# Answer Key/Solutions VTU EXAM SOLUTION /JAN.2021

# Management and Entrepreneurship – 18EE51&17EE51 (Section - A&B)

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| Questio<br>n # |    | Description  |   |  |  |  |
|----------------|----|--|---|--|--|--|
|                | a) | Define Management? What is mean by "Management Process"? (05 M)  Meaning:  Management is the process of designing and maintaining an environment in which individuals working together in groups efficiently accomplish selected aims.  Management is the "art of getting done through others and with formally organized groups" by Harold Koontz Management process/functions involve 4 basic activities;  Planning and Decision Making — Determining Courses of Action,  Organizing — Coordinating Activities and Resources,  Leading — Managing, Motivating and Directing People,  Controlling — Monitoring and Evaluating activities. |   |  |  |  |
|                |    | Distinguish between management and administration. Comment on the nature of management. Is it science or an act? (05 M)  |   |  |  |  |
|                | b) | BASIS FOR<br>COMPARISON  | MANAGEMENT  | ADMINISTRATION   |  |  |
|                |    | Meaning  | An organized way of managing people and things of a business organization is called the Management. | The process of administering an organization by a group of people is known as the Administration.              |  |  |
|                |    | Authority  | Middle and Lower Level  | Top level  |  |  |
|                |    | Role   | Executive   | Decisive   |  |  |
|                |    | Concerned with   | Policy Implementation   | Policy Formulation   |  |  |
| 1              |    | Area of operation  | It works under administration.  | It has full control over the activities of the organization.   |  |  |
|                |    | Applicable to  | Profit making organizations, i.e. business organizations.   | Government offices, military, clubs, business enterprises, hospitals, religious and educational organizations. |  |  |
|                |    | Decides  | Who will do the work? And How will it be done?  | What should be done? And When is should be done?   |  |  |
|                |    | Work   | Putting plans and policies into actions.  | Formulation of plans, framing policies and setting objectives  |  |  |
|                |    | Focus on   | Managing work   | Making best possible allocation of limited resources.  |  |  |
|                |    | Key person   | Manager   | Administrator  |  |  |
|                |    | Management is science because of several reasons like - it has universally accepted principles, it has cause and   |   |  |  |  |
|                |    | effect relationship etc, and at the same time it is <b>art</b> because it requires perfection through practice, practical  |   |  |  |  |
| _              |    | knowledge, creativity, personal skills etc. <b>Management</b> is both an <b>art</b> and a <b>science</b> .  What are the roles of manager? Explain. (10 M)   |   |  |  |  |
|                | c) | Mintzberg's Management Roles The Roles   |   |  |  |  |
|                |    | Mintzberg published his Ten Management Roles in his book, "Mintzberg on Management: Inside our Strange World of Organizations." in 1000  |   |  |  |  |
|                |    | of Organizations," in 1990.  |   |  |  |  |

#### **Interpersonal Category**

The managerial roles in this category involve **providing** information and ideas.

- **1. Figurehead** As a manager, you have social, ceremonial and legal responsibilities. You're expected to be a source of inspiration. People look up to you as a person with authority, and as a figurehead.
- **2. Leader** This is where you provide leadership for your team, your department or perhaps your entire organization; and it's where you manage the performance and responsibilities of everyone in the group.
- **3. Liaison** Managers must communicate with internal and external contacts. You need to be able to network effectively on behalf of your organization.

#### **Informational Category**

The managerial roles in this category involve **processing** information.

- 4. Monitor In this role, you regularly seek out information related to your organization and industry, looking for relevant changes in the environment. You also monitor your team, in terms of both their productivity, and their well-being.
- **5. Disseminator** This is where you communicate potentially useful information to your colleagues and your team
- **6. Spokesperson** Managers represent and speak for their organization. In this role, you're responsible for transmitting information about your organization and its goals to the people outside it.

#### **Decisional Category**

The managerial roles in this category involve **using** information.

- 7. **Entrepreneur** As a manager, you create and control change within the organization. This means solving problems, generating new ideas, and implementing them.
- **8. Disturbance Handler** When an organization or team hits an unexpected roadblock, it's the manager who must take charge. You also need to help mediate disputes within it.
- **9. Resource Allocator** You'll also need to determine where organizational resources are best applied. This involves allocating funding, as well as assigning staff and other organizational resources.

**Negotiator** – You may be needed to take part in, and direct, important negotiations within your team, department, or organization.

# What is planning? What are the steps involved in it? Explain the importance of planning. $(06\,\mathrm{M})$

- **Step 1. Perception of Opportunities:** Perception of opportunities is not strictly a part of the planning process. But this awareness of opportunities in the external environment as well as within the organization is the real starting point for planning. It is important to take a preliminary look at possible future opportunities and see them clearly and completely.
- **Step 2. Establishing Objectives:** This is the second step in the planning process. The major organizational and unit objectives are set in this stage. This is to be done for the long term as well as for the short range. Objective specify the expected results and indicate the end points of what is to be done, where the primary emphasis is to be placed and what is to be accomplished by the various types of plans.
- **Step 3. Planning Premises:** After determination of organizational objectives, the next step is establishing planning premises that is the conditions under which planning activities will be undertaken. Planning premises are planning assumptions the expected environmental and internal conditions.

Thus planning premises are external and internal. External premises include total factors in task environment like political, social, technological, competitors, plans and actions, government policies. Internal factors include organization's policies, resources of various types, and the ability of the organization to withstand the environmental pressure. The plans are formulated in the light of both external and internal factors.

- **Step 4. Identification of Alternatives:** The fourth step in planning is to identify the alternatives. Various alternatives can be identified based on the organizational objectives and planning premises. The concept of various alternatives suggests that a particular objective can be achieved through various actions.
- **Step 5. Evaluation of Alternatives:** The various alternative course of action should be analyzed in the light of premises and goals. There are various techniques available to evaluate alternatives. The evaluation is to be done in the light of various factors. Example, cash inflow and outflow, risks, limited resources, expected pay back etc., the alternatives should give us the best chance of meeting our goals at the lowest cost and highest profit.
- **Step 6. Choice of Alternative Plans:** This is the real point of decision-making. An analysis and evaluation of alternative courses will disclose that two or more advisable and beneficial. The fit one is selected.

2 a)

**Step 7. Formulation of Supporting Plan:** After formulating the basic plan, various plan is derived so as to support the main plan. In an organization there can be various derivative plans like planning for buying equipment, buying raw materials, recruiting and training personal, developing new product etc. These derivative plans are formulated out of the basic or main plan and almost invariably required to support the basic plan.

**Step 8. Establishing Sequence of Activities:** After formulating basic and derivative plans, the sequence of activities is determined so those plans are put into action. After decisions are made and plans are set, budgets for various periods and divisions can be prepared to give plans more concrete meaning for implementation.

