

# **Solution cum Scheme of Evaluation**

**IV/IV B.Tech (Regular) Degree Examination**

**18ME002**

**Industrial Management & Entrepreneurship Development**

**Mechanical Engineering**

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**a) Define scientific management**

**10x1=10M**

Scientific management means knowing exactly what you want men to do and seeing that they do it in the best and the cheapest way.

**b) State Ownership**

State ownership is the ownership of an industry, asset or enterprise by the state or a public body representing a community as opposed to an individual or private party.

**c) Performance appraisal**

Performance appraisal is a method of evaluating the behaviour of employees in the work spot, normally including both the quantitative and qualitative aspects of job performance. Performance here refers to the degree of accomplishment of the tasks that make up an individual's job. It indicates how well an individual is fulfilling the job demands. Often the term is confused with effort, but performance is always measured in terms of results and not efforts.

**d) Concept of selling**

Selling is a process of transferring a product or service to a buyer at a price regardless of his or her need. Focuses on the needs of the Producer

**e) FSN Analysis**

FSN meaning Fast-moving, the slow-moving and non-moving in inventory management. FSN is one of the inventory management techniques and it is about segregating products based on their consumption rate, quantity, and the rate at which the inventory is used.

**f) Total Quality Management**

TQM may be defined as creating an organizational culture committed to the continuous improvement of skills, teamwork, processes, product and service quality and customer satisfaction

**g) Working capital**

Working capital is required to meet the expenditure for day to day working of the business. It includes

- The cost of raw materials, purchased parts, supplies, material in process and finished goods
- Wages and salary bills
- Cost of maintenance and service activities, utilities and fuel, property taxes and insurance
- Cost of sales activities such as advertising, shipping services and credit extension to customers.

**h) List out the characteristics of entrepreneur**

Self-confident, Able to make decisions, Determined, Independent, Energetic, Able to lead, Resourceful, Versatile, Achievement-oriented, Able to take calculated risks

**i) What are the factors affecting entrepreneurship**

1. Great need for achievement
2. Urge for independence
3. Urge for power
4. Family background
5. Flexibility

**j) Define enterprise**

Enterprise refers to a for-profit business started and run by an entrepreneur. And we will often say that people running such businesses are enterprising. Entrepreneurs usually start an enterprise – with the associated risks – to make a profit.

## **2. a) Explain the Principles of management by Henry Fayol**

**5M**

### **Principles of Management**

Management principles are statements of fundamental truth. These principles serve as guidelines for decisions and actions of managers. They are derived through observation and analysis of events which managers have to face in practice.

#### **1. Division of Work**

The specialization of the workforce, creating specific personal and professional development within the labour force and therefore increasing productivity; leads to specialization which increases the efficiency of labour. By separating a small part of work, the workers speed and accuracy in its performance increases. This principle is applicable to both technical as well as managerial work.

#### **2. Authority and Responsibility**

The issue of commands followed by responsibility for their consequences. Authority means the right of a superior to give order to his subordinates; responsibility means obligation for performance. This principle suggests that there must be parity between authority and responsibility. They are co-existent and go together, and are two sides of the same coin.

#### **3. Discipline**

Discipline refers to obedience, proper conduct in relation to others, respect of authority, etc. It is essential for the smooth functioning of all organizations.

#### **4. Unity of Command**

This principle states that every subordinate should receive orders and be accountable to one and only one superior. If an employee receives orders from more than one superior, it is likely to create confusion and conflict.

Unity of Command also makes it easier to fix responsibility for mistakes.

#### **5. Unity of Direction**

All those working in the same line of activity must understand and pursue the same objectives. All related activities should be put under one group, there should be one plan of action for them, and they should be under the control of one manager.

It seeks to ensure unity of action, focusing of efforts and coordination of strength.

#### **6. Subordination of Individual Interest**

The management must put aside personal considerations and put company objectives first. Therefore the interests of goals of the organization must prevail over the personal interests of individuals.

#### **7. Remuneration**

Workers must be paid sufficiently as this is a chief motivation of employees and therefore greatly influences productivity. The quantum and methods of remuneration payable should be fair, reasonable and rewarding of effort.

#### **8. The Degree of Centralization**

The amount of power wielded with the central management depends on company size. Centralization implies the concentration of decision making authority at the top management.

Sharing of authority with lower levels is called decentralization. The organization should strive to achieve a proper balance.

### **9. Scalar Chain**

Scalar Chain refers to the chain of superiors ranging from top management to the lowest rank. The principle suggests that there should be a clear line of authority from top to bottom linking all managers at all levels. It is considered a chain of command. It involves a concept called a "gang plank" using which a subordinate may contact a superior or his superior in case of an emergency, defying the hierarchy of control. However the immediate superiors must be informed about the matter

### **10. Order**

Social order ensures the fluid operation of a company through authoritative procedure. Material order ensures safety and efficiency in the workplace.

