.

The concept of ABC analysis can be used in areas other than inventory also. This technique basically emphasises that where the items to be controlled are numerous, one should categorise them according to their importance. Close control should then be exercised on the most significant category. On the less important categories, the degree of control maybe related to the benefit from control.

Thus finally it may be concluded that ABC analysis plays an important role for a sound system of material control.

Q 6. Describe perpetual inventory records and continuous stock verification/continuous stock taking. (Nov 96 4 marks)(May 01 3 marks)

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

Bin cards 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.

Like bin cards the stores ledger is maintained to record all receipts and issues in respect of materials. Entries in it are made with the help of goods received notes and material issue requisitions.

A perpetual inventory record is usually checked by a programme of continuous stock verification. Continuous stock verification means the physical checking of those inventory records (which are maintained under perpetual inventory) with actual stock.

Perpetual inventory records helps in proper material control as discrepancies in physical stock and book figures are regularly reconciled through continuous stock verification.

Q 7. How is normal and abnormal loss of material arising during storage treated in Cost Accounts? (May 01 - 5 marks)

A. Cost Accounts treatment of normal and abnormal loss of material arising during storage:

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.

Q 8. Explain: (i) Just in Time (JIT) production

(ii) Just-in-time (JIT) purchasing
(May99 - 3 marks)

A. (i) Just-in-time (JIT) production: Production system in which each component on a production line is produced immediately as needed by the next step in the production line.

(ii) Just-in-time (JIT) purchasing: The purchase of goods or materials such that delivery immediately precedes demand or use. In the extreme, no inventories would be held.

Q 9. "To be able to calculate a basic EOQ certain assumptions are necessary. "List down these assumptions.
(Nov 95 - 2 marks)

A. The computation of economic order quantity is subject to the following assumptions:

- (i) Ordering cost (per order) and carrying cost (per unit/annum) are known and constant.
- (ii) Anticipated usage (in units) of material for a period is uniform and known.
- (iii) Cost per unit of the material (to be purchased) is known and it is constant.

Q 10. How is slow moving and non-moving item of stores detected and what steps are necessary to reduce such stocks?
(Nov 01 - 4 marks)

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

- (i) By preparing and scanning periodic reports showing the status of different items or stores.
- (ii) By calculating the stock holding of various items in terms of number of days/ months of consumption.
- (iii) By computing ratios periodically, relating to the issues as a percentage of average stock held.
- (iv) By implementing the use of a well designed information system.

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

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

Q 11. Distinguish between Bin Card and Stores Ledger. (May 02 - 2 marks)(Nov 04 - 2 marks)(May 00 - 4 marks)(May 03 - 2 marks)(May 99 - 4 marks)

A.

	Bin Card	Stores Ledger
1.	Bin-cards are maintained in the stores and are serving the purpose of stock register.	Stores ledger is maintained in the cost accounts department.
2.	Bin card is the stores recording document.	The stores ledger is an accounting record.
3.	Inter departmental transfer of materials do not appear in bin-cards.	Inter departmental transfer of materials appear only in stores ledger.
4.	Entries in it are posted by the issue clerk. He records the <u>quantity</u> about receipts, issues and closing balance along with code number of material, maximum, minimum and reorder levels.	Here entries are posted by the stores ledger clerk. He records the <u>quantities and value</u> about receipts, issues and closing balance along with code number of material, maximum, minimum and reorder levels.
5.	Here transactions are posted individually. Posting is done at the time of issue of material.	Here transactions can be posted periodically. Posting is done after the issue of materials.

Q 12. Explain Bin Cards and Stock Control Cards.

(May 07 - 2 Marks)

A. 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.

Q 13. 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.

(PCC Nov 07 – 3 marks)

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

A. 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.

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

- (i) The cost of the material issued will be reflecting the current market price.
- (ii) The use of the method during the period of rising prices does not reflect undue high profit in the income statement.
- (iii) 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.
- (iv) Over a period, the use of LIFO will iron out the fluctuations in profit.
- (v) During the period of inflation, LIFO will tend to show the correct profit.

Q 14. Explain FIFO method of valuation of material issue. Discuss the effect of rising prices and falling prices on this method of pricing of material issues. Also give its advantages.

A. It is a method of pricing the issues of materials, in the order in which they are purchased. In other words, the materials are issued in the order in which they arrive in the store or the items longest in stock are issued first. Thus each issue of material only recovers the purchase price which does not reflect the current market price. This method is considered suitable in times of falling price because the material cost charged to production will be high while the replacement cost of materials will be low. But, in the case of rising prices, if this method is adopted, the charge to production will be low as compared to the replacement cost of materials.

Advantages:

1. It is simple to understand and easy to operate.
2. Material cost charged to production represents actual cost with which the cost of production should have been charged.
3. In the case of falling prices, the use of this method gives better results.
4. Closing stock of material will be represented very closely at current market price.

Q 15. What is a purchase requisition?

(Nov 98 - 4 marks)

A. A Purchase requisition is a form used for making a formal request to the purchasing department to purchase materials. Purchase requisitions are usually initiated by

- (i) A store department for regular and standard items held in the stock.
- (ii) The production control department for special material required for specific jobs.
- (iii) The maintenance department for maintenance equipment and items of capital expenditure.
- (iv) The heads of departments for office equipments.

The aforesaid arrangement is only a matter of convenience. In some concerns distinction is made between regular indents and special indents, depending upon whether the items are needed for replacing stocks or for special orders.

Each purchase requisition should clearly state the quantity, quality and other specifications in the appropriate column of the given specimen form along with the purpose for which materials are required. It should also indicate the date by which such materials are needed.

Depending upon the procedure to be followed appropriate number of copies of the purchase requisitions may be prepared and used accordingly.

Q 16. What is Economic Order Quantity?

A. Economic Order Quantity: Economic order quantity represents the size of the order for which both ordering and carrying costs together are minimum. If purchases are made in large quantities, inventory carrying cost will be high. If the order size is small, ordering cost will be high. Hence, it is necessary to determine the order quantity for which ordering and carrying costs are minimum. The formula used for determining economic order quantity is as follows:

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

Where:

A is the annual consumption of material in units
O is the cost of placing an order (ordering cost per order)
C is cost of interest and storing one unit of material for one year (carrying cost per unit per annum)

Q 17. Explain Economic Batch Quantity in Batch Costing.

(May 07 - 2 Marks)

A. There are two types of costs involved in Batch Costing (i) set up costs(ii) carrying costs.

If the batch size is increased, set up cost per unit will come down and the carrying cost will increase.

If the batch size is reduced, set up cost per unit will increase and the carrying cost will come down.

Economic Batch quantity will balance both these opponent costs. It is calculated as follows:

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

Where,

D = Annual Demand in units
S = Set up cost per batch
C = Carrying cost per unit per annum.

Q 18. What is material handling cost? How will you deal with it in cost account?

(May 99 - 3 marks)

A. 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.

Q 19. Discuss the treatment of spoilage and defectives in Cost Accounting.

(PCC May 07, June 09 – 3 marks)(PE2 Nov 07 - 4 marks) (May 03 - 3 marks)

A. Spoilage: Spoilage is the term used for materials which are badly damaged in manufacturing operations, and it cannot be rectified economically and hence taken out of the process to be disposed of in some manner without further processing.

Normal spoilage costs are included in costs either by charging it to production order or by charging it to production overheads so that it is spread over all products. Any value realized from spoilage is credited to production order or production overhead account as the case may be.

Cost of abnormal spoilage is charged to costing profit & loss A/c.

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

Normal defectives can be recovered : charged to good production

: charged to general overhead

: charged to department.

If defectives are abnormal and are due to causes beyond the control of organization then they should be charged to profit and loss A/c.

Q 20. Differentiate between “scrap” and “defectives” and how they are treated in cost accounting.
(PCC Nov 08 – 2 marks)

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

Normal defectives can be recovered : charged to good production

: charged to general overhead

: charged to department.

If defectives are abnormal and are due to causes beyond the control of organization then they should be charged to profit and loss A/c.

Q 21. Distinguish amongst:

Waste

Spoilage

Salvage

Rectification

Scrap.

How are they treated in Cost Accounts?

Discuss the accounting treatment of defectives in cost accounts.
(May 00 - 4 marks)

A. Waste: It represents that portion of basic raw materials lost in processing having no recoverable value. Waste may be visible-remnants of basic raw materials—or invisible, e.g., disappearance of basic raw materials through evaporation, smoke etc.

Normal waste is absorbed in the cost of net output, whereas abnormal waste is transferred to the Costing Profit and Loss Account.

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

Normal spoilage costs are included in costs either charging it to production order or by charging it to production overheads so that it is spread over all products. Any value realized from spoilage is credited to production order or production overhead account as the case may be.

Cost of abnormal spoilage is charged to costing profit & loss A/c.

Salvage: Salvaged material refers to the material retrieved from the spoiled work. Salvage is the process by which salvaged material is retrieved. The salvaged units of material are usable in the production.

The value of salvaged material may be credited to the account to which spoilage is charged.

Rectification: It means bringing back the defective units either to standard units of production or as seconds, by reworking. Before the start of rectification work, an estimate of the cost of rectification is prepared and compared with the excess value to be obtained after rectification. The concern only goes ahead with the task of rectification if the aforesaid comparison is found favourable.

The task of rectification is usually carried out under a 'Rectification Work Order', and all costs of re-work are collected against this work order for material, labour and overhead.

If the defective production is inherent in the process of manufacture, and arises as a normal consequence of productive activities and if it can be identified with specific jobs, the rectification cost is charged to the jobs as the cost of manufacturing good units of the product. This will have the effect of adding to the cost of the jobs. If the expenditure on rectification is considered abnormal, it is excluded from product costs and charged to Costing Profit and Loss Account.

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 scrap is treated as other income.

Q 22. Write short notes on any three of the following:

- (i) **Re-order quantity**
- (ii) **Re-order level**
- (iii) **Maximum stock level**
- (iv) **Minimum stock level**

(Nov 03 - 6 marks)

Distinguish between Re-order level and Re-order quantity.

A. (i) Re-order quantity: It refers to the quantity of stock for which an order is to be placed at any one point of time. It should be such that it minimises the combined annual costs of-placing an order and holding stock. Such an ordering quantity in other words is known as economic order quantity (EOQ).

$$EOQ = \sqrt{\frac{2AO}{C \times i}}$$

A	=	Annual raw material usage quantity
O	=	Ordering cost per order
C	=	Cost per unit
i	=	Carrying cost percentage per unit per annum

(ii) Re-order level: It is the level at which fresh order should be placed for the replenishment of stock.

= Maximum re-order period × Maximum usage

$$= \text{Minimum level} + \left[\frac{\text{Average consumption}}{\text{consumption}} \times \frac{\text{Average time to obtain fresh supplies}}{\text{obtain fresh supplies}} \right]$$

(iii) Max stock level: 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:

Maximum level = Re-order level – (Minimum Consumption × Minimum Re-order period) + Re-order quantity.

(iv) Minimum stock level: 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 non-availability of inventory. The formula used for its calculation is as follows:

Minimum level of inventory = Re-order level – (Average rate of consumption × Average time of inventory delivery).

Q 23. Discuss briefly the considerations governing the fixation of the maximum and minimum levels of inventory.

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:

Maximum level = Re-order level – (Minimum Consumption × Minimum Re-order period) + Re-order quantity.

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 re-order level.
- (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 economic order quantity.
- (4) Availability of funds, storage capacity, nature of items and their price also are important for the fixation of minimum level.
- (5) In the case of important materials due to their irregular supply, the maximum level should be high.

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 non-availability of inventory. The formula used for its calculation is as follows:

Minimum level of inventory = Re-order level – (Average rate of consumption × Average time of inventory delivery).

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.

3

Labour

Q 1. Distinguish between Time keeping and Time booking.

(ME)

A. Attendance Procedure / Time-keeping: It refers to correct recording of the employees, attendance time. There is difference between time keeping and time booking. The latter refers to break up of time on various jobs while the former implies a record of total time spent by the workers in a factory.

