

!! JAI SARASWATI MATA !!

CA FINAL (NEW) COURSE PAPER V

ADVANCED MANAGEMENT ACCOUNTING

(Important Theory Questions for May' 2013 Exam)

For AMA (Cost + QT.) Classes by CA CS Pankaj Gupta Sir:

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Basic Concept

1. Enumerate the main objectives of introduction of a Cost Accounting System in a manufacturing organization.

Answer: The main objectives of introduction of a Cost Accounting System in a manufacturing organization are as follows:

- a. Ascertainment of cost
- b. Determination of selling price
- c. Cost control and cost reduction
- d. Ascertainment of profit of each activity
- e. Assisting in managerial decision-making

2. How has the composition of manufacturing costs changed during recent years? How has this change affected the design of cost accounting systems?

Answer: Traditionally, manufacturing companies classified the manufacturing costs to be allocated to the products into (a) direct materials, (b) direct labour and (c) indirect manufacturing costs. In the present day context, characterised by intensive global competition, large scale automation of manufacturing process, computerization and product diversification to cater to the changing consumer tastes and preferences has forced companies to refine their costing systems to provide better measurement of the overhead costs used by different cost objects.

Accordingly, manufacturing costs are classified in to three broad categories as under:

- i. **Direct cost:** As many total costs relating to cost objects as feasible are classified into direct cost. The objective is to trace as many costs as possible in to direct and to reduce the amount of costs classified into indirect because the greater the proportion of direct costs the greater the accuracy of the cost system.
- ii. **Indirect cost pools:** Increase the number of indirect cost pools so that each of these pools is more homogeneous. In a homogeneous cost pool, all the costs will have the same cause-and-effect relationship with the cost allocation base.
- iii. Use cost-and-effect criterion for identifying the cost allocation base for each indirect cost pool. The change in the classification of manufacturing costs as above has lead to the development of Activity Based Costing (ABC). Activity Based Costing refines a costing system by focusing on individual activities as the fundamental cost objects. An activity is an event, task or unit of work with a specified purpose as for example, designing, set up, etc. ABC system calculates the costs of individual activities and assigns costs to cost objects such as products or services on the basis of the activities consumed to produce the product or provide the service.

3. Explain the concept of Discretionary Fixed Costs and Committed Fixed Costs. Give three examples. Discuss, how control may be exercised over discretionary costs.

Answer: Discretionary fixed cost can be explained with the help of following two important features.

- i. They arise from periodic (usually yearly) decisions regarding the maximum outlay to be incurred.
- ii. They are not tied to a clear cause & affect relationship between inputs & outputs.

Examples of discretionary costs includes: advertising, public relations, executive training, teaching, research, health care and management consulting services.

The note worthy feature of discretionary costs is that managers are seldom confident that the “correct” amounts are being spent.

Committed fixed costs, are those fixed costs that arise from the possession of :

- i. a plant, building and equipment (e.g. depreciation, rent, taxes, insurance premium etc.) or
- ii. a functioning organisation (i.e. salaries of staff).

These costs remain unaffected by any short-run actions. These costs are affected primarily by long-run sales forecasts that, in turn indicates the long-run capacity targets. Hence careful long range planning, rather than day-to-day monitoring, is the key to managing committed costs.

Control over discretionary costs: To control discretionary costs control points / parameters may be established. But these points need to be devised individually. For research and development function to control discretionary costs, dates may be established for submitting major reports to management. For advertising and sales promotion, such costs may be controlled by pre-settings targets. In the case of employees benefits, discretionary costs may be controlled by calling a meeting of employees union and making them aware that the company would meet only the fixed costs and the variable costs should be met by them.

4. What do you mean by Cost Control and Cost Reduction and their differences?

Answer:

Cost control implies guidance a reputation of cost by executive action. For this purpose, the executives are provided with some yard stick such as standards or budgets with which the actual costs and performances are compared to ascertain the degree of achievement made. Therefore **Cost Control involves a continuous comparisons** of actual with the standards or budgets to regulate the former. Standards or budgets once set up are not attended during the period or until some mistakes are discovered in standards.

Cost reduction is the **achievement of real and permanent reduction in unit cost of products** manufactured. It, therefore, continuously attempts to achieve genuine savings in cost of production distributing, selling and administration. It does not accept a standard or budget as or fined. It rather challenges the standards/budgets continuously to make improvement in them. It attempts to excavate, the potential savings buried in the standards by continuous and planned efforts. Cost control relax that dynamic approach, it usually dealt with variances leaving the standards intact.

Difference between cost control and cost reduction :-

- i. Cost Control is defined as the “the guidance and regulations by executives action of the cost of operating and undertaking while cost reduction is defined as and achievement of real and permanent reduction in the unit cost of goods manufactured or services rendered without impairing their suitability for the use intended.”
- ii. Thus the cost control represents the efforts where cost reduction represents achievement. Cost reduction is a continuous attempt towards improvement.
- iii. Cost Control implies that cost should not exceed the budgeted or standard limits. If it exceeds, investigation is necessary. Cost reduction means waste reduction, expenses reduction and increased production.

- iv. The process of cost control is to set a target ascertain actual performance and compare it with the target, investigate the variances and take remedial measures. Cost reduction is not concerned with maintenance of performance according to the standards. Cost control assumes existence of standards or which are not challenged. Cost reduction assumes the existence of concealed potential savings in the standards or norms which are, therefore subjected to a constant challenge with a view to improvement by bringing out the saving.
- v. Cost control is a preventive function, costs are optimised before they are incurred. Cost reduction is a corrective functions. It operates even when an efficient cost control system exists. There is room for reduction in the achieved cost under controlled conditions.

5. Illustrate some of the Cost reduction techniques?

Answer: It may be extended to administrative, selling and distribution methods, personnel management, purchase and material control, financial management and other mischevious services. Tools and techniques for cost reduction :-

- Budgetary control and standard cost.
- Value analysis.
- Standardisation.
- Economic batch quantity (E. B. Q.)
- Coding and classification.
- Improvement in design.
- Substitute material utilisation.
- Automation.
- Operational Research.
- Quality Control.
- Production Planning and Control.
- Inventory Control.
- Purchase Scheduling .
- Training and development.

Budgetary Control & Performance Measurement

1. Zero base budget- definition & other questions.

Answer : ZBB is defined as ‘a method of budgeting which requires each cost element to be specifically justified, even though the activities to which the budget relates were being undertaken for the first time. Without approval, the budget allowance is zero’.

Zero–base budgeting is so called because it requires each budget to be prepared and justified from zero, instead of simple using last year’s budget as a base. Incremental level of expenditure on each activity are evaluated according to the resulting incremental benefits. Available resources are then allocated where they can be used most effectively.

The major advantage of ZBB exercises is that managers are forced to consider alternative way of achieving the objectives of their activity and they are required to justify to activities which they currently undertake.

ZBB is some times referred to as Priority–based budgeting. It does not apply exclusively to non–operating budgets, but it is particularly relevant in this context

Zero base budgeting is superior to traditional budgeting in the following manner OR Advantages of ZBB.

- It provides a systematic approach for evaluation of different activities.
- It ensure that the function undertaken are critical for the achievement of the objectives.
- It provides an opportunity for management to allocate resources to various activities after a proper cost benefit analysis.
- It helps in the identification of wasteful expenditure and then their elimination.
- If facilitates the close linkage of departmental budgets with corporate objectives.

2. Describe the process and limitation of zero-base budgeting.

Answer: The zero base budgeting involves the following steps:

- i. Corporate objectives should be established and laid down in details.
- ii. Decide about the techniques of ZBB to be applied.
- iii. Identify those areas where decisions are required to be taken.
- iv. Develop decision programme and rank them in order of performance.
- v. Preparation of budget, that is translating decision packages into practicable units/ items and allocating financial resources.