### **11. Equity**

Employees must be treated kindly, and justice must be enacted to ensure a just workplace. Managers should be fair and impartial when dealing with employees.

### **12. Stability of Tenure of Personnel**

The period of service should not be too short and employees should not be moved from positions frequently. An employee cannot render useful service if he is removed before he becomes accustomed to the work assigned to him.

### **13. Initiative**

Using the initiative of employees can add strength and new ideas to an organization. Initiative on the part of employees is a source of strength for the organization because it provides new and better ideas. Employees are likely to take greater interest in the functioning of the organization.

### **14. Esprit de Corps**

This refers to the need of managers to ensure and develop morale in the workplace; individually and communally. Team spirit helps develop an atmosphere of mutual trust and understanding.

These can be used to initiate and aid the processes of change, organization, decision making, skill management and the overall view of the management function.

Fayol also divided the management function into five key roles:

- To organise
- To plan and forecast (Prevoyance)
- To command
- To control
- To coordinate

## **2. b) Describe the salient features of sole proprietorship**

**5M**

### Features of Sole Proprietorship:

1. It is started by the initiative of a single person
2. The proprietor manages the whole business himself
3. He keeps all his business secrets only in himself
4. It has limited area of operations
5. He supplies necessary capital to the business
6. He makes all decisions regarding his business
7. He only bears profits and losses

**3. a) Explain the salient Features of Public limited Joint Stock Company****5M**

1. Here the membership is open to public
2. The minimum number of shareholders is 7 and there is no maximum
3. The shares of the company advertised in the form of prospectus through the news papers to the general public
4. It has to take a certificate of incorporation from the “Registrar of joint stock companies” before starting the business.
5. The shares are transferable
6. The company has to submit the annual audit reports and balance sheet to all the shareholders
7. The word limited is added at the end of the name of the company
8. Directors of the company are subjected to rotation

**3. b) What is organizing? What is its role in effective functioning of an organization 5M**

According to Henry Fayol, “To organize a business is to provide it with everything useful or its functioning i.e. raw material, tools, capital and personnel’s”.

- It follows, therefore, that the function of organizing is concerned with:
- Identifying the tasks that must be performed and grouping them whenever necessary
- Assigning these tasks to the personnel while defining their authority and responsibility.
- Delegating this authority to these employees
- Establishing a relationship between authority and responsibility
- Coordinating these activities

A manager performs organizing function with the help of following steps:-

Identification of activities - All the activities which have to be performed in a concern have to be identified first. For example, preparation of accounts, making sales, record keeping, quality control, inventory control, etc. All these activities have to be grouped and classified into units.

Departmentally organizing the activities - In this step, the manager tries to combine and group similar and related activities into units or departments. This organization of dividing the whole concern into independent units and departments is called departmentation.

Classifying the authority - Once the departments are made, the manager likes to classify the powers and its extent to the managers. This activity of giving a rank in order to the managerial positions is called hierarchy. The top management is into formulation of policies, the middle level management into departmental supervision and lower level management into supervision of foremen. The clarification of authority help in bringing efficiency in the running of a concern. This helps in achieving efficiency in the running of a concern. This helps in avoiding wastage of time, money, effort, in avoidance of duplication or overlapping of efforts and this helps in bringing smoothness in a concern’s working.

Co-ordination between authority and responsibility - Relationships are established among various groups to enable smooth interaction toward the achievement of the organizational goal. Each individual is made aware of his authority and he/she knows whom they have to take orders from and to whom they are accountable and to whom they have to report. A clear organizational structure is drawn and all the employees are made aware of it.

#### **4. a) Discuss about theories of motivation**

**5M**

##### **Maslow's theory of Hierarchy of needs:**

###### **1. Physiological needs:**

These are the basic necessities of human life-food, water, shelter, sleep. Maslow says that until these needs are satisfied to the required level the man does not aim for the satisfaction of the next higher level needs. As far as work organisation is concerned these needs include basic needs like pay, allowance, incentives and benefits.

###### **2. Affiliation or Acceptance needs (Social needs):**

When the physiological and security needs are satisfied these social needs begin occupying the mind of a man. This is exactly why he looks for the association of other human beings and strives hard to be accepted by its group. Social needs at work place include: human relations, formal and informal work groups.