#### Define vision, mission and values. What is the purpose of each? (04 M)

A **mission statement** is a concise explanation of the organization's reason for existence. It describes the organization's purpose and its overall intention. The mission statement supports the vision and serves to communicate purpose and direction to employees, customers, vendors and other stakeholders. See SHRM's <u>Company Mission Statement Examples</u> for a variety of samples. Questions to consider when drafting mission statements could include:

- What is our organization's purpose?
- Why does our organization exist?

A **vision statement** looks forward and creates a mental image of the ideal state that the organization wishes to achieve. It is inspirational and aspirational and should challenge employees. Questions to consider when drafting vision statements might include:

• What problem are we seeking to solve?

• Where are we headed?

• If we achieved all strategic goals, what would we look like 10 years from now?

A **values statement** lists the core principles that guide and direct the organization and its culture. In a values-led organization, the values create a moral compass for the organization and its employees. It guides decision-making and establishes a standard against which actions can be assessed. These core values are an internalized framework that is shared and acted on by leadership. When drafting values statements, questions to consider might include:

- What values are unique to our organization?
- What values should guide the operations of our company?
- What conduct should our employees uphold?

In conjunction with a values statement, a **code of ethics** puts those values into practice. It outlines the procedures in place to ensure the organization's values are upheld. Questions to consider when creating codes of ethics might include:

- What are common ethical issues in our industry?
- What should someone do if he or she sees a violation of our values?

# What are limitations of planning? Give any five differences between strategies planning and tactical planning (10 M)

#### **Limitations of Planning:**

#### 1) Planning Leads to Rigidity

- The plans are rigid in nature and have to be complied with throughout the organisation.
- Such rigidity of plans may be internal as well as external.
- Internal rigidity relates to plans, policies, programs, rules, and methods, etc.
- External rigidity relates to political, industrial, technological, legal and economic changes, etc.
- Example: A super speciality hospital has fine branches in a city. Whatever the top management of the hospital decides the head of the branch of the hospital and their subordinates have to follow. Though on occasions they know they could have done better on their own but the plan laid out provides rigidity to their approach.

### (2) Planning May Not Work in Dynamic Environment

- The environment in which a business survives is dynamic as it keeps on changing.
- It is difficult for an organisation to access future trends, the taste of customers, natural calamity, competitors' policies and effects of changes in the different components of the environment.
- The organisation has to constantly adapt itself to changes because it is difficult to forecast the future changes with absolute accuracy.
- The dynamic environment may sometimes lead to failure of plans.
- Example: Nestle, a very successful producer was very proactive in deciding strategies for Maggi noodles. Maggi noodles were in a lot of demand but they were off the shelf due to political and legal dimensions. This was due to the high content of lead in Maggi noodles.

#### (3) Planning Reduces Creativity

- Planning is mostly done by the top management and other members
- like middle and lower levels of management have to follow these plans.
- They can't deviate or change the plans made by their seniors.
- Under such circumstances, employees become orders following machines and don't involve creative thinking from their side.

**b**)

c)

- Such rigidity to comply with the laid plans kills the creativity of some talented persons.
- Example: The need for a branch of a renowned shoe manufacturing company sees a lot of scope in customized shoes. The top management is not interested in this idea as the company manufactures standardised shoes.

#### (4) Planning Involves Huge Cost

3

a)

- Formulation of plans can be too much costly because there is a lot of time and money is involved.
- Some costs are incidental in nature like- expenses on boardroom meetings, discussions with professional experts and preliminary investigations to find out the feasibility of the plan.
- Checking the accuracy of facts and scientific calculations may involve lots of time.
- Sometimes, cost incurred may not justify the benefits derived from the plans; it may leave a harmful effect on the enterprise.
- Example: Companies like IBM spend a lot of research. Many world-class levels give their advice to this company and change their fee. However, without so much of painstaking such a huge company won't be able to sustain itself. So planning in case of IBM becomes necessary.

# Major Differences Between Strategic and Tactical Planning

**Area of Difference Strategic Planning Tactical Planning** Individuals involved **Developed mainly Developed mainly** by upper-level management by lower-level mgmt Facts on which Facts are relatively Facts are relatively to base planning difficult to gather easy to gather Amount of detail Plans contain Plans contain in plans relatively little detail substantial amounts Length of time Plans cover Plans cover plans cover long periods of time short periods of time

# Difference between recruitment and selection. Describe the steps involved in the selection process? $(10\ M)$

Difference between Recruitment and Selection

| Basis             | Recruitment   | Selection  |
|-------------------|---|--|
| Meaning           | It is an activity of establishing contact between employers and applicants. | It is a process of picking up more competent and suitable employees. |
| Objective         | It encourages large number of Candidates for a job.                         | It attempts at rejecting unsuitable candidates.                      |
| Process           | It is a simple process.   | It is a complicated process.   |
| Hurdles           | The candidates have not to cross over many hurdles.                         | Many hurdles have to be crossed.                                     |
| Approach          | It is a positive approach.  | It is a negative approach.   |
| Sequence          | It proceeds selection.  | It follows recruitment.  |
| Economy           | It is an economical method.   | It is an expensive method.   |
| Time<br>Consuming | Less time is required.  | More time is required.   |

#### **Steps involved in the selection process:** 1. Initial Screening. 2. Completion of the Application Form. 3. Employment Tests. 4. Job Interview. 5. Conditional Job Offer. 6. Background Investigation. 7. Medical Examination. 8. Permanent Job Offer What is mean by departmentalization? List and explain different bases for departmentalization. (06 M) It is the grouping of work activities, so that similar and logically related activities occur together. The horizontal differentiation of tasks or activities into discrete segments is called departmentalization. It is one important step to building an organization. The aim is to take advantage of the division labour and specialization up to a certain limit. Two Categories Simon refers as, 1) Process departmentalization (Internal – Oriented) b) a) Business or Organizational Functions b) Technology 2) Purpose departmentalization (External – Oriented) Products b) Customers c) Regions, Territory or Location d) Division e) Time What are the importance steps in the process of organizing? (04 M) Steps in the process of organizing: Considering of objectives Deciding organizational boundaries c) Grouping of activities into departments Deciding which departments will be key departments Determining levels at which various types of decision are to be made Determining the span of management Setting up a coordination mechanism Give any four differences between a leader and manager. (04 M) **BASIS FOR LEADER MANAGER COMPARISON** Meaning A leader is a person who influences A manager is a person who manages the his subordinates to achieve a organisation and is responsible for planning, specified goal. direction, coordination and control Approach Sets Direction Plans details Attribute Foresightedness Mind Subordinate **Followers Employees** 4 a) Style Transformational Transactional Decision Facilitates decision Makes decision Aim Growth and development. Attainment of the required result. Focus People Process and Procedure

Leaders promotes change.

