COSTING THEORY QUESTION & ANSWEAR

1. Briefly explain "It may not be possible to solve those problems using linear programming, in which non – linearity arises because of joint interactions between some of the activities regarding the total measure of effectiveness or total usage of some resource"

Ans: It may not be possible to solve those problems using linear programming, in which non-linearity arises because of joint interactions between some of the activities regarding the total measure of effectiveness or total usage of some resource. Hence linear programming problem requires that the total measure of effectiveness and total resource usage resulting from the joint performance of the activities must equal the respective sums of these quantities resulting from each activity being performed individually. In some situations, it may not be true. For example, consider a situation where by a product is produced with the scrap material from the primary product.
The material would still have to be procured if only one of the two products were produced. However, the total material requirements if both products are produced is less than the sum of requirements is each were produced individually. It may not be possible to handle such situation with linear programming problems.

2. What are conventions normally adopted while drawing networks?

Ans: There are two conventions normally adopted while drawing networks. In the early stages of network drawing, it is suggested that the conventions should be respected until sufficient experience has been gained to justify dropping them. These conventions are:

(a) Time flows from left to right.

(b) Head events always have a number higher than that of the tail events.

The above stated conventions allow activities to be referred uniquely by their tail and head event numbers, so that "activity 3-4" means only "the activity which starts from event 3 and proceeds to event 4"; it cannot mean "the activity which starts from event 4 and finishes at event 3".

3. "Target costing is most useful in situations where the majority of product costs are locked in during the product design phase"-Explain with example.

Ans: This is the case for most manufactured products, but few services. In the services area, such as consulting, the bulk of all activities can be reconfigured for cost reduction during the "production" phase, which is when services are being provided directly to the customer. In the services environment the "design team" is still present but is more commonly concerned with streamlining the activities conducted by the employees providing the service, which can continue to be enhanced at any time, not just when the initial services process is being laid out. For example-

1. Design team can lay out the floor plan of a fast-food restaurant, with the objective of creating an arrangement that allows employees to cover the shortest possible distances while preparing food and serving customers; this is similar to the design of a new product. However, unlike a product design, this layout can be readily altered at any time if the design team can arrive at a better layout, so that the restaurant staff can continue to experience high levels of productivity improvement even after the initial design and layout of the facility. In this situation costs are not locked in during the design phase, so there is less need for target costing.
2. Another situation where target costing results in less value is the production of raw materials, such as chemicals. In this case there are no design features for a design team to labour over; instead, the industrial engineering staff tries to create the most efficient possible production process, which has little to do with cost reduction through the improvement of customer value by creating a product with a high ratio of features to costs.

4. What is 'Value Engineering'? How does it differ from Value Analysis?

Ans: Value engineering involves searching for opportunities to modify the design of each component or part of a product to reduce cost, but without reducing functionality or quality of the product. Value analysis entails studying the activities that are involved in producing the product to detect non value- adding activities that may be eliminated or minimized to save costs, but without reducing the functionality or quality of the product.

5. What are steps of 'Zero-base Budgeting' process?

Ans: The process of zero-base budgeting involves the following steps:

1. Determination of a set of objectives is one of pre-requisites and essential step in the direction of ZBB technique.
2. Deciding about the extent to which the technique of ZBB is to be applied whether in all areas of organizations' activities or only in a few selected areas on trial basis.
3. Identify those areas where decisions are required to be taken.
4. Developing decision packages and ranking them in order of performance.
5. Preparation of budget that is translating decision packages into practicable units/items and allocating financial/resources.

6. Write short note on 'Sealed Bid Pricing'.

Ans: Competitive pricing dominates in those situations where firms compete on the basis of bids. The bid is the firms offer price, and it is a prime example of pricing based on expectations of how competitors will price rather than on a rigid relation based on the concern's own costs or demand. The objective of the firm in the bidding situation is to get the contract, and this means that it hopes to set its price lower than that set by any of the other bidding firms. But however the firm does not ordinarily set its price below a certain level. Even when it is anxious to get a contract in order to keep the plant busy, it cannot quote price below marginal cost. On the other hand, if it raises its price above marginal cost, it increases its potential profit but reduces its chance of getting the contract.