###### **3. Security/safety needs:**

These refer to the need to be free of physical danger or the feeling of loss of food, job, or shelter. When the physiological needs are satisfied man starts thinking of the way by which he can continue to satisfy these physiological needs. Security needs spring up the moment he makes an effort in the direction of providing himself the source of continuity of physiological needs. This is exactly the reason why attitude towards security is an important consideration in choosing the job. These needs as far as work organisation is concerned include: conformity, security plans, membership in unions etc

###### **4. Esteem needs:**

These needs are power, prestige, status and self-confidence. Every man has a feeling of importance and he wants others to regard him highly. These needs make people aim high and make them achieve something great. These needs for employees include status symbols, awards, promotions, titles etc

###### **5. Self-Actualization needs:**

This is the highest need in the hierarchy. This refers to the desire to become what one is capable of becoming. Man tries to maximise his potential and accomplish something, when this need is activated in him.

#### **4. b) Narrate various limitations of performance appraisal system**

**5M**

Some of the major limitations of performance appraisal are: 1. Bias of Appraiser 2. Ambiguity in Standards 3. Insufficient Evidence 4. Several Qualities Remain Without Appraisal 5. Leniency or Strictness Tenancy 6. Average Rating Problem 7. Influence of Man's Job and 8. Similarity Error.

**1. Bias of Appraiser:**

The presence of 'Halo Effect' in evaluation of employees is the biggest weakness of this method. A high rate is given to favoured employees whereas unfriendly employees are rated low.

**2. Ambiguity in Standards:**

If the standards are not clear, the supervisors may follow different standards for different employees.

**3. Insufficient Evidence:**

An employee who can impress the boss may get a positive evaluation though his impression in his own department may be very poor. In such cases, the performance appraisal will be superfluous.

**4. Several Qualities Remain Without Appraisal:**

Through performance appraisal, only few qualities of employees can be measured. All individuals differ from each other in terms of background, values and behaviour.

**5. Leniency or Strictness Tenancy:**

Every evaluator has his own valuation procedure which is regarded as his own standard for evaluation. For example, some teachers are strict in evaluation of answer books whereas others are lenient. The lenient tendency is known as 'Positive Leniency Error' whereas strict tendency is called as 'Negative Leniency Error'. The rating may be high or low depending upon the nature of evaluators.

**6. Average Rating Problem:**

In order to give very low or very high rating, the top managers are required to give reasons to justify the rating. The most common error committed in performance appraisal is to give average rating to all employees. Moreover, low rating antagonizes the subordinates.

**7. Influence of Man's Job:**

There is a tendency to give a high rating to highly paid jobs. So a senior employee may get a higher rating than a junior employee.

**8. Similarity Error:**

The evaluator tries to look those qualities in subordinates which he himself possesses. Those who show the similar characteristics are rated high.

**5. a) Define advertising and explain the kinds of advertising media**

Any paid form of non-personal presentation and promotion of ideas, goods and services by an identified sponsor.

**Media of Advertising:**

The advertisements are communicated by using some media like, newspaper, journals, radio, television, etc.

**(A) Print Media:**

Print media is a very commonly used medium of advertising by businessman. It includes advertising through newspaper, magazines, journals, etc. and is also called press advertising.

### **1. Newspapers**

You must have read Newspapers. In our country newspapers are published in English, Hindi and in other regional languages. These are the sources of news, opinions and current events. In addition, Newspapers are also a very common medium of advertising. The advertiser communicates his message through newspaper which reaches to crores of people.

#### **Advantages**

Advantages of Newspaper Advertising are as below:

- i. Newspapers normally have wide circulation and a single advertisement in the newspaper can quickly reach to a large number of people.
- ii. The cost of advertising is relatively low because of wide publication.
- iii. Generally newspapers are published daily. Thus, the same advertisement can be repeated frequently and remind reader every day.
- iv. The matter of advertisement can be given to newspapers at a very short notice. Even last minute changes in the content are also possible. This makes advertising quite flexible.
- v. Newspapers are published from different regions and in different languages. Hence, they provide greater choice to advertisers to approach the desired market, region and readers through local or regional language

#### **Limitations**

Newspaper advertising also suffers from some limitations as mentioned below:

- i. Newspapers are read soon after they are received and then are kept generally in some corner of the houses. After 24 hours we get a fresh newspaper and this makes the life of the newspaper short.
- ii. People read newspapers mainly for news and pay casual attention to advertisement.
- iii. Illiterate persons cannot read and thus, newspaper advertising does not benefit them.

### **2. Periodicals**

Periodicals are publications which come out regularly but not on a daily basis. These may be published on a weekly, fortnightly, monthly, bimonthly, quarterly or even yearly basis. For example you must have come across magazines and journals like Onlooker, India Today, Frontline, Yojana, Swagat, Femina, etc. published regularly in English, Grihasobha, Nandan and Champak in Hindi. Similarly there are also periodicals in Hindi and other regional languages. All these periodicals have a large number of readers and thus, advertisements published in them reach a number of people.