Attendance Register and Metal Disc Method are the manual methods of time-keeping.

Time Recording Clocks and Dial Time Records are the mechanical methods of time-keeping.

Time-Booking: Information generated by time-keeping department do not show:

- ◆ how the total time was put to use in the factory
- ◆ how long he was kept waiting for one reason or another due to lack of work, lack of material and supplies, lack of instructions, machine breakdowns, power failures and the like.

These are all vital pieces of information necessary for the proper collection of cost data and for effective controlling of costs. For the collection of all such information, a separate record, generally known as Time (or Job) card, is kept. This is called time-booking.

Q 2. Discuss briefly the important factors for the control of labour cost.

(ME)

A. The main points which need consideration for controlling labour costs are the following:

- (i) Assessment of manpower requirements.
- (ii) Control over time-keeping and time-booking.
- (iii) Time & Motion Study.
- (iv) Control over idle time and overtime.
- (v) Control over labour turnover.
- (vi) Wage systems.
- (vii) Incentive systems.
- (viii) Systems of wage payment and incentives.
- (ix) Control over casual, contract and other workers.
- (x) Job Evaluation and Merit Rating.
- (xi) Labour productivity.

Q 3. Discuss the objectives of time keeping & time booking.

A. Time keeping has the following two objectives:

- (i) *Preparation of Payroll:* Wage bills are prepared by the payroll department on the basis of information provided by the time keeping department.
- (ii) *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:

- (i) To ascertain the labour time spent on the job and the idle labour hours.
- (ii) To ascertain labour cost of various jobs and products.
- (iii) To calculate the amount of wages and bonus payable under the wage incentive scheme.
- (iv) To compute and determine overhead rates and absorption of overheads under the labour and machine hour method.
- (v) To evaluate the performance of labour by comparing actual time booked with standard or budgeted time.

Q 4. Discuss briefly the various factors necessary for introducing an incentive system. Explain the characteristics of a good incentive system.

A. Various factors necessary for introducing an incentive system are:

- (i) It should be just both to the employer and to the employee.
- (ii) It should be strong both ways i.e. it should have a standard task and a generous return.
- (iii) It should be unrestricted as to the amount of the earning.
- (iv) It should be reasonable, apart from being simple, for employee to figure out his incentive in relation to his individual performance.
- (v) It should be flexible and intimately related to other management controls.
- (vi) It should automatically assist supervision and, when necessary, aid team work.
- (vii) It should have employee's support and in no way should it be paternalistic.
- (viii) It should have managerial support in so far as production material, quality control, maintenance and non-financial incentives are concerned.
- (ix) It should not be used temporarily and dropped in recession times as means of wage reduction.

5. Q Discuss the accounting treatment of Idle time and overtime wages. (May, 2003, 3 marks)
Discuss the treatment of overtime premium in Cost accounting. (Nov. 2004, 3 marks) (PCC May 08 – 2 marks)

A. Accounting treatment of idle time wages in cost accounts:

Normal idle time 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 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.

Treatment of Overtime Premium in Cost Accounting

- If overtime is resorted to at the desire of the customer, then overtime premium may be charged to the job directly.
- If overtime is required to cope with general production programme or for meeting urgent orders, the overtime premium should be treated as overhead cost of the particular department or cost center, which works overtime.
- If overtime is worked in a department, due to the fault of another department, the overtime premium should be charged to the latter department.
- Overtime worked on account of abnormal conditions such as flood, earthquake etc., should not be charged to cost but to costing P/L A/c.

Q 6. What is overtime premium? Explain the treatment of overtime premium in cost accounting. Suggest steps for controlling overtime. (Nov 95 - 8 marks)

A. Overtime premium: Overtime is the amount of wages paid for working beyond normal working hours as specified by Factories Act or by a mutual agreement between the workers union and the management. There is a practice is to pay for overtime work at higher rates. Hence, payment of overtime consists of two elements, the normal wages e.g., the usual amount, and the extra payment i.e., the premium. This amount of extra payment paid to a worker under overtime is known as overtime premium.

Treatment of Overtime premium in Cost Accounting

(Same as in previous question)

Steps for Controlling Overtime:

- (i) Entire overtime work should be duly authorized after investigating the reasons for it.
- (ii) Overtime cost should be shown against the concerned department. Such a practice should enable proper investigation and planning of production in future.
- (iii) If overtime is a regular feature, the necessity for recruiting more men and adding a shift should be considered.
- (iv) If overtime is due to lack of plant and machinery or other resources, steps may be taken to install more machines, or to resort to sub-contracting.
- (v) If possible an upper limit may be fixed for each category of workers in respect of overtime.

Q 7. Discuss the effect of overtime payment on productivity.

(Nov 04 - 3 marks)

A. 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 cost of production.

Q 8. Explain the meaning of and the reasons for idle time and discuss its treatment in cost accounting.

(Nov 08 - 3 marks)

A. 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:

(Same as in Q 5.)

Q 9. Distinguish between Idle Time and Idle Facilities. How are they treated in Cost Accounts? Develop a system of control for Idle Time in a factory.

A. 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.

According to reasons, idle time can be classified into normal idle time and abnormal idle time.

Idle facilities: The term facility has a wider connotation which may also include production capacity. Facilities may be provided by fixed assets such as building space, plants equipment capacity, etc. or by various service functions such as material services, production services, personal services etc. If a firm fails to make full use of the facilities of its disposal, the firm may be said to have idle facilities. Thus idle facilities refer to that part of total facilities which remains unutilised due to any reason such as non-availability of raw material, power, lack of demand etc. In Cost Accounting idle facilities are treated in the same way as those of idle capacity.

Treatment of idle time in Cost Accounting: (As given in Q 5.)

Treatment of idle facilities in Cost Accounting: Normal idle facilities cost which arises due to unavoidable reasons, should be included in the works overhead. On the other hand, abnormal idle facilities cost which arises due to plants or machines/facilities remaining idle on account of trade depression or for want of work etc., should be written off to costing profit and loss account.

System of controlling idle time: Management should aim at eliminating controllable idle time and on a long-term basis reducing even the normal idle time. This would require a detailed analysis of the causes leading to such idle time. Depending upon the particular causes, proper managerial action would be required to reduce the impact of such idle time. Basic control can be exercised through periodical reports on idle time showing a detailed analysis of the causes for the same, the departments where it is occurring and the persons responsible for it, along with a statement of the cost of such idle time.

Q 10. What do you understand by Labour Turnover? How is it measured? What are its causes? What are the remedial steps you would suggest to minimize its occurrence?

What do you understand by labour turnover? How is it measured?

(May 03 - 1+4 marks)

Write short note on Labour Turnover.

(May 96 - 4 marks)

Write Short note on Labour Turnover.

(Nov 94 - 4 marks)

A. The process of workers leaving and coming in business organizations gives rise to the phenomenon of labour turnover. Labour turnover of an organization is the rate of change in its labour force during a specified period. This rate of change is compared with an index which acts as a thermometer to ascertain its reasonableness. The suitable index of labour turnover may be the standard or usual labour turnover in the industry or locality, or the labour turnover rate for a past period. A higher labour turnover reflects that the workers in the organization are new and inexperienced, and it is a matter of concern to the organization. Also it accounts for an increase in cost of production and even disturbs the even flow of production in the market.

Measurement of Labour Turnover: (See next question)

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

- (a) Personal Causes
- (b) Unavoidable Causes
- (c) Avoidable Causes

Personal Causes are those which induce or compel workers to leave their jobs purely on personal grounds; e.g.

- (i) Change of job for betterment.
- (ii) Discontentment over the job and working environment.

Unavoidable Causes are those under which it becomes obligatory on the part of management to ask some or more of their employees to leave the organization; such causes may include the following:

- (i) Shortage of raw material, power, demand for the products, etc.
- (ii) Change in the plant location.

Avoidable Causes are those causes 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 are as follows:

- (i) Dissatisfaction with job, remuneration, hours of work, working conditions etc.
- (ii) Lack of training facilities and promotional avenues.
- (iii) Low wages and allowances.

Remedial steps to minimize labour turnover: (See Q 13.)

Q 11. Discuss the three methods of calculating labour turnover.

(Nov 04 - 3 marks)

(Nov 10-4 Marks) (Nov 07 - 4 Marks)

A. Methods of Calculating labour turnover

- (i) Replacement method =
$$\frac{\text{No. of employees replaced} \times 100}{\text{Av. number of employees on roll}}$$
- (ii) Separation method =
$$\frac{\text{No. of employees separated during the year}}{\text{Av. number of employees on the roll during the year}} \times 100$$
- (iii) Flux method =
$$\frac{(\text{No. of employees separated} + \text{No. of employees replaced})}{\text{Av. number of employees on roll during the period}} \times 100$$

Q 12. What is the impact of 'Labour Turnover' on a manufacturing organisation's working?
(Nov 98 - 6 marks)

A. Labour turnover refers to the rate of change in the composition of labour force of a concern during a specified period of time. The impact of labour turnover on a manufacturing organisation's working is many fold.

In fact the labour turnover increases the cost of production in the following ways:

- (i) Even flow of production is disturbed.
- (ii) Cost of recruitment and training increases.
- (iii) Breakage of tools, wastage of materials increases.
- (iv) Overall production decreases due to the time lost between the leaving and recruitment of new workers.
- (v) Reduction in sales accounts for loss of contribution and goodwill consequently.

Q 13. Enumerate the remedial steps to be taken to minimize the labour turnover.

(PCC Nov 07 – 3 marks)

A. The following steps are useful for minimizing labour turnover:

- (a) Exit interview: An interview 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.
- (c) Organisation should make use of a scientific system of recruitment, placement and promotion for employees.
- (d) Organisation should create healthy atmosphere, providing education, medical and housing facilities for workers.
- (e) Committee for settling workers grievances.

Q 14. State the distinction between Job evaluation and Merit rating.

(Nov 96 - 4 marks)(Nov 99 - 4 marks)(Nov 01 - 3 marks)(PCC May 08 – 3 marks)

A. Job evaluation 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 group of employees and ensures that these differentials are consistent and equitable.

Merit rating is the quantitative or qualitative assessment of an employee's personality or his performance on the job made by his supervisor or other person qualified to judge.

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.
2. Job evaluation and its accomplishments are meant to set up a rational wage and salary structure whereas merit rating provides a scientific basis for determining fair wages for each worker based on his ability and performance.
3. Job evaluation simplifies wage administration by bringing an uniformity in wage rates where as merits rating is used to determine fair rate of pay for different workers.

Q 15. What do you understand by time and motion study?

Distinguish between time study and motion study.

A. 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.

Q 16. Discuss two types of Costs, which are associated with labour turnover. (Nov 03 - 3 marks)

Discuss the two types of cost associated with labour turnover. (Nov 99 - 4 marks)

A. Two types of costs associated with labour turnover are:

(i) Preventive costs:

These costs are incurred to keep the labour turnover rate at a low level. They include costs of accommodation, transport facilities, medical services, welfare schemes, pension schemes, environment improvement, lighting, heating, air-conditioning etc. The rate of labour turnover is usually low, if a company incurs higher preventive costs.

(ii) Replacement costs:

These costs arise due to high labour turnover, e.g. cost of advertising, recruitment, selection, training & induction, abnormal breakage and scrap, extra wages & overheads etc., caused as a result of inefficient and inexperienced newly recruited workers.

Q 17. State the circumstances in which time rate system of wage payment can be preferred in a factory. (Nov 04 - 3 marks)

A. 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.

Q 18. It should be management's endeavor to increase inventory turnover but to reduce labour turnover. Expand and illustrate the idea contained in this statement.

A. 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 shopfloor 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 accounts 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.

Q 19. Distinguish between Direct and Indirect labour.

(Nov 01 - 2 marks)

A. 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.

Q 20. 'Under the Rowan Premium Bonus system, a less efficient worker can obtain same bonus as a highly efficient worker.' Discuss with suitable examples.