Uses conflict as an asset

Aligns people

Change

Conflict

People

Mangers react to change.

Avoid conflict

Organizes people

Strives For effectiveness For efficiency

# What are the important characteristics of leadership? (6 M)

### **Characteristics of leadership**

- Integrity
- Ability to delegate
- Communication
- Self-awareness
- Gratitude

b)

- Learning agility
- Influence
- Empathy
- Courage
- Respect

# Explain Maslow's need hierarchy theory. How does it compare with two factor theory? (10 M).



#### Maslow's Hierarchy of Needs Theory

One of the most popular needs theories is **Abraham Maslow's hierarchy of needs theory**. Maslow proposed that motivation is the result of a person's attempt at fulfilling five basic needs: physiological, safety, social, esteem and self-actualization. According to Maslow, these needs can create internal pressures that can influence a person's behavior.

Physiological needs are those needs required for human survival such as air, food, water, shelter, clothing and sleep. As a manager, you can account for physiological needs of your employees by providing comfortable working conditions, reasonable work hours and the necessary breaks to use the bathroom and eat and/or drink.

**Safety needs** include those needs that provide a person with a sense of security and well-being. Personal security, financial security, good health and protection from accidents, harm and their adverse affects are all included in safety needs. As a manager, you can account for the safety needs of your employees by providing <u>safe working conditions</u>, secure compensation (such as a salary) and job security, which is especially important in a bad economy.

**Social needs**, also called **love and belonging**, refer to the need to feel a sense of belonging and acceptance. Social needs are important to humans so that they do not feel alone, isolated and depressed. Friendships, family and intimacy all work to fulfill social needs. As a manager, you can account for the social needs of your employees by making sure each of your employees know one another, encouraging cooperative teamwork, being an accessible and kind supervisor and promoting a good work-life balance.

**Esteem needs** refer to the need for self-esteem and respect, with self-respect being slightly more important than gaining respect and admiration from others. As a manager, you can account for the esteem needs of your employees by offering praise and recognition when the employee does well, and offering promotions and additional responsibility to reflect your belief that they are a valued employee.

**Self-actualization needs** describe a person's need to reach his or her full potential. The need to become what one is capable of is something that is highly personal. While I might have the need to be a good parent, you might have the need to hold an executive-level position within your organization. Because this need is individualized, as a manager, you can account for this need by providing challenging work, inviting employees to participate in decision-making and giving them flexibility and autonomy in their jobs.

In 1959, Frederick Herzberg, a behavioural scientist proposed a two-factor theory or the motivator-hygiene theory.

|   | ı   | T   |  |  |  |
|---|---|---|--|--|--|
|   |   | According to Herzberg, there are some job factors that result in satisfaction while there are other job factors that prevent dissatisfaction. According to Herzberg, the opposite of "Satisfaction" is "No satisfaction" and the opposite of "Dissatisfaction" is "No Dissatisfaction". |  |  |  |
|   |   | Define entrepreneurship? Explain entrepreneurial development process. (10 M)  |  |  |  |
|   |   | Entrepreneurship is the ability and readiness to develop, organize and run a business enterprise, along with any of its   |  |  |  |
|   |   | uncertainties in order to make a profit. The most prominent example of entrepreneurship is the starting of new  |  |  |  |
|   |   | businesses.   |  |  |  |
|   |   | The steps involved in the entrepreneurial process are explained as follows:   |  |  |  |
|   |   | Step 1. Deciding to Become an Entrepreneur:   |  |  |  |
|   |   | It refers to the first step of the entrepreneurial process in which an individual decides to start his/her own enterprise.  |  |  |  |
|   |   | The desire to become an entrepreneur may be triggered by any on the following factors:  |  |  |  |
|   |   | i. Arising of an innovative idea backed up the ability to start a business  |  |  |  |
|   |   | ii. Inheriting wealth and skills to establish an enterprise   |  |  |  |
|   |   | iii. Prevailing problems in current jobs  |  |  |  |
|   |   | iv. Willing to become own boss  |  |  |  |
|   |   | v. Pursuing own ideas   |  |  |  |
|   |   | Step 2. Identifying and Evaluating the Opportunity:   |  |  |  |
|   |   | It refers to the second stage of the entrepreneurial process. In this process, the entrepreneur recognizes potential  |  |  |  |
|   |   | opportunities. Sometimes, the set mechanisms, such as entrepreneurship development training programs and  |  |  |  |
|   |   | government policies to promote entrepreneurs, help potential entrepreneurs in identifying the opportunities.  The entrepreneurs keep on scanning the environment to gather useful information for identifying opportunity in the  |  |  |  |
|   |   | form of a potential product or service. Further, they evaluate and screen the identified opportunity. The evaluation  |  |  |  |
|   | a)  | of the identified opportunity helps entrepreneurs in assessing whether the opportunity is realistic and the returns of  |  |  |  |
|   |   | the opportunity are as per the resources required.  |  |  |  |
| 5 |   | Step 3. Developing a Business Plan:   |  |  |  |
|   |   | This step involves developing a successful business plan to exploit the identified opportunity. Developing a business   |  |  |  |
|   |   | plan involves setting goals, standards, methods, and techniques of achieving those set goals. A well drafted business   |  |  |  |
|   |   | plan serves as a road map to the entrepreneur to guide and monitor his/her activities towards the set goals.  |  |  |  |
|   |   | Step 4. Determining the Required Resources:   |  |  |  |
|   |   | It involves determining the resources required to meet the identified opportunity. In this step, the entrepreneur   |  |  |  |
|   |   | assesses the available resources and the resources that are essential to convert the identified opportunity into a  |  |  |  |
|   |   | reality. The entrepreneur needs to be careful while determining the amount and quality of resources required as   |  |  |  |
|   |   | insufficient or inappropriate resources can hamper the success of the opportunity. Next, he/she needs to acquire the  |  |  |  |
|   |   | resources required in a timely manner, while focusing on right quality and quantity.  |  |  |  |
|   |   | Step 5. Converting the Idea to an Enterprise:  It refers to the most important step of the entrepreneurial process in which the entrepreneur develops his/her own   |  |  |  |
|   |   | enterprise to execute the identified opportunity. In this step, the entrepreneur brings the set business plan into  |  |  |  |
|   |   | practice. He/she arranges the resources that are identified in the previous step. Moreover, he/she takes into   |  |  |  |
|   |   | consideration all internal and external environmental forces, while developing the enterprise.  |  |  |  |
|   |   | Step 6. Managing and Growing the Enterprise:  |  |  |  |
|   |   | It refers to the final stage of the entrepreneurial process. Once the resources are acquired, the entrepreneur uses them  |  |  |  |
|   |   | efficiently to carry out the business plan successfully. He/she also strives to identify and examine operational  |  |  |  |
|   |   | problems, and solve them.   |  |  |  |
|   |   | List and explain three entrepreneurial development models. (10 M)   |  |  |  |
|   | <b>b</b> )  | 1. Psychological models   |  |  |  |
|   | U)  | 2. Sociological models  |  |  |  |
|   |   | 3. Integrated models  |  |  |  |
|   | What is social audit? What are its benefits and limitations? (05 M) |   |  |  |  |
|   |   | The meaning of social audit is to inspect a company's working and production procedure to improve its   |  |  |  |
| 6 |   | social <u>performance</u> . The output of the social audit provides information on how well a company is keeping a balance  |  |  |  |
|   | a)  | between social responsibility and making profits.   |  |  |  |
|   |   | Social audit is mandatory to be conducted as a company might overlook the social responsibility to make profits.  |  |  |  |
|   |   | The term "Social audit" is part of business culture since 1950.   |  |  |  |
|   |   | Another reason for conducting it is to establish a positive image of the company in society to attract more   |  |  |  |
|   |   | customers. Companies conduct social audit internally, and if everything is found fine and per the society, then the   |  |  |  |
|   |   | report is made public.  Advantages of Internal Audit  |  |  |  |
|   |   | 1] More Effective Management  |  |  |  |
|   |   | One of the biggest benefits of an internal audit is that it facilitates more effective management of the organization.  |  |  |  |
|   |   | The internal auditor will be able to point out any weaknesses of the organization in the operations or internal controls of   |  |  |  |
|   |   | the company.  |  |  |  |
|   |   | So the management can use these insights to better the chances of achieving their goals.  |  |  |  |
|   |   | 2] On going Review  |  |  |  |
|   |   | The process of internal audit gives the organization a unique opportunity to conduct a review of the performances in the  |  |  |  |
|   |   | ongoing year itself.  |  |  |  |
|   |   |   |  |  |  |