#### **Advantages**

- i. Periodicals have a much longer life than newspapers. These are preserved for a long period to be referred in future or read at leisure or read again, whenever required.
- ii. Periodicals have a selected readership and so advertisers can know about their target customers and accordingly selective advertisements are given. For example, in a periodical like Femina, which is a magazine for women, advertisements related to products to be used only by males are rarely published. However, manufacturers of products and services to be used by females prefer to give advertisement in this magazine.

#### **Limitations**

- i. Advertising in periodicals is costlier.
- ii. The number of people to whom the advertisements reach are small in comparison to Newspapers.



iii. The advertisement materials are given much in advance; hence last minute change is not possible. This reduces flexibility.

### **(B) Electronic Media:**

This is a very popular form of advertising in the modern day marketing. This includes Radio, Television and Internet. Let us look into detail about these.

#### **1. Radio Advertising**

All of us are aware about a radio and must have heard advertisements for various products in it. In radio there are short breaks during transmission of any programme which is filled by advertisements of products and services. There are also popular programmes sponsored by advertisers. (One of the longest run programme in Radio was a sponsored programme started as “Binaca Geetmala” and later renamed as “Cibaca Geetmala”. It was sponsored by Hindustan Ciba-Geigy Limited for its products like toothpastes, toothpowders and tooth brushes and it continued for a period of 30 years on a weekly basis).

##### **Advantages**

- (i) It is more effective as people hear it on a regular basis.
- (ii) It is also useful to illiterates, who cannot read and write.
- (iii) There are places where newspapers reading may not possible, but you can hear radio. For example, you can hear radio while traveling on road or working at home; but you cannot read newspaper. Similarly, while driving you can hear a radio but cannot read a newspaper.

##### **Limitations**

- (i) A regular listener may remember what he has heard. But, occasional listeners tend to forget what they have heard in Radio.
- (ii) The message that any advertisement wants to communicate may not be proper as there is no chance to hear it again immediately. There may be some other disturbances that distort communication.
- (iii) In comparison to Television, Radio is less effective as it lacks visual impact.

#### **2. Television Advertising**

With rapid growth of information technology and electronic media, television has topped the list among the media of advertising. TV has the most effective impact as it appeals to both eye and the ear. Products can be shown, their uses can be demonstrated and their utilities can be told over television. Just like radio, advertisements are shown in TV during short breaks and there are also sponsored programmes by advertisers.

##### **Advantages**

- (i) It is most effective as it has an audio-visual impact.
- (ii) With catchy slogans, song and dance sequences, famous personalities exhibiting products, TV advertising has a lasting impact. For example, who can forget Aamir Khan saying “Thanda Matlab CocaCola” or Sachin Tendulkar in Pepsi advertisement.
- (iii) With varieties of channels and programmes advertisers have a lot of choice to select the channel and time to advertise.
- (iv) With regional channels coming up any person even illiterates can watch the advertisements and understood it by seeing and hearing.

##### **Limitations**

- (i) TV advertisements are usually expensive to prepare as well as to telecast

(ii) With almost every manufacturer trying to communicate their message through TV advertising the impact among the viewers is also reducing. Now-a-days people are switching on channels whenever there is a commercial break.

### **3. Internet**

Infact it is the latest method of communication and gathering information. If you have a computer and with an access to internet you can have information from all over the world within a fraction of second. Through internet you can go to the website of any manufacturer or service provider and gather information. Sometimes when you do not have website addresses you take help of search engines or portals. In almost all the search engines or portals different manufactures or service providers advertise their products.

#### **Advantages**

- (i) Information from all over the world is made available at the doorsteps.
- (ii) User can see the advertisement at their own time and as per their requirement.

#### **Limitations**

- (i) It is not accessible without a computer.
- (ii) It is not very suitable for general public.
- (iii) It is not suitable for illiterate and those having no knowledge about the operation of Internet.

### **5. b) Define channels of distribution. Describe various types of distribution channels considered for marketing of consumer goods and industrial goods** **5M**

- A channel of distribution or trade channel is the path or route along which goods move from producers to ultimate consumers. It is a distribution network through which a producer puts his products in the hands of actual users.
- A trade or marketing channel consists of the producer, consumers or users and the various middlemen who intervene between the two. The channel serves as a connecting link between the producer and consumers. By bridging the gap between the point of production and the point of consumption, a channel creates time, place and possession utilities. A channel of distribution represents three types of flows:
  - a. Goods flow from producer to consumers;
  - b. Cash flow from consumers to producer as payment for goods; and
  - c. Marketing information flows in both directions, from producers to consumers in the form of information on new products, new uses of existing products, etc. The flow of information from consumers to producers is the feedback of the wants, suggestions, complaints, etc.

### **KINDS OF DISTRIBUTION CHANNELS**

**1. Manufacturer to Customer:** This is also known as direct selling because no Middlemen are involved. A producer may sell directly through his own retail stores, for example, Bata.