(May 07 - 4 Marks)

A.

$$\text{Bonus under Rowan system} = \frac{\text{Time taken}}{\text{Time allowed}} \times \text{time saved} \times \text{rate per hour}$$

For example let time allowed for a job = 4 hours and Labour rate = Rs. 5 per hour.

Case I : Less efficient worker

If time taken = 3 hours

Then time saved = 4 – 3 = 1 hour

$$\text{Bonus} = \frac{3 \text{ hours}}{4 \text{ hours}} \times 1 \text{ hour} \times \text{Rs. } 5 = \text{Rs. } 3.75$$

Case II : Highly efficient worker

If time taken = 1 hour

Then time saved = 4 – 1 = 3 hours

$$\text{Bonus} = \frac{1 \text{ hour}}{4 \text{ hours}} \times 3 \text{ hours} \times \text{Rs. } 5 = \text{Rs. } 3.75$$

So, it can be concluded that under Rowan System, the less efficient worker and highly efficient worker can get the same bonus.

Q 21. Enumerate the various methods of Time booking.

A. 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.

Q 22. Describe briefly, how wages may be calculated under the following systems:

(i) Gantt task and bonus system

(ii) Emerson's efficiency system

(iii) Rowan system

(iv) Halsey system

(v) Barth system.

(PCC Nov 08 – 9 marks)

Discuss the Gantt task and bonus system as a system of wage payment and incentives.
(Nov 04 - 3 marks)

A. (i) Gantt task and bonus system: This system is a combination of time and piecework system. According to this system a high standard or task is set and payment is made at time rate to a worker for production below the set standard.

Wages payable to workers under the plan are calculated as under:

Output	Payment
(i) Output below standard	Guaranteed time rate
(ii) Output at standard	Time rate plus bonus of 20% (usually) of time rate
(iii) Output over standard	High piece rate on worker's output. (It is so fixed so as to include a bonus of 20% of time rate)

(ii) Emerson's Efficiency System: Under this system wages may be calculated as below:

Performance

Below 66 ²/₃ % efficiency

66 ²/₃ % - 100% efficiency

Above 100% efficiency

Wages

Time rate without any bonus

Bonus varies between 1% to 20%*

Bonus of 20% of basic wages plus

1% for every 1% increase in efficiency

*At 100% efficiency the bonus percentage will be 20%

(iii) Rowan System: As per this system standard time allowance is fixed for the performance of a job and bonus is paid if time is saved.

$$\text{Wages under Rowan System} = (\text{Time taken} \times \text{rate per unit of time}) + \frac{\text{time saved}}{\text{time allowed}} \times \text{time taken} \times \text{rate per unit of time}$$

(iv) Halsey System: Under this system a standard time is fixed for each job. If there is no saving on this standard time allowance, the worker is paid only his day rate.

$$\text{Wages under Halsey System} = \text{Time taken} \times \text{Time rate} + (50\% \text{ of time saved} \times \text{time rate})$$

(v) Barth System:

$$\text{Earnings under Barth System} = \text{Hourly rate} \times \sqrt{\text{Standard hours} \times \text{Hours worked}}$$

This is particularly suitable for trainees and beginners and also for unskilled workers.

Q 23. Which departments are involved in the control of labour costs?

Describe briefly the functions of the following departments in relation to labour:

(a) Personnel department.

(b) Engineering department.

(c) Cost Accounting department.

A. In a large organisation, generally the following departments are involved in the control of labour costs:

1. *Personnel Department* - This department is assigned the duty of recruiting workers, training them and maintaining their record. It is the duty of this department to ensure that the persons recruited possess the qualifications and qualities necessary to perform well the concerned jobs.
2. *Engineering and Work Study Department* - This department prepares plans and specifications for each job, supervises production activities, conducts time and motion studies, undertakes job analysis, etc.
3. *Time-keeping Department* - This Department is primarily concerned with the maintenance of attendance records of the employees and the time spent by them on various jobs, etc.
4. *Payroll Department* - This department is responsible for the preparation of payroll of the employees.
5. *Cost Accounting Department* - This department is responsible for the accumulation and classification etc. of all type of costs. All such data pertaining to labour costs are also collected, analysed and allocated to various jobs, processes, departments, etc., by this department.

Q 24. Which is the better plan out of Halsey 50 Percent Bonus Scheme Rowan Bonus Scheme for an Efficient Worker? In which situation the worker get same bonus in both schemes? (May 10-3 marks)

A. Rowan Bonus Scheme pays more bonus if the time saved is below the 50 per cent of time allowed and if the time saved is more than 50 percent of time allowed then Halsey bonus scheme pays more bonus. Generally, time saved by a worker is not more than 50 per cent of time allowed. So, the Rowan bonus scheme is better for an efficient worker.

When the time saved is equal to 50 per cent of time allowed then both plans pays same bonus to a worker.

Bonus under Halsey Plan

$$= \text{Standard wage rate} \times 50/100 \times \text{Time saved} \quad \dots(i)$$

Bonus under Rowan Plan

$$= \text{Standard wage rate} \times \frac{\text{Time taken}}{\text{Time allowed}} \times \text{Time taken} \quad \dots(ii)$$

Bonus under Halsey Plan will be equal to the

Bonus under Rowan Plan when the following condition holds good

$$= \text{Standard wage rate} \times 50/100 \times \text{Time saved}$$

$$= \text{Standard wage rate} \times \text{Time taken} / \text{Time allowed} \times \text{Time saved}$$

Or

$$1/2 = \text{Time taken} / \text{Time allowed}$$

Or

Time taken = $\frac{1}{2}$ of Time allowed

Hence, when the time taken is 50% of the time allowed, the bonus under Halsey and Rowan Plans is equal.

Q 25. Enumerate the causes of labour turnover.

A.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 :

- (i) Change of jobs for betterment.
- (ii) Premature retirement due to ill health or old age.
- (iii) Domestic problems and family responsibilities.
- (iv) 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:

- (i) Seasonal nature of the business;
- (ii) Shortage of raw material, power, slack market for the product etc.;
- (iii) Change in the plant location;
- (iv) Disability, making a worker unfit for work;
- (v) Disciplinary measures;
- (vi) Marriage (generally in the case of women).

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 :

- (i) Dissatisfaction with job, remuneration, hours of work, working conditions, etc.,
- (ii) Strained relationship with management, supervisors or fellow workers;
- (iii) Lack of training facilities and promotional avenues;
- (iv) Lack of recreational and medical facilities;
- (v) Low wages and allowances.

4

Overheads

Q1. Define administration overheads and state briefly the treatment of such overheads in Cost Accounts. (Nov 96- 4 marks)

A. Administration Overhead: These are costs of formulating the policy, directing the organisation and controlling the operation of an undertaking. These are not related directly to production activity or function. In other words, all expenses, incurred on policy formulation, direction, control, office administration and business management are included in administration overheads.

Treatment of Administrative Overheads in Cost Accounting

(i) *Charge to Costing Profit and Loss Account:* According to this method administrative overheads should be treated as fixed cost as they are concerned with the formulation of policy. Hence these overheads should be transferred to the Costing Profit and Loss Account.

(ii) *Apportionment between Production and Selling and Distribution:* According to this method, it is assumed that administrative overheads are incurred both for production and for selling and distribution. Therefore these overheads should be divided on some equitable basis between production and selling and distribution activity.

(iii) *Treat as a separate element of total cost:* Here administration overheads are considered as a cost of a distinct and identifiable operation of the organisation necessary to carry on its activity. Therefore these overheads are recovered separately on some equitable basis which may be on cost or sales basis.

Q 2. What is blanket overhead rate? In which situations, blanket rate is to be used and why? (May 99 - 3 marks)

Explain Blanket overhead rate. (PCC Nov 07 – 2 marks)

A. Blanket overhead rate refers to the computation of one single overhead rate for the entire factory. This is also known as plantwise or the single overhead rate for the entire factory. It is determined as follows:

$$\text{Blanket overhead rate} = \frac{\text{Overhead cost for the entire factory for the period}}{\text{Base for the period (Labour Hours, Machine Hours)}}$$

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, e.g. chemical plant, glass plant etc.. 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 and tenders.

Q 3. What is 'Idle Capacity '? How should this be treated in cost accounts? (May 97 - 6 marks)

How would you treat the idle capacity costs in Cost Accounts? (Nov 01 - 4 marks)

Discuss accounting treatment of idle capacity costs in cost accounting. (PCC June 09 – 3 marks)

A. 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, no 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.

(a) If idle capacity is due to unavoidable reasons such as repairs & maintenance, change over 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.

- (b) If idle capacity cost is due to avoidable reasons such as faulty planning, power failure etc, the cost should be charged to Costing Profit & Loss A/c.
- (c) If idle capacity is due to seasonal factors, then the cost should be charged to cost of production by inflating overhead rates.

Q 4. What is an idle capacity? What are the costs associated with it? How are these treated in product costs?

A. Idle Capacity: Idle capacity is that part of the capacity of a plant, machine or equipment which cannot be effectively utilised in production. In other words, it is the difference between the practical or normal capacity and capacity of utilisation based on expected sales. For example, if the practical capacity of production of a machine is to the tune of 10,000 units in a month, but is used only to produce 8,000 units, because of market demand of the product, then in such a case, 2,000 units will be treated as the idle capacity of the machine.

The idle capacity may arise due to lack of product demand, non-availability of raw-material, shortage of skilled labour, absenteeism, shortage of power, fuel or supplies, seasonal nature of product, etc

Idle Capacity Costs: Costs associated with idle capacity are mostly fixed in nature. These include depreciation, repairs and maintenance charges, insurance premium, rent, rates, management and supervisory costs. These costs remain unabsorbed or unrecovered due to under-utilisation of plant and service capacity. Idle capacity cost can be calculated as follows:-

$$\text{Idle capacity cost} = \frac{\text{Aggregate overhead related to plant}}{\text{Normal plant capacity}} \times \text{Idle Capacity}$$

Treatment of Idle capacity cost: Idle capacity costs can be treated in product costing, in the following ways:

- (i) If the idle capacity cost is due to unavoidable reasons such as repairs, maintenance, change over of job, etc, 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.
- (ii) If the idle capacity cost is due to avoidable reasons such as faulty planning, power failure etc., the cost should be charged to profit and loss account.
- (iii) If the idle capacity cost is due to seasonal factors, then, the cost should be charged to the cost of production by inflating overhead rates.

Q 5. Discuss the problems of controlling the selling and distribution overheads. (May 04 - 3 marks)

A. Problems of controlling the selling & distribution overheads are:

- (i) 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.
- (ii) They are dependent upon customers' behaviour, liking etc.
- (iii) 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:

- (a) Comparing the figures of selling & distribution overhead with the figures of previous period.
- (b) 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,
- (c) 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.

Q 6. Discuss in brief three main methods of allocating support departments costs to operating departments. Out of these three, which method is conceptually preferable? (Nov 99 - 4 marks)

Discuss the step method and reciprocal service method of secondary distribution of overheads. (Nov 04 - 4 marks)

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

- (i) *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.
- (ii) *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.
- (iii) *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.

Q 7. Write a note on 'classification', 'allocation' and 'absorption' of overheads. How does it help in controlling overheads? (May 98 - 5 marks)

Explain what is meant by Cost Apportionment and Cost Absorption.

Distinguish between cost allocation and cost absorption. (November, 2001, 2 marks).

A. Classification of overheads:

It, means determination of categories, classes or groups in which overhead costs may be sub-divided.

Usually, overhead costs are classified under three broad categories viz, Factory Overheads; Office and administrative Overheads and Selling and distribution Overheads.

Factory overheads represent all those indirect costs that are incurred in the manufacturing process. For example, consumable stores, factory rent, depreciation of plant, factory building, repairs and maintenance. Office and administrative overheads represent costs which are associated with the administration and maintenance of the office.

Selling and distribution overheads are the expenses incurred for selling and distribution of products. It includes salaries of sales staff and commission; sales-promotion expenses; advertising expenses, warehousing costs etc.