7. Briefly explain "Resource leveling is the project management technique which is used for reducing the requirement of a particular resource due to its paucity"

Ans: It is a network technique which is used for reducing the requirement of a particular resource due to its paucity. The process of resource leveling utilizes the large floats available on non-critical activities of the project and thus cuts down the demand on the resource. In resource leveling, the maximum demand of a resource should not exceed the available limit at any point of time. In order to achieve this, non critical activities are rescheduled by utilizing their floats. In resource leveling, constraint is on the limit of the resource availability.

8. Classify the following items under appropriate categories of equality costs viz. Prevention Costs, Appraisal Cost, Internal Failure Costs and External Failure costs:

(i) Rework

(ii) Disposal of scrap

(iii) Warranty Repairs

(iv) Repair to manufacturing equipments

(v) Discount on defective sale

(vi) Raw material inspection

(vii) Finished product inspection

(viii) Establishment of quality circles

Ans:

(i) Rework	Internal Failure
(ii) Disposal of scrap	Internal Failure
(iii) Warranty Repairs	External Failure
(iv) Repair to manufacturing equipments	Internal Failure
(v) Discount on defective sale	External Failure
(vi) Raw material inspection	Prevention Cost
(vii) Finished product inspection	Appraisal Cost
(viii) Establishment of quality circles	Prevention Cost

9. Briefly explain-"All activities of a firm are not subject to learning effect"

Ans: All activities of a firm are not subject to learning effect. (Activities that have not been performed in the present operational mode, those performed by new or unfamiliar employees are subjected to learning effect, while those performed by familiar or experienced workmen will not be subjected to learning effect).

10. Two companies, Beta and Gama, have the same values for turnover and net profit and make a similar product. Beta has a higher P/V ratio than Gama. Which company will perform better when: (i) the market demand is high? (ii) the market demand is low?

Ans: (i) In case Market Demand is High – Product Beta (Lower Variable Cost and Higher Fixed Cost)

(ii) In case Market Demand is Low – Product Gama.

11. What is 'Kaizen Costing'?

Ans: 'Kaizen Costing' is a Japanese term for a number of cost reduction steps that can be used subsequent to issuing a new product design to the factory floor. Some of the activities in the kaizen costing methodology include the elimination of waste in the production, assembly, and distribution processes, as well as the elimination of work steps in any of these areas. Though these points are also covered in the value engineering phase of target costing, the initial value engineering may not uncover all possible cost savings. Thus, kaizen costing is really designed to repeat many of the value engineering steps for as long as a product is produced, constantly refining the process and thereby stripping out extra costs. The cost reductions resulting from kaizen costing are much smaller than those achieved with value engineering but are still worth the effort since competitive pressures are likely to force down the price of a product over time, and any possible cost savings allow a company to still attain its targeted profit margins while continuing to reduce cost.

12. Explain 'Degeneracy' in transportation problem.

Ans: Degeneracy : A transportation problem has m +n –1 basic variables which means that the number of occupied cells is such a solution is one less than the number of rows plus the number of columns. It may happen sometimes that the number of occupied cells is less than m +n –1. Such a solution is called a degenerate solution.

13. What are the limitations of 'Value Chain Analysis'?

Ans: Limitations of Value Chain Analysis:

1. Non-availability of data: Internal data on costs, revenues and assets used for value chain analysis are derived from financial information of a single period.

For long term strategic decision making, changes in cost structures, market prices and capital investments etc. may not be readily available.

2. Identification of stages: Identifying stages in an industry's value chain is limited by the ability to locate at least one firm that participates in a specific stage. Breaking a value stage into two or more stages when an outside firm does not complete in these stages is strictly judgment.