- This is the simplest and the shortest channel. It is fast and economical.
- Small producers and producers of perishable commodities also sell directly to the local consumers.

- Big firms adopt direct selling in order to cut distribution cost and because they have sufficient facilities to sell directly to the consumers. The producer or the entrepreneur himself performs all the marketing activities

**2. Manufacturer to Retailer to Customer:** This is one stage distribution channel having one middleman, i.e., retailer. In this channel, the producer sells to big retailers like departmental stores and chain stores who in turn sell to customer.

- This channel is very popular in the distribution of consumer durables such as refrigerators, T V sets, washing machines, typewriters, etc.
- This channel of distribution is very popular these days because of emergence of departmental stores, super markets and other big retail stores.
- The retailers purchase in large quantities from the producer and perform certain marketing activities in order to sell the product to the ultimate consumers.

**3. Manufacturer to Wholesaler to Retailer to Customer:** This is the traditional channel of distribution.

There are two middlemen in this channel of distribution, namely, wholesaler and retailer.

This channel is most suitable for the products with widely scattered market.

It is used in the distribution of consumer products like groceries, drugs, cosmetics, etc.

It is quite suitable for small scale producers whose product line is narrow and who require the expert services and promotional support of wholesalers.

**6. a) Derive the expression for basic EOQ Model**

**5M**

Determination of EOQ for the classical EOQ model

$$T(Q) = \frac{D}{Q} \times C_o + \frac{Q}{2} \times C_c$$

To determine the value of  $Q$  corresponding to lowest  $T(Q)$  value, we shall take the first derivative of this wrt  $Q$  and set it equal to zero.

$$\frac{dT(Q)}{dQ} = -\frac{D}{Q^2} \times C_o + \frac{1}{2} \times C_c = 0$$

$$\frac{D}{Q^2} \times C_o = \frac{C_c}{2}$$

$$Q^2 = \frac{2C_o D}{C_c}$$

$$Q = \sqrt{\frac{2C_o D}{C_c}}$$

$$EOQ = \sqrt{\frac{2C_o D}{C_c}}$$

where  $C_o$  = ordering cost per order

$D$  = annual demand

$C_c$  = holding cost

To verify that the point is the minimum point, we check for a positive second derivative i.e

$$\frac{d^2T(Q)}{dQ^2} = \frac{2C_o D}{Q^3} + 0 > 0$$

$$\text{Total cost} = O(Q) + H(Q)$$

$$= \frac{D}{\sqrt{\frac{2C_o D}{C_c}}} \times C_o + \frac{\sqrt{\frac{2C_o D}{C_c}}}{2} \times C_c$$

$$= \frac{\sqrt{D} \times \sqrt{D}}{\sqrt{2} \sqrt{C_o} \sqrt{C_c}} \times \sqrt{C_o} \times \sqrt{C_o} + \frac{\sqrt{2} \sqrt{C_o} \sqrt{D}}{\sqrt{2} \times \sqrt{2}} \times \sqrt{C_c} \times \sqrt{C_c}$$

$$\begin{aligned}
 &= \sqrt{\frac{C_o C_c D}{2}} + \sqrt{\frac{C_o C_c D}{2}} \\
 &= 2 \sqrt{\frac{C_o C_c D}{2}} \\
 &= \sqrt{2 C_o D C_c} \\
 \text{total cost} &= 2 \times \text{ordering cost (or)} \\
 &= 2 \times \text{carrying cost} \\
 \text{At EOQ, } &\text{ordering cost} = \text{carrying cost}
 \end{aligned}$$

6. b) The demand for an item each costing Re 1 is 10,000 units per year. The ordering cost is Rs 10. Inventory carrying charge is 20% based on the average inventory per year. Find number of orders, EOQ 5M

Demand D = 10,000 units

Carrying cost C<sub>c</sub> = Rs 0.2

Ordering cost C<sub>o</sub> = Rs 10

Unit cost C<sub>u</sub> = Rs 1

EOQ =  $\sqrt{2C_o D / C_c}$

$$= \sqrt{\frac{2 \times 10 \times 10000}{0.2}}$$

EOQ = 1000 units

No. of orders = D/EOQ

$$= 10000 / 1000$$

$$= 10$$

7. a) Explain the drivers of supply chain management 5M

### DRIVERS OF SCM

The drivers of the SC are categorized as logistical drivers and cross-functional drivers. Facilities, inventory and transportation are considered as logistical drivers. The cross functional drivers are information, sourcing and pricing.

**Facilities:** These are the actual physical locations in the SC network. In these facilities, product is stored, assembled or fabricated. The major types of facilities are production sites and storage sites. Decisions regarding the role, location, capacity and flexibility of facilities have a significant impact on the SC's performance.