Cost apportionment

Cost apportionment is the process of charging expenses in an equitable proportion to the various cost centres or departments. This describes the allotment of proportions of overhead to cost centres or departments. It is carried out in respect of those items of cost which cannot be allocated to any specific cost centre or department. For example, the salary of general manager cannot be allocated wholly to the production department, as he attends in general to all the departments. Therefore, some logical basis is selected and adopted for the apportionment of such type of expenses over various departments. Likewise, factory rent can be apportioned over the production and service departments on the basis of the area occupied by each.

Cost absorption

It is defined as the process of absorbing all overhead costs allocated or apportioned over particular cost centre or production department by the units produced.

Absorption of overheads takes place only after the allocation and apportionment of overhead expenses. In other words, the overhead costs are either allocated or apportioned over different cost centres or cost units and afterwards they are absorbed on equitable basis by the output of the same cost centres.

Cost allocation

Cost allocation is the allotment of whole items of cost to cost centers. For example, if a typist works exclusively for Board of Studies, then the salary paid to him should be charged to Board of Studies account. This technique of charging the entire overhead expenses to a cost centre is known as cost allocation.

Q 8. Discuss the difference between allocation and apportionment of overhead. (May 08 – 2 marks)

A. 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.

Q 9. A departmental store has several departments. What bases would you recommend for apportioning the following items of expense to its departments

- (1) *Fire insurance of Building.*
- (2) *Rent*
- (3) *Delivery Expenses.*
- (4) *Purchase Department Expenses.*
- (5) *Credit Department Expenses.*
- (6) *General Administration Expenses.*
- (7) *Advertisement.*
- (8) *Sales Assistants Salaries.*
- (9) *Personal Department expenses.*
- (10) *Sales Commission*

A.

	Items of expenses	Basis For apportioning
(1)	Fire Insurance of Building.	Floor Area
(2)	Rent	Floor Area
(3)	Delivery Expenses.	Volume or Distance or Weight
(4)	Purchase department Expenses	No. of Purchase order/Value of Purchases
(5)	Credit Department Expenses.	Credit Sales Value
(6)	General Administration Expenses.	Works cost
(7)	Advertisement.	Actual sales
(8)	Sales Assistants Salaries.	Actual/Time devoted
(9)	Personal Department expenses.	No. of Employees
(10)	Sales Commission	Actual

Q 10. Indicate the base or bases that you would recommend to apportion overhead costs to production department:

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

A. Item	Bases of apportionment
(i) Supplies	Actual supplies made to different departments
(ii) Repair	Direct labour hours; Machine hours; Direct labour wages; Plant value
(iii) Maintenance of building	Floor area occupied by each department
(iv) Executive salaries	Actual basis; Number of workers.
(v) Rent	Floor area
(vi) Power and light	K W hours or H P (power); Number of light points; Floor space; Meter readings (light)
(vii) Fire insurance	Capital cost of plant and building; Value of stock
(viii) Indirect labour	Direct labour cost.

Q 11. Distinguish between fixed and variable overheads. (May 2010-2 marks)

A. *Fixed overhead expenses* 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 overheads cost varies in direct proportion to the volume of production. It increases or decreases in direct relation to any increase or decrease in output.

Q 12. Discuss the treatment in cost accounts of the cost of small tools of short effective life. (May 02 - 4 marks)

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

Treatment of cost of small tools of short effective life:

(i) 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:

- Factory overheads
- Overheads of the department using the small tool.

(ii) Cost of small tools should be charged fully to the departments to which they have been issued, if their life is not ascertainable.

Q 13. How do you deal with the following in Cost Account?

- | | |
|--|--------------------------------|
| (i) Research and Development Expenses | (May 96, Nov 98 - 2 marks) |
| (ii) Fringe benefits | (May 11, Nov 98, 99 - 2 marks) |
| (iii) Employee welfare costs | (May 96 - 2 marks) |
| (iv) Depreciation | (May 96 - 2 marks) |
| (v) Bad debts | (Nov 99 - 4 marks) |
| (vi) Packing Expenses | (May 11-2 Marks) |
| (vii) Expenses on Removal and Re-erection of Machinery. | |
| (viii) Bonus and gratuity | |

A. (i) Research and Development Expense: Research and Development expense is the expense incurred for searching new or improved products, production methods / techniques or plants / equipments. *Treatment in Cost Accounts:* Expense of Basic Research (if it is a continuous activity) be charged to the revenues of the concern. It may be spread over a number of years if research is not a continuous activity and amount is large.

Expense of applied research, if relates to all existing products and methods of production then it should be treated as a manufacturing overhead of the period during which it has been incurred and absorbed. Such expenses are directly charged to the product, if it is solely incurred for it.

If applied research is conducted for searching new product or methods of production etc., then the research expense treatment depends upon the outcome of such research. For example, if research findings are expected to produce future benefits or if it appears that such findings are going to result in failure then the costs incurred may be amortized by charging to the Costing Profit and Loss Account of one or more years depending upon the size of expenditure. If research proves successful, then such costs will be charged to the concerned product.

Development expenses begin with the implementation of the decision to produce a new or improved product or to employ a new or improved method. The treatment of development expenses is same as that of applied research.

(ii) Fringe benefits: In every organisation, workers are paid some benefits in addition to their normal wage or salary. These additional benefits are popularly called fringe benefits. They include:

- (i) Housing
- (ii) Children education allowance
- (iii) Holiday pay
- (iv) Leave pay
- (v) Leave travel concession to home town or any place in India etc.

Expenses incurred on fringe benefits in respect of factory workers should be treated as factory overheads and apportioned among the production and service departments on the basis of number of workers in each department.

Fringe benefits to office and selling and distribution staff should be treated as administration overheads and selling and distribution overheads respectively and recovered accordingly.

(iii) Employee Welfare Costs: It includes those expenses, which are incurred by the employers on the welfare activities of their employees. The welfare activities on which these expenses are usually incurred may include canteen, hospital, play grounds, etc. These expenses should be separately recorded as Welfare Department Costs. These Costs may be apportioned to production cost centres on the basis of total wages or the number of men employed by them.

(iv) Depreciation: It represents the fall in the asset value due to its use, wear and tear and passage of time. Depreciation is an indirect cost of production and operations. It is an important element of cost and without this true cost of production cannot be obtained. In costing; depreciation on plant and machinery is normally treated as part of the factory overheads.

(v) 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.

(vi) Packing Expenses: It includes the expenses incurred on wrapping, tying, bottles, boxes, containers or bags etc. In Cost Accounts they are treated as follows:

(i) It is treated as a direct material cost in the case of those products which cannot be sold without the use of a packing. For example ink-pot ; Bread; paste etc.

(i) It may be treated as distribution overhead if packing expenses are incurred to facilitate the transportation of finished products.

(ii) It may be treated as advertisement cost and included in selling overheads if it is incurred for advertisement to make the product attractive.

(vii) Expenses on Removal and Re-erection of Machinery: Expenses are sometime incurred on removal and re-erection of machinery in factories. Such expenses may be incurred due to factors like change in the method of production; an addition or alteration in the factory building, change in the follow of production, etc. All such expenses are treated as production overheads. When amount of such expenses is large, it may be spread over a period of time.

If such expenses are incurred due to faulty planning or some other abnormal factor, then they may be charged to Costing Profit and Loss Account.

(viii) Bonus and gratuity: Bonus under the payment of Bonus Act is to be paid compulsorily to the workers although the amount of bonus may vary with amount of profit earned. A minimum bonus of 8.33% is, however, payable irrespective of profit or loss earned by the concern. The amount of bonus, therefore, may be included in a direct labour cost to the extent of the minimum bonus, as the same is payable even in a loss situation. Any amount paid as bonus in excess of the minimum may be considered as an appropriation of profit. However, bonus linked with productivity is definitely a part of the overhead cost.

So far as gratuity is concerned, it is indeed directly linked with the wages and is not by any means related to the profits. Accordingly, it should be treated as an element of cost.

Q 14. Explain the cost accounting treatment of unsuccessful Research and Development cost. (PCC Nov 07 – 2 marks)

A. 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.

Q 15. What is notional rent of a factory building? Give one reason why it may be included in cost accounts. (Nov 95 - 2 marks)

A. Notional Rent: It is a reasonable charge raised in the cost accounts for the use of owned premises. One reason for the use of such a nominal charge is to enable comparison between the cost of items made in factories which are owned and in rented factories. However, it may be noted that in the case of owned factory, cost for the same is accounted for by means of depreciation.

Q 16. Explain what do you mean by Chargeable Expenses and state its treatment in Cost Accounts? (Nov 02 - 3 marks)

A. Chargeable expenses: 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, cost of making a specific pattern, design, drawing or making tools for a job.

Q 17. "The more kilometers you travel with your own vehicle, the cheaper it becomes." Comment briefly on this statement. (Nov 95 - 2 marks)

A. The cost per kilometre, (if one travels in his own vehicle) will decline when he travels more kilometers. This is because the majority of costs for running and maintaining vehicles are of fixed nature and the component of fixed cost per kilometre goes on decreasing with an increase in kilometre travel. Hence, the given statement is true.

Q 18. Define Selling and Distribution Expenses. Discuss the accounting for selling and distribution expenses. (Nov 99 - 4 marks)

A. 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.

Accounting treatment for selling and distribution expenses: Selling and distribution expenses are usually collected under separate cost account numbers.

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.

Q 19. Why is the use of an overhead absorption rate based on direct labour hours generally preferable to a direct wages percentage rate for a labour intensive operation?

(Nov 95 - 3 marks)

A. A method of overhead absorption is considered appropriate if the total amount of overhead absorbed in a period does not fluctuate materially from the actual expense incurred in the period. Direct wages percentage rate method do not possess the aforesaid features. In other words, the overhead charged varies from period to period due to changes in direct wages.

In fact, overhead expenses are generally a function of time. Therefore, a time base overhead absorption rate method is always preferred over any other method. In the case of labour intensive operations, it is advisable to use labour hour method for overhead absorption.

Q 20. Explain how under and over absorption of overheads are treated in cost accounts.

(Nov 98 - 4 marks)

Discuss the treatment of under absorbed and over-absorbed factory overheads in Cost Accounting. (May 04 - 4 marks, May 10- 3 Marks)(Nov 10-4 marks)

A. Production overheads are generally recovered or charged on the goods on some predetermined basis. Irrespective of the method used for the recovery of overheads, it has been observed that a difference arises between the amount of overheads absorbed and the amount of overheads actually incurred. If the absorbed amount is more than the overheads actually incurred then such a difference is termed as an over absorption of overheads. If the recovery is less than the actual overheads incurred then the difference is termed as under absorption of overheads.

Under and over absorbed overheads can be disposed off in Cost Accounts by using any one of the following methods:

(i) Use of Supplementary Rates: 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.

(ii) Writing off to Costing Profit & Loss Account: When under or over absorbed amount of overheads is quite negligible and it is not felt worth while to absorb it by using supplementary rates, the said amount is transferred to Costing Profit & Loss Account. In case under absorption of overheads arises due to factors like idle capacity, defective planning etc. Then also it may be transferred to Costing Profit & Loss Account.

(iii) Carrying over to the next year's accounts: Under this method, the amount of over/under absorbed overhead is carried over to the next period this method is not considered desirable as it allows costs of one period to affect cost of another/period. Further, comparison between one period and another is rendered difficult. However, this method may be used when the normal business cycle extends over more than one year, or in the case of a new project, the output is low in the initial years.

Q 21. Explain briefly the conditions when supplementary rates are used.

(PCC May 07 – 2 marks)

A. 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.

Q 22. Define Product costs. Describe three different purposes for computing product costs.

(May 13- 2 marks)

A. Definition of Product Costs: Product costs are inventoriable costs. These are the costs, which are assigned to the product. Under marginal costing variable manufacturing costs and under absorption costing, total manufacturing costs constitute product costs.

Purposes for Computing Product Costs: The three different purposes for computing product costs are as follows:

(a) Preparation of Financial Statements: Here focus is on inventoriable costs.

(b) Product Pricing: It is an important purpose for which product costs are used. For this purpose, the cost of the areas along with the value chain should be included to make the product available to the customer.