Limitations of ZBB

- i. Various operational problems are likely to be faced in implementing the technique.
- ii. The full support of top management is required.
- iii. It is time consuming as well as costly
- iv. It requires proper trained managerial staff

3. What are the Bench marking code of conduct

Answer: Bench marking is the process of identifying and learning from the best practices anywhere in the world. It is a powerful tool for continuous improvement. To contribute to efficient, effective and ethical bench marking, individuals agree for themselves and their organization to be abided by the following principles for the benchmarking with other organizations.

Suggested benchmarking code of conduct:

- | | |
|--------------------------------------|---------------------------------------|
| (i) Principle of legality | (ii) Principle of exchange |
| (iii) Principle of confidentiality | (iv) Principle of use |
| (v) Principle of first party contact | (vi) Principle of third party contact |
| (vii) Principle of preparation | |

4. Explain the concept and aim of theory of constraints. What are the key measures of theory of constraints?

Answer: The theory of constraints focuses its attention on constraints and bottlenecks within organisation which hinder speedy production. The main concept is to maximize the rate of manufacturing output is the throughput of the organisation. This requires to examine the bottlenecks and constraints. A bottleneck is an activity within the organization where the demand for that resource is more than its capacity to supply.

A constraint is a situational factor which makes the achievement of objectives /throughput more difficult than it would otherwise, for example of constraint may be lack of skilled labour, lack of customer orders, or the need to achieve high quality in product output.

For example let meeting the customers' delivery schedule be a major constraint in an organisation. The bottleneck may be a certain machine in the factory. Thus bottlenecks and constraints are closely examined to increase throughput.

Key measures of theory of constraints:

- i. **Throughput contribution:** It is the rate at which the system generates profits through sales. It is defined as, sales less completely variable cost, sales – direct are excluded. Labour costs tend to be partially fixed and conferred are excluded normally.
- ii. **Investments:** This is the sum of material costs of direct materials, inventory, WIP, finished goods inventory, R & D costs and costs of equipment and buildings.
- iii. **Other operating costs:** This equals all operating costs (other than direct materials) incurred to earn throughput contribution. Other operating costs include salaries and wages, rent, utilities and depreciation.

The objective of TOC is to increase throughput contribution while decreasing investments and operating costs. TOC considers a short – run time horizon & assumes that operating costs are fixed costs.

5. Define Balanced Scorecard. Explain briefly the major components of a balance score card.

Answer: Prior to the 1980s management accounting control systems tended to focus mainly on financial measures of performance. The inclusion of only those items that could be expressed in monetary terms motivated managers to focus excessively on cost reduction and ignore other important variables like product quality, delivery, reliability, after-sales service and customer satisfaction. These became key competitive variables, but not of these were measured by the traditional management accounting performance measurement system.

The **Balanced scorecard** helps top management evaluate whether lower-level managers have improved one area at the expense of others. For example, a manager at risk of not meeting operating profit goals may start to ship high-margin products and delay deliveries of low-margin products. The balanced scorecard will recognize the improvement in financial performance but will also reveal that operating profit targets were achieved by sacrificing on-time performance. Four perspectives are typically integrated in a balanced scorecard :

- i. **Customer perspective:** The balance scorecard builds on established competitive strategies, such as customer orientation, short response times, total quality and teamwork. Many organizations already see themselves as customer oriented. However, the customer perspective of the balanced scorecard requires customers themselves to identify a set of goals and measures on factors which really matter to them. Performance measures such as time, cost, quality, performance and service should be developed by groups of managers working with customers to understand their primary requirements.
- ii. **Internal perspective:** The organisation must excel at certain internal processes, decisions and actions if it is to meet these customer requirements. The internal perspective must reflect the organization's core skills and the critical technology involved in adding value to the customer's business. The organization's overall goals have to be broken down into unit, departmental or workgroup measures which are influenced by employee actions. Clearly, this is a part of the same movement towards business processes which is being followed by activity – based costing and activity-based management.
- iii. **Innovation & learning:** So far, the customer and internal perspectives will have focused on the organization's current competitive position. The innovation and learning

perspective is required in order to recognize that this is constantly seek to learn, to innovate and to improve every aspect of the organisation and its business just to maintain their competitive situation, let alone to improve in the future.

- iv. **Financial perspective:** The financial perspective covers traditional measures such as growth, profitability and shareholder value but are set through talking to the shareholders(s) direct. The customer, internal and innovation and learning perspectives, if correctly implemented, will not automatically result in financial improvement if the overall corporate strategy is not a fundamentally profitable one. The financial perspective looks at whether is resulting in bottom line financial improvement.

Only by combining, measuring and thinking in terms of all four perspectives can managers prevent improvements being made in one area at the expenses of another. The balanced scorecard forces managers to think in terms of those fundamental competitive issues which impact upon long-term, rather than short-term, profitability.

6. What are the elements of a Balanced Score Card? Also explain, how it can be used as a Financial Planning model.

Answer: The elements of a balanced score card are:

- i. Financial perspective - Sales / Cost of sales / Return on capital employed etc.
- ii. Customer perspective - Measures of price / delivery / quality / support
- iii. Internal perspective - Measures of efficiency / sales penetration and new product introduction
- iv. Learning & Growth perspective. - Measures of technology / cost leadership

The objective of the balance score card is to provide a comprehensive framework for translating the company's strategic objectives into a coherent set of performance measures. It emphasizes the use of financial and non-financial measures as part of the programme to achieve further performance. It helps in planning, setting targets and aligning strategic initiatives.

To evaluate the success of the implementation of strategy, the company can assess the change in the operating income by comparing the targeted operating income with the actual operating income. The change in the operating income may arise due to growth factor, change in the price of inputs and outputs and productivity factor. The company is said to successful in implementation of strategy only if the change in the operating income closely aligns with that strategy.

7. List the eight functional budgets prepared by a business.

Answer: 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

Activity Based Costing (ABC)

Activities: Activities comprise of units of work or tasks. For example, purchase of materials is an activity consisting a series of tasks like purchase requisition, advertisement inviting quotations, identification of suppliers, placement of purchase order, follow - up, etc.

Type of Activities: Activities basically fall into four different categories, known as the manufacturing cost hierarchy. These categories were first identified by Cooper in 1990 and help to determine the type of activity cost driver required. The categories are:

- ❖ **Unit level activities:** The costs of some activities (mainly primary activities) are strongly correlated to the number of units produced. For example, the use of indirect materials/consumables tends to increase in proportion to the number of units produced. Another example of a unit level activity is the inspection or testing of every item produced, if this was deemed necessary or, perhaps more likely, every 100th item produced.
- ❖ **Batch level activities:** The cost of some activities (mainly manufacturing support activities) are driven by the number of batches of units produced. Examples of this are :
 - Material ordering-where an order is placed for every batch of production
 - Machine set-up costs-where machines need resetting between each different batch of production.
 - Inspection of products-where the first item in every batch is inspected rather than every 100th item quoted above.
- ❖ **Product level activities:** The costs of some activities (often once only activities) are driven by the creation of a new product line and its maintenance, for example, designing the product, producing parts specifications and keeping technical drawings of products up to date. Advertising costs fall into this category if individual products are advertised rather than the company's name.
- ❖ **Facility level activities:** Some costs cannot be related to a particular product line, instead they are related to maintaining the buildings and facilities. Examples are the maintenance of buildings, plant security, business rates, etc. Also included in this category are salaries, such as the production manager's. Advertising campaigns that promote the organisation would also be included.