They do not have to wait for the end of the year to review the company's performance. This also means that if they are not on the correct path, this will help them change course and correct their mistakes immediately.

#### 3] Performances of Staff Improve

The staff of the company remains alert and active. This is because there is the fear of their mistakes being caught by the internal auditor almost immediately.

This will help improve their efficiency and performance. Also, they do not attempt to defraud the company for the same reasons. And on the other hand, it is a good morale booster for honest employees.

#### 4] Ensures Optimum Use of Resources

One other benefit of the process of internal control is that it can be used as a tool to promote the optimization of resources. It will help point out the areas in which resources are being underutilized or wasted. And then these can be corrected. It will help control the costs and expenses of the company.

#### 5] Division of Work

Internal audit helps promote the division of labor. It is important to keep a check on and observe the activities of all the departments and all of their employees. Division of labor will help in achieving this.

#### **Limitations of Internal Audit**

Now let us move on to the limitations of internal audit. Like every good thing has a flip side, there exist some concerns about these limitations of internal audit. Let us take a look.

#### 1] Shortage of Qualified Staff

The work of an audit requires years of study and experience. An inexperienced auditor can cause more damage than good. So usually, the company will find it somewhat difficult to find enough qualified staff members for the process of an internal audit.

#### 2] Time Lag

There will always be a time lag between accounting and auditing. Internal audit cannot begin till the accounting is complete. They cannot be done simultaneously. So if the accounting process is delayed, so is the internal audit.

#### 3] Ignorance of Management

Unlike a statutory audit, the findings of an internal audit are not published or made available to all. Their findings are only forwarded to the management.

Now even if an internal audit reports points out to the shortcomings of the company or the errors in the financial statements, the management may not take corrective action.

They can choose to ignore such findings and then there will be no benefit gained from the internal audit.

#### **Advantages of External Audits**

External audits are not perfect, but they do offer many benefits above a regular internal audit. Consider some advantages of external audit procedures:

- They are more impartial than internal audits.
- External auditors have no job outside of conducting your audit.
- Outside eyes see your organization differently than you do.
- There is quicker identification of possible problem areas.
- They provide validation or invalidation of concerns raised during your internal audit.

#### **Limitations of External Audits**

External audits are typically more impartial than internal audits, but they are not without their limitations. This is why it can be helpful to have a variety of audit types conducted by different professionals over time. Consider the limitations of external audit procedures:

- They are not totally impartial because the auditors are still paid by you.
- External audits can sometimes be cost prohibitive for small businesses.
- Confidentiality can be a concern.
- You have to educate the external auditor about your company.

External audits require a lot of time and jumping through hoops.

#### Write notes on: i) Business Ethics ii) Corporate Governance. (05 M)

#### **Business Ethics:**

Business ethics is the application of moral principles to business problems.

However, ethics extend beyond the question of legality and involve the goodness or badness of an act.

Therefore, an action may be legally right but ethically wrong.

Example: A small village community located twenty miles form the closest urban shopping area has a single grocer's shop. The owner of the shop can charge any exorbitant price for his product through legally but not ethically.

There are four important factors which affect the decision.

- Government Legislation.
- Business Codes. (But being voluntary in nature these codes, though pointed to with pride, are usually ignored in practice)
- Pressure groups. (For example, in recent years Indian carpet industry has been facing consumer boycott from the west for employing child labour)
- Personal values of the manager himself.

#### **Corporate Governance:**

The term 'corporate governance' is used to denote the extent to which companies run in an open and honest manner in the best interest of all stakeholders.

b)

The key element of good corporate governance are

Transparency and Accountability

Projected through a code which incorporates a system of checks and balances between all key players, viz., Board of Directors, Auditors and stake holders.

#### **Benefits of Corporate Governance:**

- It creates overall market confidence and long-term trust in the company.
- It leads to an increase in company's share prices.
- It ensures the integrity of company's financial reports.
- It maximizes corporate security by acting as a whistle blower
- It limits the liability of top management by carefully articulating the decision-making process.
- It improves strategic thinking at the top by inducting independent directors who bring a wealth of experience and a host of new ideas.

## Discuss the social responsibility of business towards different interest groups. (10 M)

#### Corporate social Responsibility towards different interest groups

The business organizations generally interact with various interest groups such as the owners, investors, employees, suppliers, competitors, customers, government, and society. In each and every business activity these interest groups are affected directly or indirectly and they are also called as stakeholders. Sometimes the responsibility towards the stakeholders is also called as Stakeholder's Corporate Social Responsibility.