(c) Contracting with Government Agencies: For this purpose government agencies may not allow the contractors to recover research and development and marketing costs under cost plus contracts.

5

Non Integrated Accounts

Q 1. Write short note on Cost Ledger Control Account.

(May 96 - 4 marks)

A. Cost Ledger Control Account: This control account is also popularly known as 'General Ledger Adjustment Account' is opened in Cost Ledger to complete double-entry. All items of income and expenditure taken from financial accounts and all transfers from cost accounts to financial books are recorded in this account. Since the purpose of this account is to complete double entry in the cost ledger, therefore all transactions in the cost ledger must be recorded through the 'Cost Ledger Control Account'. The balance in this account will always be equal to the total of all the balances of the impersonal accounts.

Q 2. What are the essential pre-requisites of integrated accounting system?

(Nov 96, 01, 08 - 4, 3 marks)(PCC Nov 07 – 3 marks)

A. Essential pre-requisites for integrated accounts:

- (a) The management's decision about the extent of integration of the two sets of books.
- (b) A suitable coding system must be made available so as to serve the accounting purposes of financial and cost accounts.
- (c) An agreed routine, with regard to the treatment of provision for accruals, prepaid expenses, other adjustment necessary for preparation of interim accounts.
- (d) Perfect coordination should exist between the staff responsible for the financial and cost accounts and an efficient processing of accounting document should be ensured.

Q 3. What are the advantages of integrated accounting?

(Nov 97, May 02 - 4 marks)

Write short note on Integrated Accounting. (May 99, 98 - 4 marks)(May 95 - 4 marks)(May 2010- 2 Marks)

A. Integrated Accounting: Integrated Accounting is a system of accounting whereby 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. For instance, purchases account is eliminated and direct postings are made to Stores Control Account, Work-in-Progress account, or Overhead Account. 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 also be prepared.

The main advantages of Integrated Accounting are as follows:

- (i) 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.
- (ii) There is no duplication of recording of entries and efforts to maintain separate set of books.
- (iii) Costing data are available from books of original entry and hence no delay is caused in obtaining information.
- (iv) Centralization of accounting function results in economy.
- (v) The question of reconciling costing profit and financial profit does not arise, as there is one figure of profit only.
- (vi) Due to use of one set of books, there is a significant extent of saving in efforts made.
- (vii) No delay is caused in obtaining information as it is provided from books of original entry.
- (vii) It is economical also as it is based on the concept of "Centralisation of Accounting Functions."

Q 4. When is the reconciliation statement of Cost and Financial accounts not required?
(PCC Nov 09 - 2 Marks)

A. 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 fulfill the requirement of both i.e., Cost and Financial Accounts.

Q 5. What are the reasons for disagreement of profits as per cost accounts and financial accounts?
Discuss. **(May 2000 - 4 marks)**

What are the reasons for disagreement of Profits as per Financial accounts and Cost accounts?
Discuss. **(Nov 99, 4 marks)**

Enumerate the factors which cause difference in profits as shown in Financial Accounts and Cost Accounts. **(PCC May 07, 3 marks)**

Discuss the reasons for disagreement of profits as per Cost Accounting and Financial Accounting.
(Nov 07 - 4 marks)

Why is it necessary to reconcile the Profit between Cost Accounts and Financial Accounts?
(Nov 02 - 5 marks) (May 04 - 5 marks)

A. 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.

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, not in cost accounts:

(i) Income:

(a) Profit on sale of assets

(b) Interest received

(c) Dividend received

(d) Share Transfer fees

(ii) Expenditure

(a) Loss on sale of assets

(b) Preliminary expenses written off

(c) Goodwill written off

(d) Underwriting commission and debenture discount written off

(iii) Appropriation

(a) Dividends

(b) Reserves, Sinking Fund, etc.

2. Items appearing only in cost accounts, not in financial accounts:

(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 while in financial accounts actual amount of overhead is charged, the difference gives rise to 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.

Motivations for reconciliation / Advantages / Uses of reconciliation are:

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

Q 6. List the Financial expenses which are not included in cost.

(PCC Nov 09 - 2 Marks)

A. Financial expenses which are not included in cost accounting are as follows:

- ◆ Interest on debentures and deposit
- ◆ Gratuity
- ◆ Pension
- ◆ Bonus of Employee
- ◆ Income Tax
- ◆ Preliminary Expenses
- ◆ Discount on issue of Share
- ◆ Underwriting Commissions.

Q 7. 'Reconciliation of cost and financial accounts in the modern computer age is redundant'
Comment.

(May 98 - 4 marks)

A. In the modern computer age the use of computer knowledge and accounting softwares has helped the field of Financial and Cost Accounting in a big way. In fact, computers work at a very high speed and can process voluminous data for generating desired output in no time. Output produced is precise and accurate. Computers can work for hours without any fatigue. They can bring out different Financial Accounting and Cost Accounting statements and reports accurately in a presentable form. Financial accounts and Cost accounts show their results accurately and precisely, when maintained on a computer system, but the profit shown by one set of books may not agree with that of the other set.

The main reasons for the disagreement of the profit figures shown by the two set of books is the absence of certain items which appear in financial books only and are not recorded in cost accounting books. Similarly, there may be some items which appear in cost accounts but do not find a place in the financial books. Some examples which affect it are as below:

1. Profit / loss on sale of assets
2. Interest received
3. Dividend received
4. Preliminary expenses, goodwill written off
5. Under or over-absorption of overhead
6. Different bases of stock valuation
7. Different methods of Depreciation

Under the situation of differential profit figure shown by financial and cost accounts, it is necessary to reconcile the results (profit/loss) shown. Such a reconciliation proves arithmetical accuracy of data, explains reasons for the difference in two sets of books and affords reliability to them. Hence, the reconciliation of cost and financial accounts is essential and not redundant even in the modern age of computer.

6

Method of Costing (I) (Job Costing, Contract Costing, Batch Costing & Operating Costing)

Q 1. Distinguish between Job Costing & Batch Costing?

(Nov 04, Nov 06 - 2 marks)

Describe job Costing and Batch Costing giving example of industries where these are used? (May 01 - 3 marks)

A. In job costing, costs are collected and accumulated according to job. Each job or unit of production is treated as a separate entity for the purpose of costing. Job costing may be employed when jobs are executed for different customers according to their specification.

Batch costing is a form of job costing, a lot of similar units which comprises the batch may be used as a cost unit for ascertaining cost. Such a method of costing is used in case of pharmaceutical industry, readymade garments, industries manufacturing parts of TV, radio sets etc.

Q 2. What do you understand by Batch Costing? In which industries it is applied?

A. Batch Costing is a form of job costing. In this, the cost of a group of products is ascertained. The unit of cost is a batch or a group of identical products instead of a single job, order or contract. Separate cost sheets are maintained for each batch of products by assigning a batch number. The cost per unit is ascertained by dividing the total cost of a batch by the number of items produced in that batch.

Batch costing is employed by companies manufacturing in batches. It is used by readymade garment factories for ascertaining the cost of each batch of cloths made by them. Pharmaceutical or drug industries, electronic component manufacturing units, radio manufacturing units too use this method of costing for ascertaining the cost of their product.

Q 3. In Batch Costing, how is Economic Batch Quantity determined?

(May 01 - 3 marks)

A. In batch costing the most important problem is the determination of 'Economic Batch Quantity'.

The determination of economic batch quantity involves two type 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:

$$EBQ = \sqrt{\frac{2DC}{C}}$$

Where,

D = Annual demand for the product

S = Setting up cost per batch

C = Carrying cost per unit of production per annum

Q 4. Write notes on Escalation Clause.

(Nov 00 - 2 marks, May 94 - 4 marks)

Explain the importance of an Escalation Clause in contract cost.

(Nov 13-2Marks) (PCC Nov 07 – 2 marks)

A. Escalation Clause: 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. In such a situation the contractor has to satisfy the contractee that the increased utilization is not due to his inefficiency.

Q 5. Discuss the process of estimating profit/loss on incomplete contracts.

(Nov 03 - 4 marks)(May 11- 4 Marks)

A. Process of estimating profit / loss on incomplete contracts

(i) If completion of contract is less than 25% no profit should be taken to profit and loss account.

(ii) If completion of contract is upto 25% or more but less than 50% then

$$\frac{1}{3} \times \text{Notional Profit} \times \frac{\text{Cash received}}{\text{Work certified}}$$

may be taken to profit and loss account.

(iii) If completion of contract is 50% or more but less than 90% then

$$\frac{2}{3} \times \text{Notional Profit} \times \frac{\text{Cash received}}{\text{Work certified}}$$

may be taken to profit and loss account

(iv) If completion of contract is greater than or equal to 90% then one of the following formulas may be used for taking the profit to profit and loss account.

1. Estimated Profit $\times \frac{\text{Work certified}}{\text{Contract price}}$
2. Estimated Profit $\times \frac{\text{Work certified}}{\text{Contract price}} \times \frac{\text{Cash received}}{\text{Work certified}}$
3. Estimated Profit $\times \frac{\text{Cost of the work to date}}{\text{Estimated total cost}}$
4. Estimated Profit $\times \frac{\text{Cost of the work to date}}{\text{Estimated total cost}} \times \frac{\text{Cash received}}{\text{Work certified}}$
5. Notional Profit $\times \frac{\text{Work certified}}{\text{Contract price}}$

Q 6. Explain the following:

(i) Notional profit in Contract costing

(ii) Retention money in Contract costing

(May 07 - 2, 2 Marks)(Nov 11- 4 Marks)

A. (i) Notional profit in Contract costing: It represents the difference between the value of work certified and cost of work certified.

Notional Profit = Value of work certified – (Cost of works to date – Cost of work not yet certified)

(ii) 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.

Q 7. What are the main features of 'Cost-Plus-Contracts'?

(Nov 96 - 4 marks)

Write note on cost-plus-contracts.

(Nov 00 - 2 marks)

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

Main features of cost-plus-contracts:

1. This method is adopted in the case of those contracts where the probable cost of contract 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 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 contract contractee is allowed to check or scrutinise the concerned books, documents accounts.
4. Such a contract offers a fair price to the contractee and also a reasonable profit to contractor.
5. The contract price here is ascertained by adding a fixed and mutually pre-decided component of profit to the total cost of the work.

Q 8. What is cost plus contract? State its advantages.

(Nov 08 - 3 Marks)

What are the main advantages of cost plus contract? (PCC May 08 – 2 marks)(PCC Nov 09 - 2 Marks)

A. 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.

Costs plus contracts have the following advantages:

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 especially 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 the contract”, as he is empowered to examine the books and document of the contractor to ascertain the veracity of the cost of the contract.
4. Contractor is protected from risk of fluctuation in market price of material, labour and services.
5. Contractee can insure a fair price of the market.
6. It is useful specially when the work to be done is not definitely fixed at the time of making the estimate.
7. Contractee can ensure himself about the cost of the contract’, as he is empowered to examine the books and documents of the contractor to ascertain the veracity of the cost of the contract.

Q 9. Explain briefly, what do you understand by Operating Costing? How are composite units computed? (PCC Nov 09 - 3 Marks)(Nov 12- 4 Marks)

A. 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:

- (a) Absolute (weighted average) tones kms, quintal kms etc.
- (b) Commercial (simple average) tones kms, quintal kms etc.

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

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

Q 10. Specify the methods of costing and cost units applicable to the following industries:

A.