**Inventory:** Inventories are all the raw materials, work in process and finished goods within a SC. The efficiency and responsiveness of the SC are very much affected by the change in the

inventory policy. Large inventory increases responsiveness, but also increases retailers cost and thus leads to less efficiency. Reduced inventory increases efficiency, but lowers responsiveness.

**Transportation:** It means moving of inventory from point to point in the SC. Transportation choices have a large impact on SC responsiveness and efficiency.

**Information:** Information is potentially the biggest driver of performance in the SC, because it directly affects each of the other drivers. Information consists of data and analysis concerning facilities, inventory, transportation, costs, prices and customers throughout the SC. Information presents management with the opportunity to make SC more responsive and more efficient.

**Sourcing:** It is the choice of who will perform a particular SC activity such as production, storage, transportation or the management of information. At strategic levels, these decisions determine what functions a firm performs and what functions the firm outsources. Sourcing decisions affect both responsiveness and efficiency of a SC.

**Pricing:** It determines how much a firm will charge for goods and services that it makes available in the SC. Pricing affects the behaviour of the buyer of the good or service, thus affecting SC performance.

## **7. b) Discuss the components of total quality**

**5M**

### **I. Foundation**

TQM is built on a foundation of ethics, integrity and trust. It fosters openness, fairness and sincerity and allows involvement by everyone. This is the key to unlocking the ultimate potential of TQM. These three elements move together, however, each element offers something different to the TQM concept.

1. Ethics – Ethics is the discipline concerned with good and bad in any situation. It is a two-faceted subject represented by organizational and individual ethics. Organizational ethics establish a business code of ethics that outlines guidelines that all employees are to adhere to in the performance of their work. Individual ethics include personal rights or wrongs.

2. Integrity – Integrity implies honesty, morals, values, fairness, and adherence to the facts and sincerity. The characteristic is what customers (internal or external) expect and deserve to receive. People see the opposite of integrity as duplicity. TQM will not work in an atmosphere of duplicity.

3. Trust – Trust is a by-product of integrity and ethical conduct. Without trust, the framework of TQM cannot be built. Trust fosters full participation of all members. It allows empowerment that encourages pride ownership and it encourages commitment. It allows decision making at appropriate levels in the organization, fosters individual risk-taking for continuous improvement and helps to ensure that measurements focus on improvement of process and are not used to

contend people. Trust is essential to ensure customer satisfaction. So, trust builds the cooperative environment essential for TQM.

## **II. Bricks**

Basing on the strong foundation of trust, ethics and integrity, bricks are placed to reach the roof of recognition. It includes:

4. Training – Training is very important for employees to be highly productive. Supervisors are solely responsible for implementing TQM within their departments, and teaching their employees the philosophies of TQM. Training that employees require are interpersonal skills, the ability to function within teams, problem solving, decision making, job management performance analysis and improvement, business economics and technical skills. During the creation and formation of TQM, employees are trained so that they can become effective employees for the company.

5. Teamwork – To become successful in business, teamwork is also a key element of TQM. With the use of teams, the business will receive quicker and better solutions to problems. Teams also provide more permanent improvements in processes and operations. In teams, people feel more comfortable bringing up problems that may occur, and can get help from other workers to find a solution and put into place. There are mainly three types of teams that TQM organizations adopt:

A. Quality improvement teams or excellence teams (QITs) – These are temporary teams with the purpose of dealing with specific problems that often recur. These teams are set up for period of three to twelve months.

B. Problem solving teams (PSTs) – These are temporary teams to solve certain problems and also to identify and overcome causes of problems. They generally last from one week to three months.

C. Natural work teams (NWTs) – These teams consist of small groups of skilled workers who share tasks and responsibilities. These teams use concepts such as employee involvement teams, self-managing teams and quality circles. These teams generally work for one to two hours a week.

6. Leadership – It is possibly the most important element in TQM. It appears everywhere in organization. Leadership in TQM requires the manager to provide an inspiring vision, make strategic directions that are understood by all and to instill values that guide subordinates. For TQM to be successful in the business, the supervisor must be committed in leading his employees. A supervisor must understand TQM, believe in it and then demonstrate their belief and commitment through their daily practices of TQM. The supervisor makes sure that strategies, philosophies, values and goals are transmitted down through out the organization to provide focus, clarity and direction. A key point is that TQM has to be introduced and led by top management. Commitment and personal involvement is required from top management in creating and deploying clear quality values and goals consistent with the objectives of the company and in creating and deploying well defined systems, methods and performance measures for achieving those goals.