3. Ascertainment of cost, revenues and assets: Finding the costs revenues and assets for each value chain activity poses/gives rise to serious difficulties. There is no scientific approach and much depends upon trial and error and experimentation methods.

4. Identification of cost drivers: Isolating cost drivers for each value-creating activity, identifying value chain linkages across activities and computing supplier and customer profit margins present serious challenges.

5. Resistance from employees: Value chain analysis is not easily understandable to all employees and hence may face resistance from employees as well as managers.

6. Science Vs Art: Value chain analysis is not exact science. It is more "art" than preparing precise accounting reports. Certain judgments and factors of analysis are purely subjective and differ from person to person.

14. "CPM is a deterministic model. However, PERT is a probabilistic model"-Explain.

Ans: CPM is a deterministic model i.e. It does not take into account the uncertainties involved in the estimation of time for execution of a job or an activity. It completely ignores the probabilistic element of the problem. PERT, however, is a probabilistic model. It uses three estimates of the activity time; optimistic, pessimistic and most likely; with a view to take into account time uncertainty. Thus, the expected duration of each activity is probabilistic and expected duration indicates that there is fifty per cent probability of getting the job done within that time.

15. Explain Skimming pricing strategy.

Ans: Skimming pricing-It is a policy where the prices are kept high during the early period of a product's existence. This can be synchronized with high promotional expenditure and in the latter years the prices can be gradually reduced. The reasons for following such a policy are as follows:

(1) The demand is likely to be inelastic in the earlier stages till the product is established in the market.

(2) The gradual reduction in price in the latter years will tend to increase the sales.

(3) This method is preferred in the beginning because in the initial periods when the demand for the product is not known the price covers the initial cost of production.

(4) High initial capital outlays needed for manufacture, results in high cost of production. In addition to this, the producer 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.

16. Explain following statement.

"Overhead variances should be viewed as interdependent rather than independent".

Ans: The operations of a firm are so inter linked that the level of performance in one area of operation will affect the performance in other areas. Improvements in one area may lead to improvements in other areas. A sub-standard performance in one area may be compensated by a favourable performance in another area. Because of such interdependency among activities in the firm, the managers should not jump to conclusions merely based on the label of variances namely favourable or unfavourable. They should remember that there is a room for trade off amongst variances. Hence, variances need to be viewed as 'attention directors' rather than problem solvers. Thus, a better picture will be captured when overhead variance are not viewed in isolation but in an integrated manner.

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

Ans: 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.

18. Explain following -

'Going rate pricing' & 'Throughput Accounting (TA)'

Ans:

Going Rate Pricing: It is a competitive pricing method under which a firm tries to keep its price at the average level charged by the industry. The use of such a practice of pricing is specially useful where it is difficult to measure costs. Adoption of going rate pricing will not only yield fair return but would be least disruptive for industry's harmony.

Throughput Accounting (TA): Throughput Accounting is a method of performance measurement which relates production and other costs to throughput. Throughput accounting product costs relate to usage of key resources by various products. It assumes that a manager has a given set of resources available. These comprise the existing buildings, capital equipment and labour force. Using these resources, purchased materials and components must be processed to generated sales revenue. To achieve this, maximum amount of throughput is required with the financial definition.

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

Ans: Usually a conflict between a division of the company and the company as a whole is faced by the management of decentralized 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 criteria for evaluating the performance of each division. 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 a 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.

20. Discuss the application of the learning curve.

Ans: Application of Learning curve: Learning curve helps to analyze 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.

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

Ans: 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.

22.Explain the term "FOB factory pricing".

Ans: The seller quotes the selling price at the point of production and the buyer selects the mode of transportation and pays all freight costs. This method of pricing is referred as FOB factory pricing.

23. Indicate the possible disadvantages of treating divisions as profit centres.

Ans. The possible disadvantages of treating divisions as profit centres are as follows:

1. Divisions may compete with each other and may take decisions to increase profits at the expense of other divisions thereby overemphasizing short term results.

2. 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.