#### Corporate social Responsibility towards Owners

Owners are the persons who own the business and they are responsible for the profit or losses and they contribute the capital and bear the risks. The primary responsibility of the business towards its owners is to,

- Should run the business efficiently
- Proper utilization of capital and resources
- Timely repayment of on capital invested

#### Corporate social responsibility towards Investors

Investors provide the capital by way of investment, it is in the form of debentures, deposits and bonds etc. without investors companies may not be run successfully. The investors included in this category are banks, public and financial institutions. The responsibilities of the business towards its investors are,

- Providing assurance to their investment
- Paying interests timely to the investors
- Giving important updates to the investors
- Repayment of principle amount timely

#### Corporate social responsibility towards Employees

Business needs workers or employees to work for the organization they put their efforts for the growth of the firm. It is the basic responsibility of the organization to take care of the interest of the employees and to fulfill their needs. Employee satisfaction leads to the achievement of the organizational goals. The responsibilities of the organization towards its employees or workers include, wages and salaries should be paid timely and regularly

- Providing proper welfare amenities and working conditions
- Providing better opportunities for the career prospects
- Providing Job security and social security
- Providing facilities like pension, provident fund, retirement benefits, and group insurance, etc
- Providing housing, canteen, transport, and crèches etc
- Identifying and fulfilling training and developmental needs

#### Corporate social responsibility towards Suppliers

Suppliers are the persons who supply semi finished goods, finished goods, raw materials and other items required by the firms. Market demand conditions can only be fulfilled on the basis of the supply of the raw materials. So the suppliers are the part of the success of the business. Managers should always notice the importance of the suppliers. Certain suppliers are called as distributors because they supply finished products to the consumers. The responsibilities of business towards these suppliers are,

- Giving regular orders to purchase goods
- Dealing with fair terms and conditions
- Maintaining reasonable credit period
- Dues should be paid timely

#### Corporate social responsibilities towards Customers

Business can only be survived with the support of customers. The success of the business completely depends on the customer satisfaction and customer loyalty. Brand image comes from these two factors, so being responsible towards the customers not only benefits the customers but it maximizes the revenues and makes possible to get the market empire. The responsibility of business towards customers is,

- Products and services must fulfill the needs of the customers
- Qualitative Products and services must be delivered
- Regularity in supply of goods and services must be maintained

c)

- Prices of the goods and services should be fixed reasonable and affordable
  Procedure, advantages and disadvantages of the product and the use of the products must be informed to
- Organizations must provide after sales service
- Grievances of the customers must be settled quickly
- Fewer quality services, under weighing the product and adulteration must be avoided

#### Corporate social responsibility towards Competitors

the customers

Competitors always help the business in becoming more innovative and dynamic. But it is not that much easy to face a severe competition. Firms always try to overcome the competition by giving discounts, by using various advertisement strategies, and so on. To become better than their competitor's firms sometimes may follow unfair practices like giving sales commissions to the agents, heavy discounts to the customers, false advertisements, bribing the competitor's employees to know the business secrets etc. The responsibilities of business towards its competitors are,

- Not to offer high sales commission to distributors and agents
- Not to offer heavy discounts to the customers
- False advertisements should not be given to defame the competitors
- Should not bribe the competitor's employees to copy their products and services

#### Corporate social responsibility towards Government

Firms should follow the rules framed by the government. These guidelines are for the safety measures and for the benefit of the society. Responsibilities of the firms towards government are,

- Following the guidelines are given by the government
- Fees, duties and taxes should be paid regularly and honestly
- Should not follow the restrictive trade practices
- Firms should follow the pollution control norms
- Should not follow the corruption and other unlawful activities

#### Corporate social responsibility towards Society

In almost all activities individuals, groups, organizations and families, etc interact with each other and dependent on each other. A relationship exists between them which may be direct or indirect. The increase in per capital income increases the value of the money and national income. With the increase in national income revenues of the business also increases. Thus it has certain responsibilities towards the society which may be as follows,

- Firms should help the weaker sections of the society
- Organizations should protect the social and cultural values
- Firms should generate the employment by extending their business
- Should protect the environment by taking proper measures
- Natural resources and wildlife should not be harmed

Should provide assistance in the areas of research, education, medical sciences, and technology, etc.

### Define SSI. What are the characteristics of SSI? (06 M)

Small scale industries (SSI) are those industries in which <u>manufacturing</u>, providing services, <u>productions</u> are done on a small scale or micro scale. For example, these are the ideas of Small scale industries: Napkins, tissues, chocolates, toothpick, water bottles, small toys, papers, pens. Small scale industries play an important role in <u>social and economic development of India</u>. These industries do a one-time investment in machinery, plants, and industries which could be on an <u>ownership</u> basis, hire <u>purchase</u> or lease basis. But it does not exceed Rs. 1 Crore. Let us discuss in detail about it.

#### **Characteristics:**

- **Ownership**: SSI's generally are under single ownership. So it can either be a sole proprietorship or sometimes a partnership.
- **Management**: Generally both the management and the control is with the owner/owners. Hence the owner is actively involved in the day-to-day activities of the business.
- **Labor Intensive**: SSI's dependence on technology is pretty limited. Hence they tend to use labour and manpower for their production activities.
- **Flexibility**: SSI's are more adaptable to their changing business environment. So in case of amendments or unexpected developments, they are flexible enough to adapt and carry on, unlike large industries.
- **Limited Reach**: Small scale industries have a restricted zone of operations. Hence, they can meet their local and regional demand.
- **Resources utilization**: They use local and readily available resources which help the economy fully utilize natural resources with minimum wastage.

Define the following: i) Tiny Unit ii) Ancillary Unit iii) Export Oriented Unit iv) Small

Scale Services and Business Enterprises (SSSBE) (04 M)

**Tiny Industry**: **Tiny** Scale **industry** is one in which the investment in plant and. machinery is less than Rs.25 lakhs irrespective of the location of the unit. • **Small Scale Industry**: An **industrial** undertaking in which the investment

7

a)

b)

in plant

An **ancillary unit** is the **unit** which supplies not less than 50% of its production to the parent **unit**. A tiny **unit** is the business enterprise whose investment in plant and machinery is not more than Rs. 25 lakh. (ii) Investment limit in such **unit** is one crore.

The **Export Oriented Units** (EOUs) scheme, introduced in early 1981, is complementary to the SEZ scheme. ... The main objectives of the **EOU** scheme is to increase **exports**, earn foreign exchange to the country, transfer of latest technologies stimulate direct foreign investment and to generate additional employment.

**Small Scale Service and Business Enterprises**: A **small scale service and business enterprise** is one whose investment in fixed assets of plant and machinery excluding land and building does not exceed Rs. 10 lakhs. ... **Small scale business** is defined on the basis of investment in plant and machinery.