## **III. Binding Mortar**

7. Communication – It binds everything together. Starting from foundation to roof of the TQM house, everything is bound by strong mortar of communication. It acts as a vital link between all elements of TQM. Communication means a common understanding of ideas between the sender and the receiver. The success of TQM demands communication with and among all the

organization members, suppliers and customers. Supervisors must keep open airways where employees can send and receive information about the TQM process. Communication coupled with the sharing of correct information is vital. For communication to be credible the message must be clear and receiver must interpret in the way the sender intended.

There are different ways of communication such as:

A. Downward communication – This is the dominant form of communication in an organization. Presentations and discussions basically do it. By this the supervisors are able to make the employees clear about TQM.

B. Upward communication – By this the lower level of employees are able to provide suggestions to upper management of the affects of TQM. As employees provide insight and constructive criticism, supervisors must listen effectively to correct the situation that comes about through the use of TQM. This forms a level of trust between supervisors and employees. This is also similar to empowering communication, where supervisors keep open ears and listen to others.

C. Sideways communication – This type of communication is important because it breaks down barriers between departments. It also allows dealing with customers and suppliers in a more professional manner.

#### **IV. Roof**

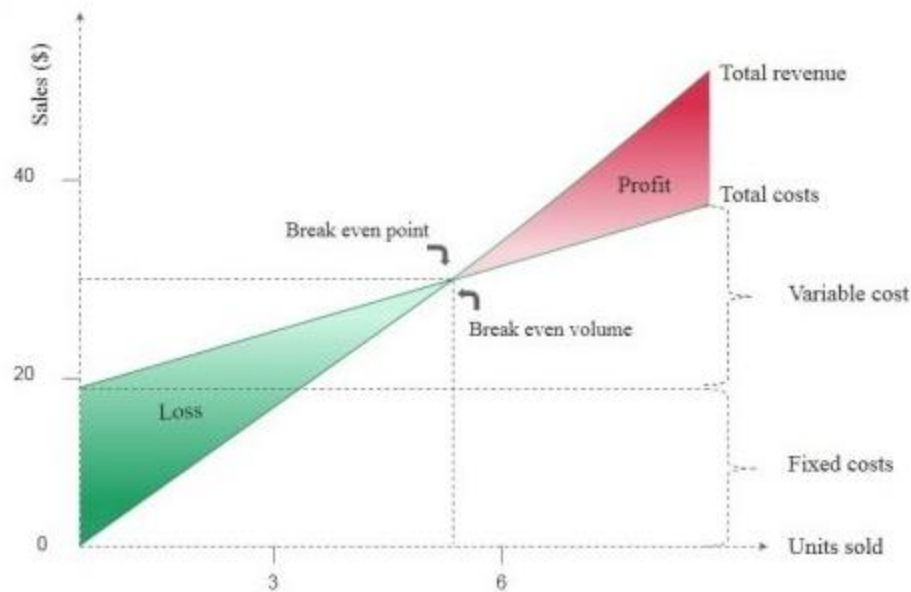
8. Recognition – Recognition is the last and final element in the entire system. It should be provided for both suggestions and achievements for teams as well as individuals. Employees strive to receive recognition for themselves and their teams. Detecting and recognizing contributors is the most important job of a supervisor. As people are recognized, there can be huge changes in self-esteem, productivity, quality and the amount of effort exhorted to the task at hand. Recognition comes in its best form when it is immediately following an action that an employee has performed. Recognition comes in different ways, places and time such as,

- Ways – It can be by way of personal letter from top management. Also by award banquets, plaques, trophies etc.
- Places – Good performers can be recognized in front of departments, on performance boards and also in front of top management.
- Time – Recognition can given at any time like in staff meeting, annual award banquets, etc.

#### **8. a) What is break even analysis? State the assumptions of break-even analysis 5M**

Break-even analysis is useful in studying the relation between the variable cost, fixed cost and revenue. This study is important for the management as it helps in taking vital decisions such as pricing of the product, determining product mix, choice of the production facility. It also helps the manager in deciding the volume of production because the higher the volume of production, the lower the total cost per unit. On the chart, break-even point represents the point at which total cost and total revenue lines cross each other.





### Assumptions of break-even analysis

- (i) The total costs may be classified into fixed and variable costs. It ignores semi-variable cost.
- (ii) The cost and revenue functions remain linear.
- (iii) The price of the product is assumed to be constant.
- (iv) The volume of sales and volume of production are equal.
- (v) The fixed costs remain constant over the volume under consideration.
- (vi) It assumes constant rate of increase in variable cost.
- (vii) It assumes constant technology and no improvement in labour efficiency.

### 8. b) Explain briefly five factors determining the amount of fixed capital

5M

The amount of fixed capital required varies from business to business because of the following factors: (1) Nature of industry business, (2) Kinds of products, (3) Size of the business unit, (4) Methods of handling production, (5) Mode of acquiring fixed assets, (6) Diversity of manufacturing lines

#### (1) Nature of industry business:

The business enterprises engaged in rendering personal services, merchandise, commerce and trade may need very little fixed investment, while industries manufacturing heavy and capital goods are likely to invest a major part of their funds in fixed assets.