Industry	Method of costing	Unit of cost
Toy making	Batch	Per batch
Cement	Unit	Per tonne or per bag
Radio	Multiple	Per Radio or per batch
Bicycle	Multiple	Per Bicycle
Ship building	Contract	Per Ship
Hospital	Operating	Per Bed per day or Per patient per day
Brick-works	Single or output	1,000 bricks
Oil refining mill	Process	Per-Tonne
Road transport company	Operating	Per-tonne-km
City Bus Transport	Operating	Passenger km.
Transport	Operating	Per passenger km or per tonne km
Hotels providing lodging facilities	Operating	Room day
Hotel	Operating	Per room day or per meal
Power		Per Kilowatt (kw) hour
Interior decoration	Job costing	Each Job
Airlines company	Operating costing	
Steel	Process	Per Tonne
Coal	Single	Per unit
Bridge construction	Contract	Each contract
Advertising	Job	Each Job
Furniture	Multiple	Each unit
Sugar company having its own sugar-cane fields	Process	Per Quintal/Tonne

(Nov 97 - 2 marks) (May 02 - 3 marks) (PCC Nov 08 – 2 marks) (Nov 98 - 3 marks)

Q11.State the types of cost in the following cases

(May 12-4 Marks)

- (i) Interest paid on own capital not involving any cash outflow.*
- (ii) Withdrawing money from bank deposit for the purpose of purchasing new machine for expansion purpose.*
- (iii) Rent paid for the factory building which is temporarily closed*
- (iv) Cost associated with the acquisition and conversion of material into finished product.*

A . Type of costs

- (i) Imputed Cost
- (ii) Opportunity Cost
- (iii) Shut Down Cost
- (iv) Product Cost

7

Method of Costing (II)

(Process Costing, Operation Costing, Joint Products and By-products)

Q 1. Distinguish between job costing and process costing.

(Nov 96 - 4 marks)(May 95 - 4 marks)(Nov 98 - 4 marks)

A.

	Job Costing	Process Costing
1	Job costing is a specific order costing	Process costing is a method of costing used to ascertain the cost of a product at each stage of manufacture
2	Cost here is determined on job basis	Costs are accumulated for each process separately for a given period of time.
3	Each job needs special treatment and no two jobs are alike	Finished product of one process becomes the raw material for the next process.
4	The cost of each job is compiled separately by adding materials, labour and overhead costs	The unit cost here is the average cost of the process for a given period. Its correct computation requires the measurement of production at various stages of manufacture.
5	Costs are computed when job is completed.	Costs are computed for each process at the end of each period.
6	As each job is distinct or is of different nature, more detailed supervision and control are necessary	As the process operations are standardised accumulation of costs and supervision and control are comparatively easier.

Q 2. "The value of scrap generated in a process should be credited to the process account." Do you agree with this statement? Give reasons.

(Nov 95 - 2 marks)

A. This statement is not correct The value of scrap (as normal loss) received from its sale is credited to the process account. But the value of scrap received from its sale under abnormal conditions should be credited to Abnormal Loss Account.

Q 3. Explain briefly the procedure for the valuation of Work-in-process.

(Nov 02 - 2 marks)(May 13-2 Marks)

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

- First-in-first out (FIFO) method
- Last-in-first out (LIFO) method
- Average cost method

A brief account of the procedure followed for the valuation of work-in-process under the above three methods is as follows;

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.

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.

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.

Q 4. Explain equivalent units.

(May 02 - 2 marks)

A. 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.

$$\begin{array}{ccccc} \text{Equivalent} & & \text{Actual number of} & \text{Percentage of} & \\ \text{completed units} & = & \text{units in the process} & \times & \text{work completed} \\ & & \text{of manufacture} & & \end{array}$$

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.

Q 5. How would you account for by-product in cost accounting:

(i)	When they are of small total value.	(2 marks)
(ii)	When they are of considerable total value.	(4 marks)
(iii)	When they require further processing.	(May 97 - 4 marks)

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

(Nov 07 - 3 Marks)

A. Treatment of By-product in Cost Accounting:

(i) *When they are of small total value:* If the amount realised from the sale of by-product is small, it may be dealt in any one of the following two ways:

(1) The sale value of the by-product may be credited to the Profit and Loss Account and no credit be given in the cost accounts. The credit to the Profit and Loss Account here is treated either as miscellaneous income or as additional sales revenue.

(2) The sale proceeds of the by-product may be treated as deductions from the total costs. The sale proceeds in fact should be deducted either from the production cost or from the cost of sales.

(ii) *When they are of considerable total value:* In this case by-products may be regarded as joint products. To determine exact cost of by-products the costs incurred upto the point of separation, should be apportioned over by-products and joint products by using a logical basis. In this case, the joint costs may be divided over joint products and by-products by using physical unit method (at the point of split off) or ultimate selling price (if sold).

(iii) *When they require further processing:* In this case, the net realisable value of the by-product at the split-off point may be arrived at by subtracting the further processing cost from the realisable value of by-products.

Q 6. Distinguish between Joint products and By-products.

A. 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 product 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.

Q 7. Write short note on operation costing

(May 96 - 4 marks)

A. Operation Costing is defined as the refinement of process costing. It is concerned with the determination of the cost of each operation rather than the process. In those industries where a process consists of distinct operations, the method of costing applied or used is called operation costing. Operation costing offers better scope for control. It facilitates the computation of unit operation cost at the end of each operation by dividing the total operation cost by total input units. It is the category of the basic costing method, applicable, where standardized goods or services result from a sequence of repetitive and more or less continuous operations, or processes to which costs are charged before being averaged over the units produced during the period. The two costing methods included under this head are process costing and service costing.

Q 8. “Operation costing is defined as refinement of Process costing.” Explain it.

(PCC May 07 – 3 marks)

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

In the industries where process consist of distinct operations, the operation costing method is applied.

It offers better control and facilitates, the computation of unit operation cost at the end of each operation.

Q 9. Distinguish between Operating Costing and Operation Costing.

A. 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.

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.

Q 10. Describe briefly, how joint costs upto the point of separation may be apportioned amongst the joint products under the following methods:

- (i) *Average unit cost method*
- (ii) *Contribution margin method*
- (iii) *Market value at the point of separation*
- (iv) *Market value after further processing*
- (v) *Net realizable value method.*

(PCC June 09 – 9 marks)(Nov 10-4 Marks)

A. Methods of apportioning joint cost among the joint products:

- (i) **Average Unit Cost Method:** Under this method, total process cost (upto the point of separation) is divided by total units of joint products produced. On division average cost per unit of production is obtained. The effect of application of this method is that all joint products will have uniform cost per unit.
- (ii) **Contribution Margin Method:** Under 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. If the products are further processed, then all variable cost incurred be added to the variable cost determined earlier. Then contribution is calculated by deducting variable cost from their respective sales values. The fixed costs are then apportioned over the joint products on the basis of contribution ratios.
- (iii) **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 value 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.
- (iv) **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.
- (v) **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

Q.11 What are the methods of re-apportionment of service department expenses over the production departments? Discuss.

(Nov 10-4 Marks)

A. 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

(i)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.

(ii)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.

(iii) 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:

- Simultaneous equation method
- Repeated distribution method
- Trial & Error method.

Q 12 What is inter-process profit? State its advantages and disadvantages. (Nov 12- 4 Marks)

A. Definition of Inter-Process Profit and Its advantages and disadvantages

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

Q 13 (a) Explain the following terms in relation to process costing (Nov 13-4 Marks)

(i) Equivalent Production

(ii) Inter-process profit

A. (i) Equivalent Production: 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 production units so that the unit cost of these uncompleted (W-I-P) units can be obtained. $\text{Equivalent Production units} = \text{Actual number of units in production} \times \text{Percentage of work completed}$. 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.

(ii) Inter-Process Profit: 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 interprocess profits.

8

Standard Costing

Q 1. Explain briefly how standards are compiled for material and labour costs for a product.

A. Material quantity standards: The following procedure is usually followed for setting material quantity standards.

- (a) *Standardisation of products:* Detailed specifications, blueprints, norms for normal wastage etc., of products along with their designs are settled.
- (b) *Product classification:* Detailed classified list of products to be manufactured are prepared.
- (c) *Standardisation of material:* Specifications, quality, etc., of materials to be used in the standard products are settled.
- (d) *Preparation of bill of materials:* A bill of material for each product or part showing description and quantity of each material to be used is prepared.
- (e) *Test runs:* Sample or test runs under regulated conditions may be useful in setting quantity standards in a precise manner.

Labour quantity standards: The following are the steps involved in setting labour quantity standards:

- (a) *Standardisation of products:* Detailed specifications, blueprints, norms for normal wastage etc., of products along with their designs are settled.
- (b) *Product classification:* Detailed classified list of products to be manufactured are prepared.
- (c) *Standardisation of methods:* Selection of proper machines to use proper sequence and method of operations.
- (d) *Manufacturing layout:* A plan of operation for each product listing the operations to be performed is prepared.
- (e) Time and motion study is conducted for selecting the best way of completing the job.
- (f) The operator is given training to perform the job or operations in the best possible manner.

Q 2. How are variances disposed off in a standard costing system? Discuss briefly.

A. The following are the various methods:

- (a) Write off all variances to profit and loss account or cost of sales every month.
- (b) Distribute the variance pro-rata to cost of sales, work-in-progress and finished good stocks.
- (c) Write off quantity variance to profit and loss account but the price variances may be spread over cost of sales, work-in-progress and finished goods stocks. The reason behind apportioning price variances to inventories and cost of sales is that they represent cost although they are described as variance.

Q 3. Calculation of variances in standard costing is not an end in itself, but a means to an end. Discuss.

Q 4. Discuss the various uses / advantages and criticisms leveled against standard costing.

A. Advantages of Standard Costing:

- (i) It serves as a basis for measuring operating performance and cost control. By setting standards, proper classification and determination of variances, is possible. This serves as a signal for prompt corrective action.
- (ii) It aids price fixing.
- (iii) Introduction of standard costing facilitates evaluation of jobs and introduction of incentives.
- (iv) Standard costing facilitates the estimation of the cost of new products with greater accuracy.
- (v) It serves as a basis for inventory valuation. Standard costs are used for inventory valuation because less clerical work is involved in carrying inventory at standard cost.
- (vi) Standard costing is also used for the measurement of profits.
- (vii) Standard costing greatly aids business planning, budgeting and managerial decision making.
- (ix) It provides objectives and targets to be achieved by each level of management and defines the responsibilities of departmental managers.

Criticism of Standard Costing:

- (i) *Variation in price:* One of the chief problem faced in the operation of the standard costing system is the precise estimation of likely prices or rate to be paid.
- (ii) *Varying levels of output:* If the standard level of output set for pre-determination of standard costs is not achieved, the standard costs are said to be not realised.
- (iii) *Changing standard of technology:* In case of industries that have frequent technological changes affecting the conditions of production, standard costing may not be suitable.
- (iv) Standards may be either too strict or too liberal because they may be based on
 - ◆ theoretical maximum efficiency
 - ◆ attainable good performance or
 - ◆ average past performance.

9

Marginal Costing

Q 1. Discuss briefly the relevant costs with examples.

(PCC Nov 07 – 2 marks)

A. Relevant costs are those expected future cost which are essential but differ for alternative course or action.

(a) Historical cost or sunk costs are irrelevant as they do not play any role in the decision making process.

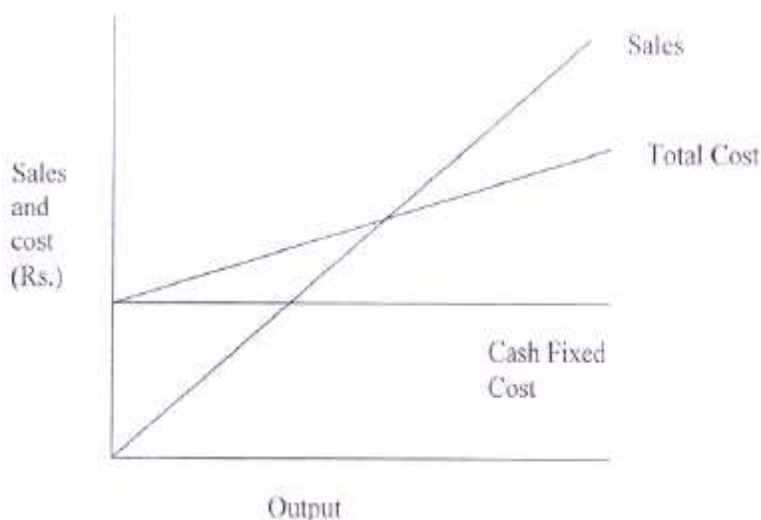
(b) Variable costs which will not differ under various alternatives are irrelevant.