The main steps are

- Step 1 : Identify the chosen Cost Objects
- Step 2 : Identify the Direct Costs of the Products
- Step 3 : Select the Cost-Apportion Bases to Use for distributing Indirect Costs to the Products
- Step 4 : Identify the Costs Associated with Each Cost-Allocation Base
- Step 5 : Compute the Rate per Unit of Each Cost-Allocation Base Used to the Products
- Step 6 : Compute the Indirect Costs Allocated to the Products
- Step 7 : Compute the Total Costs of the Products by Adding All Direct and Indirect Costs

1. Differentiate between 'Value-added' and 'Non-value-added' activities in the context of Activity based costing. Give examples of Value-added and Non-value-added activities.

Answer:

A value added activity is an activity that customers perceive as adding usefulness to the product or service they purchase. In other words, it is an activity that, if eliminated, will reduce the actual utility or usefulness which customers obtain from using the product or service. For example, painting a car in a company manufacturing cars or a computer manufacturing company making computers with preloaded software.

A non-value added activity is an activity where there is an opportunity of cost reduction without reducing the product's service potential to the customer. In other words, it is an activity that, if eliminated, will not reduce the actual or perceived value that customers obtain by using the product or service. For example, storage and moving of raw materials, reworking or repairing of products, etc.

Value-added activities enhance the value of products and services in the eyes of the organisation's customers while meeting its own goals. Non-value added activities on the other hand do not contribute to customer-perceived value.

Marginal Costing & C.V.P. Analysis

1. Distinguish between absorption costing and marginal costing.

Answer: Main points of distinction between Absorption Costing and Marginal Costing are as follows :

Absorption Costing	Marginal Costing
1. It is a total cost technique i.e. both variable and fixed costs are charged to products, processes or operations.	Here only variable costs are charged to product, processes or operations. Fixed costs are charged as period costs to the profit statement of the same period in which they are incurred.
2. Fixed factory overheads are absorbed by the production units on the basis of a predetermined fixed factory overhead recovery rate based on normal capacity. Under/over absorbed overheads are adjusted before arriving at the figure of profit for a particular period.	The cost of production under this method does not include fixed factory overheads and therefore, the value of closing stock comprises of only variable costs. No part of the fixed expenses is included in the value of closing stock and carried over to the next period.
3. In spite of best possible forecast and equitable basis of apportionment/allocation of fixed costs, under or over recovery of fixed overheads generally arises.	Since fixed overheads are not included in the cost of production, therefore the question of their under/over recovery does not arise.
4. Managerial decisions under this costing technique are based on profit i.e. excess of sales value over total costs, which may at times lead to erroneous decisions.	Here decisions are made on the basis of contribution i.e. excess of sales price over variable costs. This basis of decision making results in optimum profitability.

2. Distinction between Cost indifference point and Break-even point :

Answer:

Cost indifference point : It is the point at which total cost lines under the two alternatives intersect each other.

Cost indifference point is calculated as under :

Difference in fixed costs ÷ saving in variable cost.

Break-even point : It is the point where the total cost line and total revenue line for a particular alternative intersect each other.

Break-even point calculated as under :

Fixed costs ÷ Contribution per unit or the Fixed costs ÷ PV ratio.

The following are the main point of distinction between cost indifference point and break-even point.

- i. The cost indifference point is the activity level at which total cost under two alternatives are equal. Whereas break-even point is the activity level at which the total revenue from a product mix is equal to its cost.
- ii. Cost indifference point is used to choose between two alternative processes for achieving the same objective. The choice depends on the estimated activity level. Break even point is used for profit planning.

Decision Making: Marginal, IRDC & DCF Approach

1. Explain the concept of relevancy of cost by citing three examples each of relevant costs and non-relevant costs.

Answer: Relevant costs are those costs which are affected by a decision. Relevance means pertinent to the decision in hand. The expected future costs which are essential and which differ by taking an alternative course of action are relevant costs.

Examples of relevant costs are :

- Past costs are not relevant costs. (i.e. Sunk cost)
- Historical costs or sunk costs are not relevant.
- Variable costs are relevant costs.
- Fixed costs are not relevant. Unless discretionary
- Book value of an equipment is not relevant.
- Disposal value of an equipment is relevant.
- Fixed costs which differ by decision becomes relevant.

Examples of non-relevant costs:

- All fixed costs are generally non-relevant.
- Variable costs which do not vary with the decision are not relevant costs.
- Book value of the asset is not relevant.

2. Indicate the major areas of short-term decisions in which differential cost analysis is useful.

Answer: Cost information is required both for short-term and long-run managerial problems. Differential costs are of particular use in short-term problems, which are non-repetitive, one time, ad-hoc problems. When two levels of activities are being considered, or while choosing between competing alternatives differential cost analysis is essential. The following are the most common short-term problems and areas where differential cost analysis may be deployed.

- | | |
|--|--|
| 1. Accept – or – reject special may be deployed. | 2. Make – or – buy decisions. |
| 3. Sell – or – process decisions. | 4. Reduce – or – maintain price decisions. |
| 5. Add – or – drop production decisions. | 6. Operate -- or – shut down decisions. |
| 7. Capital expenditure decisions | 8. Sales mix decision |
| 9. Change in level or nature of an activity | 10. Production or product decision |

3. What are incremental costs, Incremental Revenue and sunk cost? Discuss

Answer:

Incremental costs: The difference in total cost between two alternatives or production level is an incremental cost. It is synonymous to differential cost. Incremental cost arise due to change of the level of activity. The change may be due to adding of a new product; change of channels of distribution, adding capacity etc. Incremental costs are not necessary variable in nature.

Incremental revenue: is the additional revenue that arises from the production or sale of a group of additional units. It is one of the two basis concepts the other being incremental cost which go together with differential cost analysis. Incremental cost in fact is the added cost due to change either in the level of activity or in the nature of activity.

Sunk Cost: Cost which do not change under given circumstances and do not play any role in decision making process are known as sunk costs. They are historical costs incurred in the past. In other words, these are the costs which have been incurred by a decision made in past and cannot be changed by any decision made in the future. These costs are, however, best basis of predicting future costs. Amortisation of past expenses is the clearest kind of sunk cost.

4. Marginal Costing vs. Differential Cost Analysis

Answer:

Similarities

- i. Both are techniques of cost analysis and presentation and are used for formulating policies and for taking management decisions.
- ii. When fixed costs remain same, both marginal costs and differential costs are the same. if variable cost per unit is constant

Dissimilarities

- i. Differential costs apply to a fixed additional quantity of production while marginal costs apply to any additional unit.
- ii. The method of cost presentation may not be same under the two. For instance, marginal costs are ascertained on the basis of 'contribution approach' while differential costs may be ascertained under both absorption and marginal costing techniques
- iii. Under marginal costing, product costs do not include fixed costs while differential costs may include fixed costs which are common or traceable if the additional volume involves additional fixed cost outlay
- iv. Unlike marginal costing, differential cost analysis statements do not find their place in accounting records.
- v. In marginal costing, unit contribution, p/v ratio, contribution per unit of limiting factor etc. are taken as yardsticks for evaluation of performance and marginal decisions. On the other hand, in differential cost analysis, differential costs are compared with incremental revenues for many policy decisions.

5. "Sunk Cost is irrelevant in decision-making, but irrelevant costs are not sunk costs". Explain with example.

Answer: Sunk costs are costs that have been created by a decision made in the past and that cannot be changed by any decision that will be made in the future. For example, the written down value of assets previously purchased are Sunk costs. Sunk costs are not relevant for decision making because they are past costs.