3. It may lead to reduction in the company's overall total profits.

4. The cost of activities which are common to all divisions may be greater for decentralised structure than for centralised structure. It may thus result in duplication of staff activities.

5. Top management looses Control by delegating decision making to divisional managers. There are risks of mistakes committed by the divisional managers which the top management, may avoid.

6. Series of control reports prepared for several departments may not be effective from the point of view of top management.

7. It may under utilise corporate competence.

8. It leads to complications associated with transfer pricing problems.

9. It becomes difficult to identity and defines precisely suitable profit centres.

10. It confuses division's results with manager's performance.

24. Explain the role of bench marking in continuous improvement in an organisation.

Ans: Bench marking is a technique which is being adopted as a mechanism for achieving continuous improvement. It is a continuous process of measuring a company’s products, services or activities against the other best performing organizations either internal or external to the company. The objective is to ascertain how the processes and activities can be improved. The latest developments, best practices and model examples can be incorporated within various operations of the business of the company. It represents an ideal way of achieving high competitive standards.

25. What is total-life-cycle costing approach? Why is it important?

Ans: Total life cycle costing approach: Life cycle costing estimates, tracks and accumulates the costs over a product’s entire life cycle from its inception to abandonment or from the initial R & D stage till the final customer servicing and support of the product. It aims at tracing of costs and revenues on product by product basis over several calendar periods throughout their life cycle. Costs are incurred along the product's life cycle starting from product's design, development, manufacture, marketing, servicing and final disposal. The objective is to accumulate all the costs over a product life cycle to determine whether the profits earned during the manufacturing phase will cover the costs incurred during the pre and post manufacturing stages of product life cycle.

Product life cycle costing is important for the following reasons:

(i) When non-production costs like costs associated with R & D, design, marketing, distribution and customer service are significant, it is essential to identify them for target pricing, value engineering and cost management. For example, a poorly designed software package may involve higher costs on marketing, distribution and after sales service.

(ii) There may be instances where the pre-manufacturing costs like R & D and design are expected to constitute a sizeable portion of life cycle costs. When a high percentage of total life cycle costs are likely to be so incurred before the commencement of production, the firm needs an accurate prediction of costs and revenues during the manufacturing stage to decide whether the costly R & D and design activities should be undertaken.

(iii) Many costs are locked in at R & D and design stages. Locked in or Committed costs are those costs that have not been incurred at the initial stages of R & D and design but that will be incurred in the future on the basis of the decisions that have already been taken. For example, the adoption of a certain design will determine the product's material and labour inputs to be incurred during the manufacturing stage. A complicated design may lead to greater expenditure on material and labour costs every time the product is produced.

Life cycle budgeting highlights costs throughout the product life cycle and facilitates value engineering at the design stage before costs are locked in.

Total life-cycle costing approach accumulates product costs over the value chain. It is a process of managing all costs along the value chain starting from product's design, development, manufacturing, marketing, service and finally disposal.

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

Ans: *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

1. 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.
2. 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.
3. 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.

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

Ans: *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.

28. Give an appropriate cost unit for each of the following service sectors:

(i) Hotel (ii) School

(iii) Hospital (iv) Accounting firm

(v) Transport (vi) Staff Canteen

(vii) Machine maintenance

(viii) Computer Department.

Ans:

Service	*Sector Cost Unit*
(i) Hotel	Bednights available or occupied
(ii) School	Student hours or no. of full time students
(iii) Hospital	Patient-day / Room-day
(iv) Accounting firm	Client hours
(v) Transport	Passenger-Kms, or Quintal km or tonne-km
(vi) Staff Canteen	No. of meals provided or no. of staff
(vii) Machine maintenance	Maintenance hours to user departments
(viii) Computer Department	Computer time to user departments.

29. Explain the following in the context of a network:

(i) Dependency Rule.

(ii) Dummy Activity.