Q 2. Explain and illustrate cash break-even chart.

(PCC May 08 – 3 marks)

A. 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:

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



Hence for example suppose insurance has been paid on 1st January, 2006 till 31st December, 2010 then this fixed cost will not be considered as a cash fixed cost for the period 1st January, 2008 to 31st December, 2009.

Q 3. What is a marginal cost?

A. Marginal cost is the amount at any given volume of output by which aggregate variable costs are changed if the volume of output is increased by one unit. In practice this is measured by the total variable cost attributable to one unit. Marginal cost can precisely be the sum of prime cost and variable overhead. In this context a unit may be a single article, a batch of articles, an order, a stage of production capacity, a process or a department. It relates to the change in output in particular circumstances under consideration.

Q 4. What is contribution? How is it related to profit?

A. Contribution or the contributory margin is the difference between sales value and the marginal cost. It is obtained by subtracting marginal cost from sales revenue of a given activity. It can also be defined as excess of sales revenue over the

variable cost. The difference between sales revenue and marginal/variable cost is considered to be the contribution towards fixed expenses and profit of the entire business.

Contribution = Fixed Cost + Profit

OR

Profit = Contribution – Fixed Cost

Q 5. What is a limiting or key factor? Give examples.

A. Key factor or Limiting factor is a factor which at a particular time or over a period limits the activities of an undertaking. It may be the level of demand for the products or services or it may be the shortage of one or more of the productive resources, e.g., labour hours, available plant capacity, raw material's availability etc.

Q 6. Why is it important to classify costs as fixed and variable?

A. Segregation of all expenses into fixed and variable elements is the essence of marginal costing. The primary objective of the classification of expenses into fixed and variable elements is to find out the marginal cost for various types of managerial decisions. The other uses of it are as below:

(i) *Control of expenses* : The classification of expenses helps in controlling expenses. Fixed expenses are said to be sunk costs as these are incurred irrespective of the level of production activity and they are regarded as uncontrollable expenses. Since variable expenses vary with the production they are said to be controllable.

(ii) *Preparation of budget estimates*: This distinction between fixed and variable cost also helps the management to estimate precisely the budgeted expenses.

Q 7. What is a marginal cost equation?

A. The contribution theory explains the relationship between the variable cost and selling price. It tells us that selling price minus variable cost of the units sold is the contribution towards fixed expenses and profit. If the contribution is equal to fixed expenses, there will be no profit or loss and if it is less than fixed expenses, loss is incurred. Since the variable cost varies in direct proportion to output, therefore if the firm does not produce any unit, the loss will be there to the extent of fixed expenses. These points can be described with the help of following marginal cost equation:

$$(S \times U) - (V \times U) = F + P$$

Where,

S = Selling price per unit

V = Variable cost per unit

U = Units

F = Fixed expenses

P = Profit

Q 8. Differentiate between absorption costing and marginal costing.

A.

	Marginal costing	Absorption costing
1.	Only variable costs are considered for product costing and inventory valuation.	Both fixed and variable costs are considered for product costing and inventory valuation.
2.	Fixed costs are regarded as period costs. The Profitability of different products is judged by their P/V ratio.	Fixed costs are charged to the cost of production. Each product bears a reasonable share of fixed cost and thus the profitability of a product is influenced by the apportionment of fixed costs.
3.	Cost data presented highlight the	Cost data are presented in conventional pattern. Net profit of

	total contribution of each product.	each product is determined after subtracting fixed cost along with their variable costs.
4.	The difference in the magnitude of opening stock and closing stock does not affect the unit cost of production.	The difference in the magnitude of opening stock and closing stock affects the unit cost of production due to the impact of related fixed cost.

Q 9. What are the advantages and disadvantages of marginal costing?

A. Advantages of Marginal Costing

1. The marginal cost remains constant per unit of output whereas the fixed cost remains constant in total. Since marginal cost per unit is constant from period to period within a short span of time, firm decisions on pricing policy can be taken.
2. If fixed overheads are included on the basis of pre-determined rates, there will be either under-recovery or over-recovery of overheads. Marginal costing avoids such under or over recovery of overheads.
3. 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. 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.
5. Segregation of expenses as fixed and variable helps the management to exercise control over expenditure.
6. 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.

Limitations of Marginal Costing

1. It is difficult to classify exactly the expenses into fixed and variable category. Some expenses are neither totally variable nor wholly fixed.
2. Contribution of a product itself is not a guide for optimum profitability unless it is linked with the key factor.
3. Sales staff may mistake marginal cost for total cost and sell at a price; which will result in loss or low profits. Hence, sales staff should be cautioned while giving marginal cost.
4. Overheads of fixed nature cannot altogether be excluded particularly in large contracts, while valuing the work-in-progress. In order to show the correct position fixed overheads have to be included in work-in-progress.
5. Some of the assumptions regarding the behaviour of various costs are not necessarily true in a realistic situation. For example, the assumption that fixed cost will remain static throughout is not correct. Fixed cost may change from one period to another. For example salaries bill may go up because of annual increments or due to change in pay rate etc. The variable costs do not remain constant per unit of output. There may be changes in the prices of raw materials, wage rates etc. after a certain level of output has been reached due to shortage of material, shortage of skilled labour, concessions of bulk purchases etc.
6. Marginal costing ignores time factor and investment. For example, the marginal cost of two jobs may be the same but the time taken for their completion and the cost of machines used may differ. The true cost of a job which takes longer time and uses costlier machine would be higher. This fact is not disclosed by marginal costing.

Q 10. Critically discuss the assumptions underlying CVP analysis.

(May 12-4 marks)

A. Cost volume profit (CVP) analysis is the analysis of three variables cost, volume and profit. Such an analysis explores the relationship between costs, revenue, activity levels and the resulting profit. It aims at measuring variations in cost and volume.

CVP analysis is based on the following assumptions:

1. Changes in the levels of revenues and costs arise only because of changes in the number of units produced and sold.

2. Total costs can be separated into two components; a fixed component that does not vary with output level and a variable component that changes with respect to output level.
3. When represented graphically, the behaviour of total revenues and total costs are linear in relation to output level within a relevant range and time period.
4. Selling price, variable cost per unit, and total fixed costs within a relevant range and time period are known and constant.
5. The analysis either covers a single product or assumes that the proportion of different products when multiple products are sold will remain constant as the level of total units sold changes.
6. All revenues and costs can be added, subtracted, and compared without taking into account the time value of money.

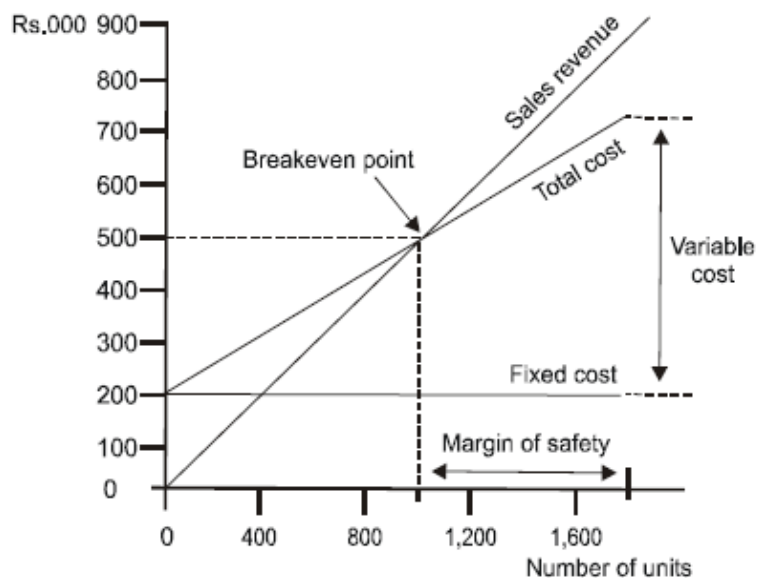
Q 11. Explain:

(i) Breakeven Chart

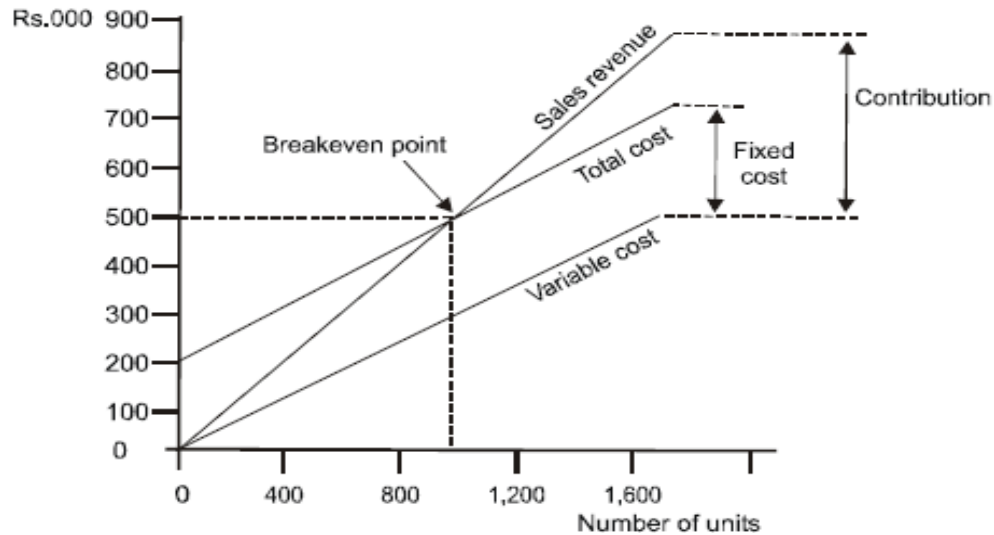
(ii) Contribution Breakeven Chart

(iii) Profit-volume Chart

A. (i) Breakeven Chart: A breakeven chart records costs and revenues on the vertical axis and the level of activity on the horizontal axis. The breakeven point is that point where the sales revenue line intersects the total cost line. Other measures like the margin of safety and profit can also be measured from the chart.

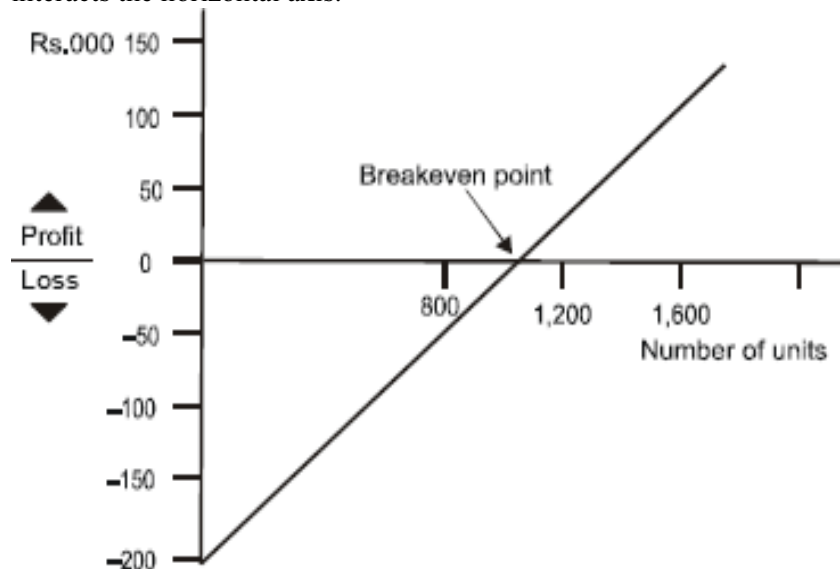


(ii) Contribution Breakeven Chart: It is not possible to use a breakeven chart to measure contribution. This is one of its major limitations especially so because contribution analysis is literally the backbone of marginal costing. To overcome such a limitation contribution breakeven chart is used, which is based on the same principles as a conventional breakeven chart except for that it shows the variable cost line instead of the fixed cost line. Lines for Total cost and Sales revenue remain the same. The breakeven point and profit can be read off in the same way as with a conventional chart. However it is also possible to read the contribution for any level of activity.