But not all irrelevant costs are sunk costs. For example, a comparison of two alternative production methods may result in identical direct material costs for both the alternatives. In this case, the direct material cost will remain the same whichever alternative is chosen. In this situation, though direct material cost is the future cost to be incurred in accordance with the production, it is irrelevant, but, it is not a sunk cost.

6. Explain briefly the concepts of Opportunity costs and Relevant costs.

Answer:

Opportunity cost is a measure of the benefit of opportunity forgone when various alternatives are considered.

It is the cost of sacrifice made by alternative action chosen.

E.g. opportunity cost of funds invested in business is the interest that could have been earned by investing the funds in bank deposit.

Relevant Cost:

Expected future costs which differ for alternative course.

(Or)

It is not essential that all variable costs are relevant and all fixed costs are irrelevant. Fixed, or variable costs that differ for various alternatives are relevant costs. Relevant costs draw our attention to those elements of cost which are relevant for the decision.

E.g. Direct labour under alternative I – Rs.10/ hour

Direct labour under alternative II – Rs.20/hour

Then, direct labour is relevant cost.

7. “Relevant cost analysis helps in drawing the attention of managers to these elements of cost which are relevant for the decision.” Comment.

Answer: Relevant costs are pertinent or valid costs for a decision. These bear upon or ‘influence decision’ and are directly related to the decisions to be made. These are critical to the decision, and have significance for it. These are the cost which generally respond to managerial decision making, and have significance in arriving at correct conclusions. These costs are capable of making a difference in user-decisions and enter into a choice between alternative courses of action. In specific terms, relevant costs for decisions are defined as ‘expected future costs that will differ under alternatives’.

Relevant costs are futuristic in nature. These are the costs that are expected to occur during the time period covered by the decision.

8. Briefly explain the concept of ‘Opportunity Cost’.

Answer: It may be defined as prospective change in cost following the adoption of an alternative machine, process, raw materials, specification or operation. In other words, it is the cost of opportunity lost by the diversion of an input factor from one use to another.

It is measure of the benefit of opportunity foregone. The opportunity cost of the value of opportunity foregone is taken into consideration when alternatives are compared.

The introduction of opportunity cost concept is helpful to the management in making profitability calculations when one or more of the inputs required by one or more of the alternative courses of action is already available. These inputs may nevertheless have a cost and this is measured by the sacrifice made by the alternative action chosen or the cost that is given up in order to make them available for the current proposal.

9. Briefly explain the implications of replacement costs and historical costs in financial reporting.

Answer : Replacement costs and historical costs are two alternative methods of showing assets in financial reporting.

Historical cost is the actual cost of an asset at the time of its acquisition. Replacement cost is the cost to be incurred on an asset if it is replaced. These two cost concepts, on which valuation of assets is based for financial reporting purposes, differs because of price variations over a period of time. In case the price of an asset remains the same with the passage of time then historical cost coincides with replacement cost.

Under financial reporting viz. In the balance sheet assets are recorded at their historical cost. When prices rise substantially over a period of time, historical cost do not properly indicate the actual costs. For managerial decisions, therefore these costs should properly be adjusted for price changes. The distinction between historical costs and replacement cost is thus relevant when past experience has to be considered as a guide to future costs for a proposed course of action .

10. What is cost analysis ? How it is useful in decision making ?

Answer: Cost analysis is the break up or classification of the aggregate costs into relevant types. Such an analysis of cost is an essential pre-requisite of controlling costs and for decision making.

Identifiability of cost (i.e. direct cost) with units of products or operations is one such basis of cost classification. The importance of distinguishing costs as direct or indirect lies in the fact that direct costs of a product or an activity can be accurately allocated while indirect costs have to be apportioned on the basis of certain assumptions. Thus it is helpful for management if costs are classified on the basis of their identifiability with the units of products, processes or work orders. This is so because direct costs are controllable at the operational level whereas indirect costs are not amenable to such control.

For the purpose of **decision making** and control, costs are distinguished on the basis of their relevance to the different types of decisions and control functions. Thus, expenditure which has taken place, is irrelevant in a situation & sunk cost. Cost incurred as a result of past decisions which cannot be altered by another decision at a subsequent date is known as sunk cost. Thus, for decisions with future implications, a sunk cost is an irrelevant cost. If a decision has to be made whether to replace the existing plant, the book value of the existing plant is to be regarded as a sunk cost as it is irrelevant to the question of its replacement. The decisive factor would be the difference in income which will result from the installation of a new plant, and the expected rate of return on the new investment.

Costs which are relevant are only to be taken into account and all such costs are analysed accordingly. Present and future cash expenditure connected with a decision are the result of proper cost analysis.

11. What are the applications of incremental cost techniques in making managerial decisions?

Answer:

Incremental cost technique: It is a technique used in the preparation of ad-hoc information in which only cost and income differences between alternative courses of action are taken into consideration. This technique is applicable to situations where fixed costs alter.

The essential pre-requisite for making managerial decisions by using incremental cost technique, is to compare the incremental costs with incremental revenues. So long as the incremental revenue is greater than incremental costs, the decision should be in favour of the proposal.

Applications of incremental cost techniques in making managerial decisions

The important areas in which incremental cost analysis could be used for managerial decision making are as under :

- i. Introduction of a new product
- ii. Discontinuing a product, suspending or closing down a segment of the business
- iii. Whether to process a product further or not
- iv. Acceptance of an additional order from a special customer at lower than existing price
- v. Opening of new sales territory and branch.
- vi. Optimizing investment plan out of multiple alternatives.
- vii. Make or buy decisions
- viii. Submitting tenders
- ix. Lease or buy decisions

12. Comment on the use of opportunity cost for the purpose of :

(i) decision-making and (ii) cost control

Answer:

(i) Decision making: Opportunity costs apply to the use of scarce resources, where resources are not secure, there is no sacrifice from the use of these resources.

Where a course of action requires the use of scarce resources, it is necessary to incorporate the lost profit which will be foregone from using scarce resources.

If resources have no alternative use only the additional cash flow resulting from the course of action should be included in decision making as relevant cost.

(ii) Cost control: The conventional variance analysis will report an adverse usage variance and adverse sales volume variance. However, the failure to achieve the budgeted optimum level of output may be due to inefficient usage of scarce resources. The foregone contribution should therefore be charged to the manager responsible for controlling the usage of scarce resources and not to the sales manager because the failure to achieve the budgeted sales is due to the failure to use scarce resources efficiently.

Thus if resources are scarce, the usage variance should reflect the acquisition cost plus budgeted contribution per unit of the scarce resources.

If the lost sales is made good in subsequent periods, the real opportunity cost will consist of lost interest arising from delay in receiving the net cash-flows and not the foregone contribution.

13. "Cost is not the only criterion for deciding in favour of shut down" – Briefly explain.

Answer:

Cost is not only criterion for deciding in the favour of shut down. Non-cost factors worthy of consideration in this regard are as follows:

- i. Interest of workers, if the workers are discharged, it may become difficult to get skilled workers later, on reopening of the factory. Also shut-down may create problems,
- ii. In the face of competition it may be difficult to re-establish the market for the product.
- iii. Plant may become obsolete or depreciate at a faster rate or get rusted. Thus, heavy capital expenditure may have to be incurred on re-opening.

14. State the non-cost factors to be considered in make/buy decisions.

Answer:

Non-cost factors in make / buy decisions:

- i. Possible use of released production capacity and facility as a result of buying instead of making.
- ii. Sources of supply should be reliable and they are capable of meeting un-interruptedly the requirement of the concern.
- iii. Assurance about the quality of goods supplied by outside supplier.
- iv. Reasonable certainty, from the side of supplier about, meeting the delivery dates.
- v. The decision of buying the product / component from outside suppliers should be discouraged, if the technical know how used is highly secretive.
- vi. The decision of manufacturing product / component should not adversely affect the concern's relationship with suppliers.
- vii. Ensure that more than one supplier of product/component is available to reduce the risk of outside buying.