#### Explain Exogenous and Endogenous factors causing sickness in SSI. (10 M)

#### The main reasons for the sickness can be categorized as:

- 1. External or Exogenous causes
- 2. Internal or Endogenous causes

#### 1. Exogenous Causes:

There may be several exogenous factors causing a unit sick. It may vary from time to time for industry to industry and/or even one time to other or the same industry.

#### The important external reasons may be:

- (i) Shortage of financial resources
- (ii) Labour unrest/strike
- (iii) Lack of demands of the product
- (iv) Change in industrial policy
- (v) Poor inventory maintenance
- (vi) Untimely supply of/purchase of raw materials
- (vii) Natural calamities like food, earthquake, drought etc.
- (viii) Recessionary trends hovering the industry.

#### All the above factors can be broadly classified as:

- (i) Governmental policy
- (ii) Natural calamities
- (iii) Environmental conditions

#### 2. Endogenous Reasons:

These are mainly due to some internal deficiencies in several functional areas, viz. personnel, production, marketing, management and/or finance.

Majority of the projects (54%) are found to be sick due to internal reasons like poor management, labour problems, operative problems, poor implementation and /or lack of sufficient working capital.

#### This type of sickness may occur at every stage as:

#### First Stage:

c)

It happens during planning and construction stage. The unit may be located at an uneconomical location, adopted an inefficient method of production and/or planned to produce an obsolete item.

#### **Second stage:**

Unit might have committed some mistakes during recruitment, training of the workers, unestimation of various inputs (fund, labour, power, water etc.). It cannot be corrected easily at late hours.

#### Third Stage:

It may arise even if the unit is in full swing. It may be due to demand of product which might have changed. New technologies might have taken place and/or new or more competitors have entered in the market.

Studies show that small scale units are mainly sick due to exogenous causes, whereas endogenous causes play important role in making large units sick.

Small units are so small that they cannot withstand fluctuation in the market, frequent change in government policy and/or market policies. They work with very small margin of profit and as such even small error may make them sick. Due to this, small units are highly prone to sickness.

### List and explain all the services provided by SIDO. (10 M)

The small and medium enterprises (SME) sector is one of the fastest growing industrial sectors all over the world. Many countries of the world have established a SME Development agency (SMEDA) at the nodal agency to coordinate and oversee all government interventions in respect of the development of this sector.

In India, although a separate medium sector is not defined, the office of development commissioner (small-scale industry), also known as small industries development organisation (SIDO) functions under the ministry of SSI.

SIDO was established in 1954 on the recommendations of Ford foundation.

Over the years, it has seen its role evolve into an agency for advocacy, handholding and facilitation for the small industries sector. It has over 60 offices and 21 autonomous bodies under its management. These include tool rooms, training institutions and project-cum-process development centres.

SIDO provides a wide spectrum of services to the small industries sector. These includes –

- Entrepreneurship development and management training.
- Extension and training services.
- Entrepreneurship development institutes.
- Preparation of project profiles.

8

8

a)

- Plant modernization studies
- Marketing support
- Collection of data
- Prime minister rozgar yojana

#### **Functions:**

- Credit guarantee fund scheme for small industries (CGFS): The trust covers credit facilities extended by a lending institution to a small scale entrepreneur up to an amount Rs.25 lakhs (In respect of a single borrower) by way of term loan and working capital facilities.
- Credit linked capital subsidy scheme for technology up graduation of the small scale industries (CLCSS): the purpose is to facilitate technology up gradation in the SSI sector in the specified products/sub sectors by providing 12% capital subsidy induction of proven technologies approved under the scheme. Eligible borrowers under the scheme include all sole proprietors, partnership firms, and cooperative societies, private and public limited companies in the SSI sector.
- Scheme for market development assistance for SSI exporters (SSI-MDA): The basic objective of the scheme is to encourage the exporters to tap and develop overseas exports.it is expected that SIDOs participation in international fairs coupled with the presence of exporters, will help to argument export earnings.
- Integrated infrastructural development scheme (IID) for smalls scale industries: To facilitate growth of cluster of small scale and tiny units so as to create employment opportunities and to promote exports.
- **Prime Minister Rozgar Yojana(PMRY)**: this scheme was launched by the govt. in India in Oct.1993 and is designed to create and provide sustainable self-employment opportunities to the educated unemployed. The salient features of the scheme year.
  - **a. Eligibility:** Any unemployed educated youth satisfying the following criterion:
    - **-Age-**between 18 to 35 years .upper age limit relaxed by 10 years for women, SC/ST and physically handicapped persons.
    - **-Qualification-**VIII th passed. Preference will be given to those who have been trained for any trade in govt. recognized/approved institutions for duration of at least six months.
    - **-Residency**: Permanent resident of the area for at least three years.
    - **-Family income:** should exceed 40,000/-p.a
  - **b. Activities:** Industry service or business covers all economically viable activities loan to be agriculture and allied activities but excluding direct agriculture activities.
  - **C. Project cost:**Rs.1.00 Lakh for business sector,Rs.2.00 lakhs for other activities, loan to be of composite nature. if two or more eligible persons join together in a partnership, projects up to Rs.10,000 lakhs are covered. Assistance shall be limited to individual admissibility.
  - **D. Subsidy:** subsidy will be limited to 15% of the project cost.
  - **E. Collateral**: No collateral for units in industry sector with project cost up to Rs.2lakh.
  - **F. Rate of interest:** Normal rate of interest shall be charged, the repayment may range From 3 to 7 years after an initial moratorium may be prescribed.
  - **G. Reservation:** Preference shall be given to weaker section including women. The Scheme envisages 22.5% reservation for SC/ST and 27% for the other backward Classed (OBC).

#### Write short notes on i) SFCs ii) SSIDCs. (10 M)

#### SFCs:

SFCs, established under the SFCs Act, 1951, play an important role in the development of small and medium enterprise.

The main objective of SFCs are to finance and promote small and medium enterprise in their respective states for achieving balanced regional growth, catalysis investment ,generate employment and widen ownership base of industry.

At present, there are 18 SFCs of which one under the SFCs Act, while tamilnadu Industrial and investment corporation Ltd., was set up under companies Act.

b) Financial assistance to small and medium enterprises is provided by way of term loans, direct subscription to equity/debentures, guarantees, discounting of bill of exchange and seed capital assistance.

SFCs operate a number of schemes of refinance of IDBI and SIDBI and also extend equity type assistance.

SFCs have tailor made schemes for artisans and special target groups such as SC/ST, women, Ex-servicemen, physically challenged and also provide financial assistance for small-road transport operators, hotels tourism-related activities, hospitals, nursing homes, and so on.