Similarly, a public utility undertaking (say, an electricity supply company, water supply undertaking or a railway company) would need heavy investment in fixed assets and equipment. Thus the nature of business determines the amount of fixed capital to a large extent.

#### (2) Kinds of products:

If the company is engaged in the manufacture of complicated goods like refrigerators, T.V. sets, motor vehicles, engines etc., it may need large amount of fixed capital than a business enterprise

which produces simple consumer items like powder, cream, toothpaste etc. Thus the type of product manufactured also governs the amount of fixed capital.

**(3) Size of the business unit:**

A large scale firm requires more fixed capital than a small enterprise. The bigger the size of plant, the larger would be the amount of fixed investment. For instance, capital-intensive companies require huge amount to be invested in fixed assets as compared to labour-intensive companies.

**(4) Methods of handling production:**

If a company is manufacturing all parts of a product, its fixed capital needs will be more, in comparison to an enterprise which is assembling parts produced by other concerns. For example, a bicycle factory which manufactures its own parts and then assembles them into a bicycle, needs huge amount of fixed capital. On the other hand, if a company assembles the parts manufactured by other firms, it will require small amount of fixed capital. Thus, the method of handling production also affects the magnitude of fixed capital.

**(5) Mode of acquiring fixed assets:**

Fixed assets can be either purchased or acquired on lease basis or taken on rent. In the first case, the requirement of fixed capital will be very high.

**(6) Diversity of manufacturing lines:**

If a company manufactures and markets its goods itself, it needs more fixed capital than a company engaged only in manufacturing a product. A trading concern buying and selling the goods produced by others will need very little fixed capital. Thus diversity of production lines also determines the fixed capital requirements.

**9. a) Bring out the role and methods of entrepreneurial development training 5M**

**Objectives of Entrepreneurial development:**

- To develop and strengthen the entrepreneurial characteristics
- To analyse industrial environment concerned with small scale industry and small business enterprises
- To select the product to be manufactured
- Formulate project reports
- To analyse and understand the procedure for establishing the small enterprises
- To provide support required for launching the enterprise
- To acquire basic management skills needed
- To appreciate the social responsibilities
- To let the entrepreneur set the objectives of his business
- To prepare the entrepreneur to accept moderate risks
- To take strategic decisions
- To develop communication skills

**Methods of Entrepreneurial Training:**

The various methods of providing training to the entrepreneurs are as follows :

**1) Lecture Method:**

As the name suggests, lecture method involves providing information to the trainees orally. In case of any doubt arising in the minds of trainees, clarification can be given spontaneously by the instructors.

**2) Written Instructional Method:**

When the training contents are to be used in the future by the trainees, this method is used and it is most popular in case of standardized production system.

**3) Individual Instruction:**

In this method, only one person is chosen for providing entrepreneurial training. When a tough skill is to be imparted in the candidate, this type of training becomes very useful.

**4) Group Instruction:**

When the training is to be provided to the group of different individuals, this method is adopted particularly when these persons have to perform the same type of activities and similar instructions are to be given to all the candidates.

**5) Demonstration Method:**

This method is mainly useful when the physical exposure is to be imparted by the trainer. In this method, the main focus is on providing practical knowledge rather than theoretical knowledge.

**6) Meetings:**

This method of training mainly involves the group of people to discuss the different issues faced by them. They share their views, ideas and different conclusions are drawn on the basis of various alternatives and suggestions.

**7) Conference:**

This method is generally used for imparting knowledge regarding new ideas and techniques to the trainees. Here, conferences are organised and experts from different fields are called to share their knowledge and experiences useful for the trainees.

**9. b) Write notes on women entrepreneur in India**

**5M**

According to Pandit Jawaharlal Nehru, “When women moves forward, the family moves, the village moves, and the nation moves.”

Women entrepreneurship has been recognized as an important, untapped source of economic growth during the last decade. With the spread of education and awareness, Indian women have shifted from the extended kitchen, handicrafts, and traditional cottage industries to nontraditional, higher level of activities.

In the new industrial policy, the government has laid special emphasis on the need of conducting special entrepreneurial training programs for women to enable them to start their own ventures.

Financial banks and institutions have also set up special cells to assist women entrepreneurs. This has helped the women a lot in taking up the entrepreneurial activity in India.

Estimates in Europe (both European Union countries and other), indicate that there exist more than 10 million self-employed women and in the United States 6.4 million self-employed women providing employment for 9.2 million people and creating significant sales. Women entrepreneurs not only create new jobs for themselves, but also provide jobs to others. However, the participation of women entrepreneurs is less than male entrepreneurs.