15. Enumerate the factors involved in decisions relating to expansion of capacity.

Answer:

The factors involved in decisions relating to expansion of capacity are enumerated as below:

- (i) Additional fixed overheads involved should be considered.
- (ii) Possible decrease in selling price due to increased production capacity.
- (iii) Whether the demand is sufficient to absorb the increased production.

16. Discuss the role of costs in product-mix decisions.

Answer:

Role of costs in product mix decisions: All types of cost involved in cost accounting system are useful in decision making. The cost which plays a major role in product mix decision is the relevant cost. Costs to be relevant should meet the following criteria:

- (i) The costs should be expected as future costs.
- (ii) The costs differ among the alternatives course of action.

While making decision about product mix using the facilities and other available resources, the end results should always aim at cost minimisation. Variable costs are relevant costs in product mix decisions and consequently contribution plays a major role in maximisation of profit. In addition to the relevancy of costs, the other factors and costs that should be taken into account at the time of deciding the products mix are:

- i. The available production capacity
- ii. The limiting factor (s)
- iii. Contribution per unit of the limiting factor
- iv. Market demand for the products.
- v. Opportunity costs

17. State the relative economics of the “makes vs. buy” decision in management control.

Answer:

The relative economics of the “make vs. buy” decision is management control:

Generally for taking a make vs. buy decision comparison is made between the supplier's price and the marginal cost of making plus the opportunity cost. Make vs. buy decision is a strategic

decision, and, therefore, both short-term as well as long-term thinking about various cost and other aspects needs to be done.

A company generally buy a component instead of making it under following situations:

- i. If it costs less to buy rather than to manufacture it internally;
- ii. If the return on the necessary investment to be made to manufacture is not attractive enough;
- iii. If the company does not have the requisite skilled manpower to make;
- iv. If the concern feels that manufacturing internally will mean additional labour problem;
- v. If adequate managerial manpower is not available to take charge of the extra work of manufacturing;
- vi. If the component shows much seasonal demand resulting in a considerable risk of maintaining inventories;
- vii. If transport and other infrastructure facilities are adequately available;
- viii. If the process of making is confidential or patented;
- ix. If there is risk of technological obsolescence for the component such that it does not encourage capital investment in the component.

18. Mention the important factors to be considered in Marginal Costing Decisions.

Answer:

- i. Whether the product or production makes a contribution.
- ii. In the selection of alternatives, additional fixed costs if any should be considered.
- iii. The continuity of demand after expansion & its impact on selling price are to be considered.
- iv. Non-cost factors such as the need to keep labour force intact and government attitude are also to be taken into account.

19. What are the main points to be considered for Shut Down ?

Answer:

1. It is Temporary close down.
2. Fixed cost is continue (same in both cases) either continue or temporary closed down. than it is irrelevant.
3. Some fixed cost may be avoidable. Some fixed cost may be extra. Incurred to protect Machinery.
4. Calculate total loss if continue.

20. When should the decision to Shut Down Facilities be taken?

Answer:

- (i) It is always in the interest of company to continue to operate the facilities as long as products or services sold recover variable cost and make some contribution towards recovery of fixed cost.
- (ii) Shutdown of facilities does not eliminate all costs. Depreciation, interest, property, tax and insurance continue during complete inactivity.
- (iii) If operations are continued, certain expenditure connected with shutdown will be saved.
- (iv) It is in the interest of a company to continue the operations as long as differential costs or any amount above that can be obtained.

Assignment

1. In an assignment problem to assign jobs to men to minimize the time taken, suppose that one man does not know how to do a particular job, how will you eliminate this allocation from the solution?

Answer: In an assignment minimization problem, if one task cannot be assigned to one person, introduce a prohibitively large cost for that allocation, say M, where M has a high value. Then, while doing the row minimum and column minimum operations, automatically this allocation will get eliminated.

Transportation

1. State the methods in which initial feasible solution can be arrived at in a transportation problem.

Answer: The methods by which initial feasible solution can be arrived at in a transportation model are as under:

- (i) North West Corner Method.
- (ii) Least Cost Method
- (iii) Vogel's Approximation Method (VAM)

2. How do you know whether an alternative solution exists for a transportation problem?

Answer:

The Δ_{ij} matrix = $\Delta_{ij} = C_{ij} - (u_i + v_j)$

Where c_{ij} is the cost matrix and $(u_i + v_j)$ is the cell evaluation matrix for allocated cell.

The Δ_{ij} matrix has one or more 'Zero' elements, indicating that, if that cell is brought into the solution, the optional cost will not change though the allocation changes.

Thus, a 'Zero' element in the Δ_{ij} matrix reveals the possibility of an alternative solution.

3. Explain the term degeneracy in a transportation problem.

Answer: If a basic feasible solution of transportation problem with m origins and n destinations has fewer than $m + n - 1$ positive x_{ij} (occupied cells) the problem is said to be a degenerate transportation problem. Such a situation may be handled by introducing an infinitesimally small allocation ϵ in the least cost and independent cell.

While in the simple computation degeneracy does not cause any serious difficulty, it can cause computational problem in transportation problem. If we apply modified distribution method, then the dual variable u_i and v_j are obtained from the C_{ij} value to locate one or more C_{ij} value which should be equated to corresponding $C_{ij} + V_{ij}$.

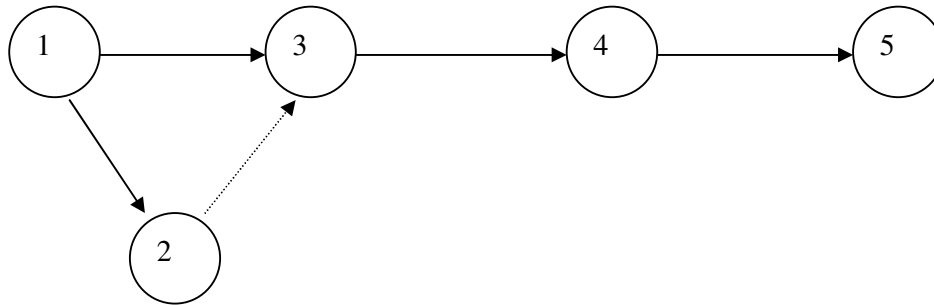
Network Analysis

1. What do you mean by a dummy activity? Why is it used in networking?

Answer: Dummy activity is a hypothetical activity which consumes no resource or time. It is represented by dotted lines and is inserted in the network to clarify an activity pattern under the following situations.

- i. To make activities with common starting and finishing events distinguishable.
- ii. To identify and maintain the proper precedence relationship between activities that are not connected by events.
- iii. To bring all "loose ends" to a single initial and single terminal event.

e.g.



Dummy (2) – (3) is used to convey that can start only after events numbered (2) and (3) are over:

2. List the 5 steps involved in the methodology of Critical Path Analysis.

Answer: The working methodology of PERT which includes both CPM and PERT, consists of following five steps:

- Analyze and break down the project in terms of specific activities and/or events.
- Determine the interdependence and sequence of specific activities and prepare a network.
- Assign estimates of time, cost or both to all the activities of the network.
- Identify the longest or critical path through the network.
- Monitor, evaluate and control the progress of the project by re-planning, rescheduling and reassignment of resources.

Learning Curve

1. What are the distinctive features of learning curve theory in manufacturing environment? Explain the learning curve ratio.