Under the single window scheme of SIDBI, SFCs have also been extending working capital along with term loans to migrate the difficult faced by SSIs in obtaining working capital limits on time.

#### **State small industrial development corporations (SSIDCs):**

SSIDCs established under the companies act 1956, as state government undertaking cater to the needs of the small,

tiny and village industries in their respective state/union territory. Being operationally flexible, SSIDCs undertake a variety of activities of the benefits of the SSI sector. Some of the important activities undertaken by SSIDCs include:

- Procurement and distribution of scare raw materials.
- Supply of machinery to SSI units on hire-purchase basis.
- Assistance for marketing of products.
- Construction of industrial estates, provision of allied infrastructure facilities and their maintenance.
- Extending seed capital assistance on behalf of state government
- Providing management assistance to production units.

### What is project feasibility analysis? List and explain types of feasibility analysis. (10 M)

The growth and recognition of <u>project management training</u> have changed significantly over the past few years, and these changes are expected to continue and expand. And with the rise of project management comes the need for a feasibility study.

#### What is project feasibility analysis?

A **feasibility study** is an **analysis** that takes all of a **project's** relevant factors into account—including economic, technical, legal, and scheduling considerations—to ascertain the likelihood of completing the **project** successfully.

As the name implies, a feasibility analysis is used to determine the viability of an idea, such as ensuring a project is legally and <u>technically feasible</u> as well as economically justifiable. It tells us whether a project is worth the investment—in some cases, a project may not be doable. There can be many reasons for this, including requiring too many resources, which not only prevents those resources from performing other tasks but also may cost more than an organization would earn back by taking on a project that isn't profitable.

A well-designed study should offer a historical background of the business or project, such as a description of the product or service, accounting statements, details of operations and management, marketing research and policies, financial data, legal requirements, and tax obligations. Generally, such studies precede technical development and project implementation.

#### **Types of Feasibility Study**

A feasibility analysis evaluates the project's potential for success; therefore, perceived objectivity is an essential factor in the credibility of the study for potential investors and lending institutions. There are five types of feasibility study—separate areas that a feasibility study examines, described below.

#### 1. Technical Feasibility

This assessment focuses on the technical resources available to the organization. It helps organizations determine whether the technical resources meet capacity and whether the technical team is capable of converting the ideas into working systems. Technical feasibility also involves the evaluation of the hardware, software, and other technical requirements of the proposed system. As an exaggerated example, an organization wouldn't want to try to put Star Trek's transporters in their building—currently, this project is not technically feasible.

#### 2. Economic Feasibility

This assessment typically involves a cost/ benefits analysis of the project, helping organizations determine the viability, cost, and benefits associated with a project before financial resources are allocated. It also serves as an independent project assessment and enhances project credibility—helping decision-makers determine the positive economic benefits to the organization that the proposed project will provide.

#### 3. Legal Feasibility

This assessment investigates whether any aspect of the proposed project conflicts with legal requirements like zoning laws, data protection acts or social media laws. Let's say an organization wants to construct a new office building in a specific location. A feasibility study might reveal the organization's ideal location isn't zoned for that type of business. That organization has just saved considerable time and effort by learning that their project was not feasible right from the beginning.

#### 4. Operational Feasibility

This assessment involves undertaking a study to analyze and determine whether—and how well—the organization's needs can be met by completing the project. Operational feasibility studies also examine how a project plan satisfies the requirements identified in the requirements analysis phase of system development.

#### 5. Scheduling Feasibility

Serves as a Master Plan-

This assessment is the most important for project success; after all, a project will fail if not completed on time. In scheduling feasibility, an organization estimates how much time the project will take to complete.

When these areas have all been examined, the feasibility analysis helps identify any constraints the proposed project may face, including:

- Internal Project Constraints: Technical, Technology, Budget, Resource, etc.
- Internal Corporate Constraints: Financial, Marketing, Export, etc.
- External Constraints: Logistics, Environment, Laws, and Regulations, etc.

# What is the significance of a project report? List and explain the contents of a project report. $(10\,\mathrm{M})$

#### **Significance / Importance of Project Report:**

Project report is an important cornerstone for setting up an enterprise. It is a business plan to convert a business idea into a productive venture. It is like a blue print for any construction activity without which one would land in confusion or chaos at a later stage. The significance of a project report is as follows;

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b)

For successful management, effective planning is absolutely essential. A project report serves as a business plan indicating the objectives or goals of the enterprise & states in detail how these objectives are going to be achieved at various stages of the enterprise.

#### **Describes Direction / Road Map-**

A project report is like a road map. It describes the direction in which the enterprise should go & how to reach the goal. Without well defined goals & operational methods as stated in the report, most enterprises land in troubled waters & flounder on the rocks of hard times.

#### Shows Feasibility-

A project report also shows the feasibility of the proposed project & the probability of achieving profit. Whether a project is feasible from different angles- economic, financial, commercial, social etc. can be ascertained while preparing a project report.

#### Foresees requirements-

A project report enables an entrepreneur to realize what he needs for implementing the project well in advance. It also gives a general idea of his various resource requirements like raw materials, manpower, finance, infrastructure facilities etc. and also the means of procuring them. Thus, it enables an entrepreneur to foresee his requirements in advance & helps him to take suitable decisions accordingly.

#### **Indicates Profitability-**

It gives an indication of likely & benefits which a prospective entrepreneur can get from his venture. This profitability indication will help an entrepreneur to take an important investment decision. Thus, the financial rewards can be visualized in advance.

#### Helps in Decision Making-

Crucial decisions have to be made at various stages of production. How much to produce to achieve Break-Even-Level? How to fix the repayment schedule? Such important decisions can be taken with the help of a project report prepared well in advance. It also anticipates problems in advance so that suitable decisions can be taken then & there to solve those problems. Thus, it helps to visualize action tasks also.

#### Paves way for Financial Assistance-

The preparation of a project report is absolutely essential for those enterprises which apply for financial assistance from different financial institutions & banks. It is on the basis of project report, that the financial institutions could be given or not. In most cases, the quality of the firms project report weighs heavily in taking lending decisions. Thus, it paves the way for financial assistance which is the life blood of an enterprise.

#### **Contents of Project Report:**

In addition to the details of the feasibility studies, a project report contains some background information about the industry to which the project belongs & the enterprise submitting the report. It gives a complete analysis of the inputs & outputs of the project. A project report, generally contains the following information;

#### Introduction-

Objectives, scope of the report & product description.

#### Background of the Promoters/entrepreneurs-

Entrepreneurs personal information – name, address, age, family background, educational qualifications, work experience, project related experience, investment potential etc.

#### Product-

Details of product to be produced, details of product uses & application, product specifications, product idea, proposed idea, proposed product mix, product standard etc.