The contribution can be read as the difference between the sales revenue line and the variable cost line.

(iii) Profit-volume Chart: This is also very similar to a breakeven chart. In this chart the vertical axis represents profits and losses and the horizontal axis is drawn at zero profit or loss. In this chart each level of activity is taken into account and profits marked accordingly. The breakeven point is where this line intersects the horizontal axis.



The loss at a nil activity level is equal to Rs. 2,00,000, i.e. the amount of fixed costs. The second point used to draw the line could be the calculated breakeven point or the calculated profit for sales of a particular number of units.

Advantages of the profit-volume chart: The biggest advantage of the profit-volume chart is its capability of depicting clearly the effect on profit and breakeven point of any changes in the variables.

Q 12. Distinguish between Marginal Costing and Differential Costing.

A. Marginal Costing is defined as the 'Ascertainment of marginal costs and of the effect on profit of changes in volume or type of output by differentiating between fixed costs and variable costs'.

Differential Costing is defined as the technique of costing which uses differential costs and/or differential revenues for ascertaining the acceptability of an alternative. The technique may be termed as incremental

costing when the difference is increase in costs and decremental costing when the difference is decrease in costs.

The main points of distinction between marginal costing and differential costing are as below:

- (a) The technique of marginal costing requires a clear distinction between variable costs and fixed costs whereas no such distinction is made in the case of differential costing.
- (b) In marginal costing, margin of contribution and contribution ratio are the main yard sticks for performance evaluation and for decision making whereas under differential costs analysis, differential costs are compared with the incremental or decremental revenue (as the case may be) for arriving at a decision.
- (c) Differential cost analysis is possible in both absorption costing and marginal costing, where as marginal costing in itself is a distinct technique.
- (d) Marginal cost may be incorporated in the cost accounting system whereas differential costs are worked out separately.

Q 13. What do you understand by Key factor? Give two examples of it. (May 2010-2 Marks)

A. Key factor is a factor which at a particular time or over a period limits the activities of an undertaking. It may be the level of demand for the products or service or it may be the shortage of one or more of the productive resources.

Examples of key factors are:

- (a) Shortage of raw material.
- (b) Shortage of Labour.
- (c) Plant capacity available.
- (d) Sales capacity available.
- (e) Cash availability.

Q 14. Elaborate the practical application of Marginal Costing. (Nov 13-4 Marks)

A. Practical applications of Marginal costing:

(i) 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.

(ii) 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

(iii) 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.

(iv) 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.

10

Budgets and Budgetary Control

Q 1. Explain briefly the concept of 'flexible budget'.

(PCC Nov 08 – 2 marks)

A. 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”. A fixed budget, on the other hand is a budget which is designed to remain unchanged irrespective of the level of activity actually attained. In a fixed budgetary control, budgets are prepared for one level of activity whereas in a flexibility budgetary control system, a series of budgets are prepared one for 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.

Q 2. Discuss the components of budgetary control system.

(PCC June 09 – 2 marks)

A. 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:

- (a) Physical Budgets – Sales Qty, Product Qty., Inventory, Manpower budget.
- (b) Cost Budgets – Manufacturing Cost, Administration Cost, sales & distribution cost, R & D Cost.
- (c) Profit Budget

Q 3. List the eight functional budgets prepared by a business.

(PCC Nov 09 - 3 Marks)

A. The various commonly used Functional budgets are:

- ◆ Sales Budget
- ◆ Production Budget
- ◆ Plant Utilisation Budget
- ◆ Direct Material Usage Budget
- ◆ Direct Material Purchase Budget
- ◆ Direct Labour (Personnel) Budget
- ◆ Factory Overhead Budget
- ◆ Production Cost Budget

Q 4. Discuss briefly the objectives of budgeting.

Establishing specific targets for future operations is part of the planning function of management, while executing actions to meet the goals is the directing function of management.. In the context of this statement, discuss the planning, directing and controlling functions of management.

A. The process of budgeting is initiated with the establishment of specific targets of performance and is followed by executing plans to achieve such desired goals and from time to time comparing actual results with the targets of performances/goals. Establishing specific targets for future operations is part of the planning function of management, while executing actions to meet the goals is the directing function of management.

Planning: Budgeting supports the planning process by requiring all organisational units to establish their targets for the upcoming period. The targets, in turn, motivate individuals and groups to perform at high levels. During the planning phase of the budget process, all viewpoints are considered, options identified,

and cost reduction opportunities assessed. This process may reveal opportunities or threats that were not known prior to the budget planning process.

Directing: Once the budget plans are in place, they can be used to direct and coordinate operations in order to achieve the stated targets. The budgetary units of an organisation are called responsibility centers. Each responsibility center is led by a manager who has the authority over and responsibility for the unit's performance.

Controlling: As time passes, the actual performance of an operation can be compared against the planned targets. This provides prompt feedback to employees about their performance. If necessary, employees can use such feedback to adjust their activities in the future. Comparing actual results to the plan also helps prevent unplanned expenditures.

Q 5. Define the terms Budget and Budgeting control.

A. Budget: A financial and/or quantitative statement, prepared and approved prior to a defined period of time of the policy to be pursued during that period for the purpose of attaining a given objective. It may include income, expenditure and employment of capital.

Budgetary Control: Budgetary control is the establishment of budgets relating to the responsibilities of executives of a policy and the continuous comparison of the actual with the budgeted results, either to secure by individual action the objective of the policy or to provide a basis for its revision.

Q 6. Distinguish between fixed budget and flexible budget.

(Nov 11 -4 Marks)

A.

	Fixed Budget	Flexible Budget
1.	It does not change with actual volume of activity achieved. Thus it is known as rigid or inflexible budget.	It can be recasted 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 assumes that there will be no change in the prevailing conditions, which is unrealistic.	It consists of various budgets for different levels of activity.
3.	Here as all costs like - fixed, variable and semi-variable are related to only one level of activity. So variance analysis does not give useful information.	Here analysis of variance provides useful information as each cost is analysed according to its behaviour.
4.	If the budgeted and actual activity levels differ significantly, then the aspects like cost ascertainment and price fixation do not give a correct picture.	Flexible budgeting at different levels of activity, facilitates the ascertainment of cost, fixation of selling price and tendering of quotations.
5.	Comparison of actual performance with budgeted targets will be meaningless specially when there is a difference between the two activity levels.	It provides a meaningful basis of comparison of the actual performance with the budgeted targets.

Q 7. Write short notes on the following,

(a) Capital expenditure budget (b) Cash Budget

A. (a) Capital expenditure budget - The capital expenditure budget represents the planned outlay on fixed assets like land, building, plant and machinery, etc. during the budget period. This budget is subject to strict management control because it entails large amount of expenditure. The budget is prepared to cover a long period of years and it projects the capital costs over the period.

The advantages of capital expenditure budget are the following :

- (1) It outlines the capital development programme and estimated capital expenditure during the budget period.
- (2) It enables the company to establish a system of priorities. When there is a shortage of funds, capital rationing becomes necessary.
- (3) It serves as a tool for controlling expenditure.
- (4) It provides the amount of expenditure to be incorporated in the future budget summaries for calculation of estimated return on capital employed.
- (5) This enables the cash budget to be completed. With other cash commitments capital expenditure commitment should also be considered for the completion of the budget.
- (6) It facilitates cost reduction programme, particularly when modernisation and renovation is covered by this budget.

(b) Cash budget - Cash budget represents the cash requirements of the business during the budget period. It is the plan of receipts and payments of cash for the budget period, analysed to show the monthly flow of cash drawn up in such a way that the balance can be forecasted at regular intervals. The *cash budget* is one of the most important elements of the budgeted balance sheet. Information from the various operating budgets, such as the sales budget, the direct materials purchases budget, and the selling and administrative expenses budget, affects the cash budget. In addition, the capital expenditures budget, dividend policies, and plans for equity or long-term debt financing also affect the cash budget.

Q 8. Distinguish between Functional budgets and master budget.

A. Functional budget - A functional budget is one which is related to function of the business as for example, production budget relating to the manufacturing function. Functional budgets are prepared for each function and they are subsidiary to the master budget of the business. The various types of functional budgets to be prepared will vary according to the size and nature of the business. The various commonly used functional budgets are Sales budget, Production budget, Factory overhead budget, Cash budget, etc. These functional budgets are also known as schedules to master budget

Master budget - When all the necessary functional budgets have been prepared, the budget officer will prepare the master budget which may consist of budgeted profit and loss account and budgeted balance sheet. These are in fact the budget summaries. When the master budget is approved by the board of directors, it represents a standard for the achievement of which all the departments will work.

Q 9. Discuss the objectives of introducing a Budgetary Control System in an organisation.

A. The objectives of a system of budgetary control are given below:

1. Portraying with precision the overall aims of the business and determining targets of performance for each section or department of the business.
2. Laying down the responsibilities of each of the executives and other personnel so that every one knows what is expected of him.
3. Providing a basis for the comparison of actual performance with the predetermined targets and *investigation* of deviation, if any.
4. Ensuring the best use of all available resources to maximise profit or production, subject to the limiting factors.
5. Co-ordinating the various activities of the business
6. Providing a basis for revision of current and future policies.
7. Drawing up long range plans with a fair measure of accuracy.
8. Providing a yardstick against which actual results can be compared.

Q 10. Discuss briefly the advantages and limitations of Budgetary Control System.

A. Advantages of Budgetary Control System

1. The use of budgetary control system enables the management of a business concern to conduct its business activities in the efficient manner.
2. It is a powerful instrument used by business houses for the control of their expenditure.
3. It reveals the deviations to management, from the budgeted figures after making a comparison with actual figures.
4. Effective utilisation of various resources like men, material, machinery and money is made possible, as the production is planned after taking them into account.
5. It helps in the review of current trends and framing of future policies.
6. It creates suitable conditions for the implementation of standard costing system in a business organisation.
7. It inculcates the feeling of cost consciousness among workers.

Limitations of Budgetary Control System:

1. Budgets may or may not be true, as they are based on estimates.
2. Budgets are considered as rigid document.
3. Budgets cannot be executed automatically.
4. Staff co-operation is usually not available during budgetary control exercise.
5. Its implementation is quite expensive.

Q 11. What do you understand by the term sales budget? How it is prepared?

A. Sales forecast is the commencement of budgeting and hence sales budget assumes primary importance. The quantity which can be sold may be the principal budget factor in many business undertakings. The sales budget indicates for each product (1) the quantity of estimated sales and (2) the expected unit selling price. For estimating the quantity of sales for each product factors like backlog of unfilled sales orders, planned advertising and promotion, expected industry and general economic conditions are considered. Once an estimate of the sales volume is obtained, the expected sales revenue can be determined by multiplying the volume by the expected unit sales price. The sales budget represents the total sales in physical quantities and values for a future budget period.

Q 12. Discuss the salient features of a budgetary control system.

A. A budgetary control system can be defined as the establishment of budgets relating to the responsibilities of executives to the requirements of a policy, and the continuous comparison of actual with budgeted results either to secure by individual action the objective of that policy or to provide a base for its revision.

The salient features of such a system are the following:

- (i) Determining the objectives to be achieved, over the budget period, and the policy or policies that might be adopted for the achievement of these ends.
- (ii) Determining the variety of activities that should be undertaken for the achievement of the objectives.
- (iii) Drawing up a plan or a scheme of operation in respect of each class of activity.
- (iv) Laying out a system of comparison of actual performance by each person, section or department with the relevant budget and determination of causes for the discrepancies, if any.
- (v) Ensuring that corrective action will be taken where the plan is not being achieved

In brief, it is a system to assist management in making, estimating and planning for the future and to facilitate the analysis of the variation between estimated and actual performance.

Q 13. Essentials of budget

(Nov 11- 2Marks)

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

Q 14. Describe the steps involved in the budgetary control technique.

(Nov 13- 4Marks)

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

(i) 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.

(ii) 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.

(iii) 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.

(iv) 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.

(v) 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.

(vi) 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.