Answer: As the production quantity of a given item is doubled, the cost of the item decreases at a fixed rate. This phenomenon is the basic premise on which the theory of learning curve has been formulated. As the quantity produced doubles, the absolute amount of cost increase will be successively smaller but the rate of decrease will remain fixed. It occurs due to the following distinctive features of manufacturing environment:

- Better tooling methods are developed and used.
- More productive equipments are designed and used to make the product.
- Design bugs are detected and corrected.
- Engineering changes decrease over time.
- Earlier teething problems are overcome.

In the initial stage of a new product or a new process, the learning effect pattern is so regular that the rate of decline established at the outset can be used to predict labour cost well in advance. The effect of experience on cost is summarized in the learning curve ratio or improvement ratio.

$$\text{Learning curve ratio} = \frac{\text{Average labour cost of first } 2N \text{ units}}{\text{Average labour cost of first } N \text{ units}}$$

For example, if the average labour cost for the first 500 units is Rs. 25 and the average labour cost for the first 1,000 units is Rs. 20, the learning curve ratio is (Rs. 20/25) or 80%. Since the average

cost per unit of 1,000 units is Rs. 20, the average cost per unit of first 2,000 units is likely to be 80% of Rs. 20 or Rs. 16

2. Discuss the application of the learning curve.

Answer: Application of Learning Curve: Learning Curve helps to analyse cost-volume profit relationships during familiarization phase of product or process to arrive at cost estimates.

It helps in budgeting and profit planning.

It helps in pricing and consequent decision making- e.g. acceptance of an order, negotiations in establishing contract prices etc. with the advantage of the knowledge of decreasing unit cost.

It helps in setting standards in the learning phase.

Linear Programming

1. What are the practical applications of Linear Programming?

Answer: Linear programming can be used to find optional solutions under constraints.

In production:

- Product mix under capacity constraints to minimize costs/maximize profits along with marginal costs.
- Inventory management to minimize holding cost, warehousing/transporting from factories to warehouses etc.

Sensitivity Analysis: By providing a range of feasible solutions to decide on discounts on selling price, decisions to make or buy.

Blending: Optional blending of raw materials under supply constraints.

Finance: Portfolio Management, interest/receivables management.

Advertisement mix: In advertising campaign- analogous to production management and production mix.

Assignment of personal to jobs and resource allocation problems.

However, the validity will depend on the manager's ability to establish a proper linear relationship among variables considered.

2. Degeneracy in linear programming.

Answer: Degeneracy in LP may arise :

- (A) at the initial stage and
- (B) at any subsequent iteration stage.

In case (A), at least one basic variable is zero in the initial basic feasible solution. In case (B) at any iteration of the simplex method more than one vector is eligible to leave the basis and hence the next simple iteration produces a degenerate solution in which at least one basic variable is zero. This means that the subsequent iterations may not produce improvements in the value of the objective function.

3. Explain briefly the four major types of allocation problems which can be solved using linear programming technique.

Answer: Four major types of allocation problems using LP technique are :

- i. Transportation problem – Distribution of commodities to warehouses.
- ii. Assignment problem - Allocation of machines to jobs.
- iii. Product mix problem - Optimal product mix to maximise contribution.
- iv. Blending problem – Optimal blending of raw materials to minimise cost of cotton blending.

J.I.T. , M.R.P. & E.R.P.

JIT System

Just –in-time (JIT) production (also called lean production) is a “ demand- pull” manufacturing system in which each component in a production line is produced immediately as need in which by the next step in the production line. In a JIT production line, manufacturing activity at any particular workstation is promoted by the need for that station’s output at the following station. Demand triggers each step of the production process, starting with customer demand for a finished product at the end of the process and working all the way back to the demand for direct materials at the beginning of the process. In this way, demand pulls and order through the production line.

The demand-pull features of JIT production systems, achieve close coordination among workstations. It smoothes the flow of goods, despite low quantities of inventory. JIT production systems aim to simultaneously

- (1) meet customer demand in a timely way
- (2) with high-quality products and
- (3) at the lowest possible total cost.

Companies implementing JIT production systems manage inventories by eliminating (or least minimizing) them.

Features, benefits, Pre-requisites & Effect of JIT?

Features :

- a) Low or Zero inventories; emphasis on operation from source to customer .
- b) Emphasis on customer service and timing.
- c) Short of operations.
- d) Flexibility of operations.
- e) Efficient flow
- f) Use of kanban and Visibility.

Benefits :

- a. Reduce inventories and WIP
- b. Reduce space requirements, set up time
- c. Shorter throughput times
- d. Greater employees involvement, participation and motivation
- e. Smooth work force
- f. Greater productivity
- g. Improved product /service quality
- h. Improved customer service and smaller batch size.
- i. More uniform loading of facilities.

Pre –requisites of JIT:

- | | |
|--------------------------|-----------------------------|
| (i) Low variety | (ii) Demand stability |
| (iii) Vendor reliability | (iv) Defect free materials. |
| (v) Good communication | (vi) Preventive maintenance |

Desirable factor of JIT :

- | | |
|-----------------------------|---------------------------|
| (i) Management commitment | (ii) Employee investment. |
| (iii) Employee flexibility. | |

Pricing & Pareto Analysis

1. What is Pareto Analysis? Name some applications.

Answer: Pareto analysis is based on the 80:20 rule that was a phenomenon observed by Vilfredo Pareto. According to him 80% of wealth of Milan in Italy was owned by 20% of its citizens. The phenomenon can be observed in many different business situations & the management can follow it in various circumstances to direct management attention to the key control mechanism or planning aspects.

Analysing and focusing on the 80% value relating to 20% volume helps business in the following areas.

- (i) Pricing of a product (in a multi-product company)
- (ii) Customer profitability.
- (iii) Stock control.
- (iv) Activity Based Costing (20% cost drivers are responsible for 80% of total cost)
- (v) Quality Control.

2. Discuss briefly the concept of Skimming Pricing Policy.

Answer: It is a policy of high price during the early period of a product's existence. This can be synchronized with high promotional expenditure and in the later years the prices can be gradually reduced. The reasons for following such a policy are :

- i. The demand is likely to be inelastic in the earlier stages till the product is established in the market.
- ii. The charging of high price in the initial periods, serves to skim the cream of the market that is relatively insensitive to price. The gradual reduction in price in the later year will tend to increase the sales.
- iii. This method is preferred in the beginning because in the initial periods when the demand for the product is not known the price covers in initial cost of production.
- iv. High initial capital outlays, needed for manufacture, result in high cost of production. Added to this, the manufacturer has to incur huge promotional activities resulting in increased costs. High initial prices will be able to finance the cost of production particularly when uncertainties block the usual sources of capital.

For example: Electronic goods, mobile phone, Flat, TVs, etc

3. What is penetrating pricing ? In what circumstances can penetration pricing policy be adopted?

Answers : This pricing policy is in favour of using a low price as the principal instrument for penetrating mass markets early. It is opposite to skimming pricing. The low pricing policy is

introduced for the sake of long-term survival and profitability and hence it has to receive careful consideration before implementation. It needs an analysis of the scope for market expansion and hence considerable amount of research and forecasting are necessary before determining the price.

Penetration pricing means a price suitable for penetrating mass market as quickly as possible through lower price offers. This method is also used for pricing a new product. In order to popularize a new product penetrating pricing policy is used initially. The company may not earn profit by resorting to this policy during the initial stage. Later on, the price may be increased as and when the demand picks up. Penetrating pricing policy can also be adopted at any stage of the product life cycle for products whose market is approached with low initial price. The use of this policy by the existing concerns will discourage the new concerns to enter the market. This pricing policy is also known as “stay-out-pricing”.