Ans: *Dependency Rule:* The representation of events and activities is governed by one simple dependency rule which requires that an activity which depends upon another activity is shown to emerge from the head event of the activity upon which it depends and that only dependent activities are drawn in this way. Thus, if activity B depends upon activity A, then the two activities are drawn in below figure.

A **B**

1 **-----------------------------→ 2 --------------------------------→ 3**

The dependency rule gives rise to two fundamental properties of events and activities:*

1. An event cannot occur until all activities leading to it are complete.
2. No activity can start until its tail event is reached.

The above two properties can be combined into a single one, namely that "no activity may start until all previous activities in the same chain are completed.

Dummy Activities: Dummy Activity is that activity which does not consume time or resources. It is used when two or more activities have same initial and terminal events. As a result of using dummy activities, other activities can be identified by unique end events. These are usually shown by arrows with dashed lines.

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

Ans: *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.

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 alternation to those elements of cost which are relevant for the decision.

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

Direct labour under alternative II – ` 20/ hour

Then, direct labour is relevant cost.

31. Six Sigma

Ans: Continuous improvement can be brought into the organisational culture by introducing continuously changing planned targets. One such target can be six-sigma accuracy. The sigma accuracy means the process is 99.999998% accurate. That is the process will/can produce only 0.002 defects per million. This is the structural meaning of six-sigma. In quality practice, six-sigma means 3.4 parts per million.

Six sigma is the statistical measure used to ensure quality of products and services.

The six sigma academy has developed a break through strategy consisting of measure, analyze, improve and control, that allows companies to make exceptional bottom-line improvements.

In addition to the material and labour savings, which flow directly to the bottom line, a company engaged in six sigma can expect to see:

- Improved customer satisfaction
- Reduction cycle time
- Increased productivity
- Reduction in total defect
- Improved process flow .

32. In what circumstances it may be justifiable to sell at a price below marginal cost?

Ans: It may be justifiable to sell at a price below marginal cost for a limited period under the following circumstances:

(i) Where materials are of perishable nature.

(ii) Where stocks have been accumulated in large quantities and the market prices have fallen.

(iii) To popularize a new product.

(iv) Where such reduction enables the firm to boost the sale of other products having larger profit margin.

(v) To capture foreign markets.

(vi) To obviate shut down costs.

(vii) To retain future market.

33. Give two examples for batch level activities in activity based costing.

Ans: Examples of batch level activities:

(i) Material ordering.

(ii) Machine set up costs.

(iii) Inspection of products – like first item of every batch.

34. Give two examples of non-relevant costs.

Ans: Examples of non-relevant costs:

(1) All fixed costs are generally non-relevant.

(2) Variable costs which do not vary with the decision are not relevant costs.

(3) Book value of the asset is not relevant.

35. Write a short note on 'Process Costing in Service Sector'.

Ans: In process costing system the cost of a service is obtained by assigning costs to masses of similar unit and then computing unit cost on an average basis. Retail banking, Postal delivery, Credit card etc. uses process costing method.

36. Why are conventional product costing systems more likely to distort product costs in highly automated plants? How do activity-based costing systems deal with such a situation?

Ans: The conventional product cost system was in vogue when companies manufactured narrow range of products, overhead costs were relatively small and distortions arising from inappropriate overhead allocations were not significant. It used volume measures like direct labour hours or machine hours for charging overhead costs to products. In the case of a company using highly automated plant, direct labour is a small fraction of cost when compared with overheads (because of higher amount of depreciation). In case where such a company is multi product, overheads which are large in proportion to direct labour are influenced by number of set up, inspection, number of purchases etc. In these circumstances, the volume based method of recovery of overheads is no longer appropriate and such a measure will report inaccurate product costs. Hence, the traditional system of costing was found to over cost high volume products and under cost low volume products.

Activity Based Costing (ABC) system aims at refining the costing system used in automated plants in the following manner:

- ABC systems trace more costs as direct costs.
- ABC systems create homogeneous cost pools linked to different activities.
- For each activity cost pool, ABC systems seek a cost allocation base that has

a cause-and-effect relationship with costs in the cost pool.