Circumstances for adoption:

- i. When the demand of the product is elastic to price, In other words, the demand of the product increases when price is low.
- ii. When there are substantial saving on large-scale production. Here increase in demand is sustained by the adoption of low pricing policy.
- iii. When there is threat of competition. The prices fixed at a low level act as an entry barrier to prospective competitors.
- iv. The short run price elasticity of demand is high. By charging a low price, the first entrant is able to establish a market.
- v. Exploitation of established reputation / sales, marketing, distribution strengths. Create platform form for continued sale of related products.

For example, entry of a new model small segment car into the market

4. Is it justifiable to sell at a price below marginal cost at any time? Mention the circumstances in which it is justifiable.

Answer: It is justifiable to sell at a price below marginal cost for a limited period. The circumstances may be:

- i. Where materials are of perishable nature.
- ii. Where stocks have been accumulated in large quantities and the market prices have fallen. This will save the carrying cost of stocks, e.g., electronic goods –market prices fall due to quick obsolescence or advanced technological replenishment.
- iii. It is essential to reduce the prices to such an extent in order to popularize a new product.
- iv. Where such reduction enables the firm to boost the sales of other products having larger profit margin.
- v. To capture foreign markets
- vi. To obviate shut down costs
- vii. To retain future market

5. What do you mean by Loss Leader ?

Answer: Where a product can be enriched by a series of optional extras, which a customers of the main product are at liberty to add on for additional advantages, the main product may be offered at a relatively low price. If the price is set below cost, the product becomes a 'loss leader'. It leads the customers to buy the extras or optional advantageous spare parts which are highly price.

When a product range consists of one or more main products and a series of related optional 'extract', which the customer can 'add on' to the main product, the supplier can set a relatively low price for the main product and a high one for the 'extras'. Obviously, the aim is to stimulate sufficient demand for the former to ensure the target return from sales of the latter. The strategy has been used successfully by aircraft engine, gas turbine manufacturers, who win an order with a very competitively priced main product that can only be serviced by their own, highly priced spare parts.

Gillette did not invent the safety razor but the market strategy Gillette adopted helped to build market share. Gillette razors were sold at 1/5 of the cost to manufacture them but only Gillette blades fitted and these were sold at a price of 5 cents. The blades cost only 1 cent to manufacture and so Gillette made large profits once it had captured the customer.

6. What is Price Discrimination ? Under what circumstances it is possible ?

Answer: Price discrimination is charging different prices with respect to customers, products, places and time. It is possible when

- the market being capable of being segmented
- the customers is not able to resell the product at a higher price
- The competitors underselling is not possible

Total Quality Management (TQM)

1. Definition of Quality: (Check carefully how the definitions changes from Seller's market to Buyer's market)

Answer:

- i. The **first definition** given was **quality is conforming to specifications**. Generally the specifications are set by the producers.
- ii. The **second definition** given for **quality was fitness for use**. A product which is usable and conforms to all the specifications given, will generally be a good product. But a good product, which is not saleable, will not be appreciated. To sell a product it is necessary to incorporate customers, viewpoint. A customer will buy a product only if the cost, reliability, aesthetics, etc. suit his conditions. Hence customer focus has to be given prime importance and even in defining the quality, customer focus has to be stressed.
- iii. The **third definition** given for **quality was customer satisfaction**. A product, which satisfies the customer, will have a great market. The customer will also be happy that the product of his choice is being given to him. A person will be satisfied if all his needs are fulfilled.

The following factors are the commonly expressed "satisfaction" of the Customer:

- | | |
|--|---------------------------|
| (i) Utility value | (ii) Affordable cost |
| (iii) Longer life | (iv) Reliable performance |
| (v) Product look | (vi) Ease of maintenance |
| (vii) Prompt after sales service, etc. | |

- iv. The **fourth definition** given to **quality was delighting the Customer**. Delightment is one step ahead of satisfaction. A delighted customer is definitely in a different, better plane as compared to a satisfied customer. When the product fulfils both the expressed and unexpressed, i.e., explicit and implicit needs of the customers, he is delighted. The industries decided that they should work towards delighting the customer by providing them the products which will fulfill both their expressed and unexpressed needs.

2. Critical success factors of TQM :

- The **focus should be one customer needs**.
- **Everyone** within the organization should be **involved in TQM**.
- The focus should be on **continuous improvement**.
- **The aim** should be **to design and produce quality products**.
- Introduce an effective performance measurement system that measures continuous improvements from the customer's perspective.
- **Existing rewards and performance measurements should be renewed** to encourage quality improvements.
- **Appropriate training and education** should be given so that everyone is aware of the aims of TQM.

3. Explain four P's of quality improvement principles.

Answer: The Four P's quality improvement principles are as below:

People: It will quickly become apparent that some individuals are not ideally suited to the participatory process of TQM. This will be inferred from lack of enthusiasm, non – attendance of TQM meetings, failure to complete delegated work, etc. To avoid misdirection, TQM teams should consist of team spirited individuals who have a flair of accepting and meeting challenges.

Process: It is essential to approach problem solving practically and regard the formal process as a system designed to prevent participants from jumping to conclusions. As such it will provide a means to facilitate the generation of alternatives while ensuring the important discussion stages are not omitted.

Problem: Problems need to be approached in a bite – sized chunks, with team tackling solvable problems with a direct economic impact, allowing for immediate feedback together with recognition of contribution made by individual participants.

Preparation: Additional courses on creative thinking and statistical processes are needed in order to give participants a greater appreciation of the diversity of the process.

A three-point action plan for the choice of projects and the implementation of the process is as follows :

4. Responsibility accounting:

It refers to a control system of management accounting and reporting. **The basis of Responsibility Accounting is the creation/recognition of various responsibility/decision centres in an organisation. The individual managers of these centres are made responsible for the insurance and control of costs relating to their responsibility centres.**

The main feature of responsibility accounting is that it is more concerned with control of costs than their determination. The system would trace costs (revenues, assets and liabilities) to the individual managers who are primarily responsible for making decisions about the costs under review. In other words, the executive in charge of every responsibility centre would have

authority to incur costs relating to his responsibility centre and accountable to them. If he does not have the authority to incur costs he will also not be responsible for their control.

The performance of the managers of the various responsibility centres is judged by assessing how far they have been able to monitor those costs which were under their control. This is done by furnishing the department heads with performance reports from time to time. These reports will exclude all apportioned and policy costs not subject to their control. Thus responsibility accounting is based on the principle that an executive will be held accountable only for those acts over which he has control.

Responsibility Accounting system can be tailored according to the needs of an organisation. An effective system of responsibility accounting would require that the responsibility of each executive is clearly defined. He should know, what he is required to do and what performance is expected of him.

Pre-requisites for responsibility accounting:

- i. The area and authority of each responsibility centre should be clearly defined.
- ii. The goal should be clearly stated to each manager.
- iii. The performance report of a responsibility centre should include only the revenues, expenses, profit and investments which are to be controlled by the executive of that centre.
- iv. The items which may require management's attention like variance should be highlighted in the performance report for each responsibility centre.
- v. The help of managers of responsibility centre may be sought while establishing the goals of the centre.

Classification of responsibility centers

Cost Centre : The smallest unit of an organisation. A cost center manager is responsible for the costs incurred there & can charge this cost at the time of transferring to other responsibility centre. Cost Centre are of two types – production & service. A Cost Centre cannot charge overhead on the basis of absorption costing & profit.

Profit Centre : A production / Service unit of an organisation headed by an individual fully responsible for all costs, revenues and profitability of its operations is known as a profit centre. The individual is authorised to plan and look after production, financial and accounting activities of the centre. A concern may be divided into a number of profit centre. Generally a department is considered as a profit centre if its total production is demanded by the outsiders. Hence a profit centre is empowered to charge the sales price for an inter-division transfer. A Profit Centre cannot distribute its profit without the consent of Investment Centre.

Revenue Centre: A sales center , e.g. a show room

Investment Centre : A centre whose managers are normally accountable for sales revenue and expenses but in addition they are also responsible for some capital investment decisions and are thus able to influence the size of the investment. Return on investment (ROI) and Residual Income (RI) are usually used to evaluate the performance of investment centres.

Merit of profit centre

- i. It makes its managers responsible for the profit performance – achieving the budgeted amount of profit during a period.
- ii. Under profit centre concept the whole organisation is divided into a number of divisions, the performance of each division is measured in terms of both the income and the costs.

- iii. Managers in each division have freedom in making decisions. They need not obtain approval from corporate headquarters for every expenditure.

Disadvantages of profit centres:

- i. Division may compete with each other and may take decisions to increase profits at the expenses of other divisions thereby overemphasizing short term results.
- ii. It may adversely affect co-operation between the divisions and lead to lack of harmony in achieving organisational goals of the company. Thus it is hard to achieve the objective of goal congruence.
- iii. It may lead to reduction in the company's overall total profits.
- iv. There may be higher cost of common activities following decentralized structure than for centralised structure. It may thus result in duplication of staff activities.
- v. Top management loses control by delegating decision making to divisional managers. There are risks of mistakes committed by the divisional managers which the top management may avoid.
- vi. Series of control reports prepared for several departments may not be effective from the point of view of top management.
- vii. It may under utilise corporate competence.
- viii. It leads to complication associated with transfer pricing problems.
- ix. It becomes difficult to identify and define precisely suitable profit centres.
- x. It confuses division's result with manager's performance.

Transfer Pricing

1. a. "Transfer pricing is a widely debated and contested topic" – Discuss.

b. What should be the basis of transfer pricing, if unit variable cost and selling price are not constant ?

Answer (a).: Usually a conflict between a division of the company and the company as a whole is faced by the management of decentralised units when products or services are exchanged among different divisions of the company. Such a conflict becomes more significant in the case of those concerns where profitability is used as a criteria for evaluating the performance of each division.

The essence of decentralisation is reflected in the freedom to make decisions. Under such a set it is expected that the top management should not interfere with the decision making process of its subordinates heading different units. In other words, management of decentralised units is given autonomy with regard to decision making. In this system, top management is expected to preserve 'autonomy in decision making'. The management of such companies also expects that each division should not only achieve its own objective necessary for evaluating the performance but should also achieve the objective of goal congruence.

A divisional head in a company under aforesaid set up is free to use a price as a transfer price for goods and services, which may provide incentive. Such a transfer price may fail to achieve the objective of 'Goal congruence' (which means a perfect congruence between division's goal and the goal of the company). In case of failure of a division to achieve the objective of 'Goal congruence' the management of the company may dictate their transfer price. Such an interference

of management of the company is usually the main basis of conflict between a division and the company as a whole.

Further this conflict is aggravated if the management advocates the transfer of goods and services at cost. As such, the transfer price will not reflect a good picture about the performance of the transferring division. The profitability of the transferring division will not be known by the use of such a transfer price.

Each division appreciates the transfer of its goods/services at usual selling price/market price so as to arrive at the correct return / profitability figure, used for measuring the performance. There is no incentive to the transferring division if goods and services are transferred at variable cost.

Answer (b): If unit variable cost and unit selling price are not constant then the main problem that would arise while fixing the transfer price of a product would be as follows :

There is an optimum level of output for a firm as a whole. This is so because there is a certain level of output beyond which its net revenue will not rise. The ideal transfer price under these circumstances will be that which will motivate these managers to produce at this level of output.

Essentially, it means that some divisions in a business house might have to produce its output at a level less than its full capacity and in all such cause a transfer price may be imposed centrally.

Uniform Costing

1. What is uniform costing? Why is it recommended?

Answer: Uniform Costing: It is not a distinct method of costing when several undertakings start using the same costing principles or practices, they are said to be following uniform costing. Different concerns in an industry should adopt a common method of costing and apply uniformly the same principles and techniques for better cost comparison and common good and helps in mutual cost control and cost reduction. Hence, it is recommended that a uniform method of costing should be adopted by the member units of an industry.

2. Explain in brief the advantages and limitations of uniform costing .

Answer.: Uniform costing refers to the use of the same costing principles and practices by several undertakings. These undertakings may or may not be under the same management. Adherence to the same costing methods and procedures specially when there can be two or more options is the characteristic feature of a uniform system of costing.

Advantages of uniform costing :

The following are the advantages of uniform costing.

1. The management of an individual firm / unit will be saved of the botheration of developing and introducing a costing system of their own.
2. A uniform costing system for the firms in the same industry is provided for the adoption of such undertakings. Since, the system is devised by mutual consultation and after considering the difficulties and circumstances prevailing in the various undertakings, therefore it is readily adopted and successfully implemented.
3. It facilitates comparison of cost figures of various firms. Such a comparison enables the firms to identify their weak and strong points and control costs effectively and efficiently.

4. The available of cost data of other firms in the industry enables each firm to know its standing in the industry.
5. The benefits of research and development of bigger firms are made available to smaller firms at no cost.
6. This system of costing requires the introduction of a uniform wage system in all the firms in the industry. The introduction of a uniform wage system reduces labour turnover.
7. It helps trade associations in negotiating with the government in trade matters, particularly, when an industry seeks any assistance or concession from the government in matters of subsidies, exports, taxation, duties and price determination, etc.
8. Uniform costing is of great help in price fixation. Unhealthy competition is avoided between the firms in the same industry in framing policies and submitting tenders.
9. It helps the government also in regulating the prices of essential and important items such as bread, flour, sugar, cement and steel etc.

Limitations of uniform costing :

1. Due to the differing circumstances in which firms operate, it is difficult to have uniform standards, methods and procedures of costing. This renders the adoption of uniform costing difficult.
2. Adoption of a uniform costing system requires various firms to disclose their cost and other data. Some of the firms do not like this and are thus hesitant towards the use of this costing system.
3. Small firms feels that uniform costing system is meant only for large and medium size firms and thus they cannot afford it.
4. Some feels that the use of this system of costing may lead to monopolistic tendencies resulting in artificially raised higher prices and curtailing supplies

3. State the objectives of uniform costing.

Answer: The main objectives of uniform costing are as follows:

- a) To facilitate the comparison of costs and performances of different units in the same industry.
- b) To eliminate unhealthy competition among the different units of an industry.
- c) To improve production capacity level and labour efficiency by comparing the production costs of different units with each other.
- d) To provide relevant cost information/data to the Government for fixing and regulating prices of the products.
- e) To bring standardization and uniformity in the operation of participating units.
- f) To reduce the different types of costs.

4. What is disinvestments strategy? Highlight the main reasons for disinvestments.

Answer:

Divestment Strategy:

Divestment involves a strategy of selling off or shedding business operations to divert the resources, so released, for other purposes. Selling off a business segment or product division is one of the frequent forms of divestment strategy. It may also include selling off or giving up the control over subsidiary where by the wholly owned subsidiaries may be floated as independently quoted companies.

Reason for Divestment Strategy

- a) In case of a firm having an opportunity to get more profitable product or segment but have resource constraint, it may selling off it's unprofitable or less profitable division and utilized the recourse so released. Cost Benefit analysis & Capita Budgeting Method are the useful tool for analyzing this type of situation.
- b) In case of purchase of new business, it may be found that some of the part of the acquired business is not upto the mark. In such type of situation disposal of the unwanted part of the business is more desirable than hold it.
- c) In case where any business segment or product or subsidiary is pull down the profit of the whole organization, it is better to cut down of that operation of the product or business segment.