37. Explain 'Multinational Transfer Pricing'.

Ans: Multinational companies use transfer prices to minimize worldwide income taxes, import duties, and tariffs. For example, Nike might prefer to make its profits in a country, with its maximum corporate tax rate of 28%, rather than in some other place where the rate is 35%.

Suppose a division in a high-income-tax-rate country produces a sub-assembly for another division in a low-income-tax-rate country. By setting a low transfer price, the company can recognize most of the profit from the production in the low-income-tax-rate country, thereby minimizing taxes. Likewise, items produced by divisions in a low-income-tax-rate country and transferred to a division in a high-income-tax-rate country should have a high transfer price to minimize taxes.

Sometimes import duties offset income tax effects. Most countries base import duties on the price paid for an item, whether bought from an outside company or transferred from another division. Therefore, low transfer prices generally lead to low import duties.

Financial restrictions imposed by some governments may be avoided by an effective use of transfer price. For example, in case a country restricts the amount of dividend paid to foreign owners, it may be easier for a company to get cash from a foreign division in form of payments for product transferred rather than cash dividend.

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

Ans: 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, characterized 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:

1. 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.

2. 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.

3. 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.

39. State the relative economics of the "makes vs. buy" decision in management control.

Ans: 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 well as long-term thinking about various cost and other aspects needs to be done.

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

− If it costs less to buy rather than to manufacture it internally;

− If the return on the necessary investment to be made to manufacture is not attractive enough;

− If the company does not have the requisite skilled manpower to make;

− If the concern feels that manufacturing internally will mean additional labour problem;

− If adequate managerial manpower is not available to take charge of the extra work of manufacturing;

− If the component shows much seasonal demand resulting in a considerable risk of maintaining inventories;

− If transport and other infrastructure facilities are adequately available;

− If the process of making is confidential or patented;

− If there is risk of technological obsolescence for the component such that it does not encourage capital investment in the component.

40. What is differentiation advantage?

Ans: It occurs when customers perceive that a business unit's product offering (defined to include all attributes relevant to the buying decision) is of higher quality, involves less risk and/or outperforms competing product offerings.

For example,

differentiation may include a firm's ability to deliver goods and services in a timely manner, to produce better quality, to offer the customer a wider range of goods and services, and other factors that provide unique customer value.

Once a company has successfully differentiated its offering, management may exploit the advantage in one of two ways viz., either; increase price until it just offsets the improvement in customer benefits, thus maintaining current market share; or price below the "full premium" level in order to build market share.

41. Explain the concept and aim of theory of constraints.

Ans: 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.

42. What is the fundamental difference between Activity Based Costing System (ABC) and Traditional Costing System?

Ans: In the traditional system of assigning manufacturing overheads, overheads are first allocated and apportioned to cost centres (production and support service cost centres) and then absorbed to cost objects (e.g. products). Under ABC, overheads are first assigned to activities or activity pools (group of activities) and then they are assigned to cost objects. Thus, ABC is a refinement over the traditional costing system. Usually cost centres include a series of different activities. If different products create different demands on those activities, the traditional costing system fails to determine the product cost accurately. In that situation, it becomes necessary to use different rates for different activities or activity pools.

43. 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?

Ans: 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 the value. Then, while doing the row minimum and column minimum operations,automatically this allocation will get eliminated.

44. What is Pareto Analysis? Name some applications.

Ans: Vilfredo Pareto, an Italian economist, observed that about 70 – 80% of value was represented by 30 – 20% of volume. This observation was found to exist in many business solutions. 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.

45. Discuss the benefits accruing from the implementation of a Total Quality Management programme in an organization.

Ans: The benefits accruing from the implementation of a Total Quality Management programme in an organisation are:

(i) There will be increased awareness of quality culture in the organization.

(ii) It will lead to commitment to continuous improvement.

(iii) It will focus on customer satisfaction.

(iv) A greater emphasis on team work will be achieved.