#### Market & Marketing-

Market potential analysis, users of product, major buyers, area to be covered (local, regional, national, international), estimated selling <u>price</u> of the <u>product</u>, distribution channels to be adopted, trade practices, sales promotion devices, proposed market research, trade practice & trade channels adopted by the competitors, demand analysis.

#### Location-

Exact location of the project, various alternatives available which have been examined, criteria for selecting the location, locational advantages etc.

#### **Production Process-**

Manufacturing process, details of technology, process flow chart, production programme, project network etc.

#### Raw Material-

List of raw materials required in terms of quantity & quality, sources of raw material, cost of raw material, properties of raw material etc.

#### Utilities-

Power, water, steam sources & costs, effluent disposal etc.

#### **Transport & Communication-**

Method, possibility of getting & transport costs.

#### Manpower Requirement-

Requirement of skilled, semi-skilled personnel, technical & non-technical personnel, administrative/managerial staff & marketing personnel – sources of procurement etc., capacity suppliers cost, alternatives available, cost of miscellaneous assets.

# Land & Building-Requirement of land area, construction area, cost of construction, detailed plan, plant layout along with

cost, building construction schedule.

#### Plant & Machinery-

Details of machinery & equipments required.

#### Cost of Project & Source of Finance-

Break up of project cost in terms of cost of fixed assets (land, building, plant, machinery, furniture etc) Working Capital required (margin money for working capital) preliminary & pre-operative expensis, contingencies & arrangements for meeting the cost of project (share capital, debenture, term loans etc.)

#### Financial Viability of the Project-

Cost of production & profitability for the first year, break even analysis & analysis of cash flow & fund flow

### Discuss the concept and importance of network analysis. (06 M)

Network analysis is the method of planning and controlling projects by recording their interdependence in a diagrammatic form which enables each fundamental problem involved to be tackled separately.

A project is combination of interrelated activities which must be executed in a certain order before the entire task can be completed. An activity in a project is usually viewed as a job requiring time and resources for its completion.

Until four decade ago, the best known project planning tool was Gantt bar chart which specifies the start and finish times for each activity on horizontal time scale but the disadvantage is the interdependency between different activities which cannot be determined from the bar chart.

The project management has now been evolved as a new field with the development of two analytic techniques for planning, scheduling and controlling of projects. These are the Critical Path Method (CPM) and the Project Evaluation and Review Technique (PERT).

The management of any organization involves the efficient allocation of resources. Organisations frequently get engaged in large complex projects requiring many different activities which need to be performed in order to complete the project.

Network is a pictorial representation of the interrelationship of all types of activities and has come to forefront for planning, scheduling and controlling the complex projects consisting of number of work contents.

PERT and CPM developed independently out of research studies that were being conducted by U.S. Navy and Dupont company. PERT was an outgrowth of the U.S. Navy Polaris submarine Missile Program whereas CPM was developed for planning the construction of chemical plants.

Since then both these techniques have been successfully applied to problems involving construction of work, assembly line scheduling, maintenance operations, bid preparation and submitting of project proposals, market penetration programs, manpower planning, the planning of political campaigns, various plants expansion programmes and in military and research development programs etc.

**Importance of Network Analysis:** 

Followings are the main objectives of network analysis:

- (a) To minimize idle resources.
- (b) To minimize the total project cost.
- (c) To trade off between time and cost of project.
- (d) To minimize production delays, interruptions and conflicts.
- (e) To minimize the total project duration.

#### (a) To minimize idle resources:

Allowing for large variations in the use of limited resources may disturb the whole plan. Thus, efforts should be made to avoid the cost incurred due to idle resources.

#### (b) To minimize the total project cost:

The total cost of the project can be calculated and then efforts can be made to minimize the total cost by calculating the cost of delay in the completion of an activity of the project in addition to the cost of the resources required to carry out the jobs at various speeds (i.e. normal or over time rates of pay).

#### (c) To trade off between time and cost of project:

The idea of trade off between time and cost of project is centred on the idea that duration of same activities can be cut down if additional resources are allocated to them.

For technical reasons, the durations may not be reduced indefinitely. Similarly, there is also a most cost efficient duration called 'normal point' & stretching the activity beyond it may lead to a rise in direct costs.

#### (d) To minimize production delays, interruption and conflict:

This is achieved by identifying all activities involved in the project, their precedence constraints, etc.

### (e) To minimize idle resources:

Allowing for large variations in the use of limited resources may disturb the whole plan. Thus, efforts should be made to avoid the cost incurred due to resources.

# What are the steps involved in PERT? List its advantages and limitations. (08 M)

**Project Evaluation Review Technique (PERT)** b)

In project management, Project Evaluation Review Technique or PERT is used to identify the time it takes to finish a particular task or activity. It is a system that helps in proper scheduling and coordination of all tasks throughout the project. It also helps in keeping track of the progress, or lack thereof, of the project. In the 1950s,

a)

1 0 Project Evaluation Review Technique was developed by the <u>US Navy</u> to manage the Polaris submarine missile program of their Special Projects Office.

Knowing the time it would take to execute a project is crucial as it helps project managers decide on other factors such as the budget and <u>task delegation</u>. No matter how big or small a project is, estimates can be too optimistic or pessimistic, but using a PERT chart will help determine more realistic estimates.

#### **Creating a PERT Chart**

A flowchart is used to depict the Project Evaluation Review Technique. Nodes represent the events, indicating the start or end of the activities. The directorial lines indicate the tasks that need to be completed, and the arrows show the sequence of the activities.

There are four definitions of time needed to finish an activity:

- Optimistic time The least amount of time to complete a task
- Pessimistic time The maximum amount of time to complete a task
- Most likely time Assuming there are no problems, it is the best estimate of how long it would take to complete a task.
- Expected time Assuming there are problems, it is the best estimate of how long it would take to complete
  a task.

Here are several terms used in a PERT chart:

- Float/Slack Refers to the amount of time a task can be delayed without resulting in an overall delay to
  other tasks or the project
- Critical Path Indicates the longest possible continuous path from the start to the end of a task or event
- Critical Path Activity Refers to an activity without slack
- Lead Time Refers to the amount of time needed to finish a task without affecting subsequent tasks
- Lag Time The earliest time by which a successor event can follow another event
- Fast Tracking Refers to handling tasks or activities in parallel
- Crashing Critical Path Shortening the amount of time to do a critical task

To implement a PERT chart:

- Identify the different tasks needed to complete a project. Make sure to add these in the right order and indicate the duration of each task.
- Create a network diagram. Use arrows to represent the activities and nodes as milestones.

Determine the critical path and possible hack.

The advantages of PERT are mentioned below:

- 1. Planning For Large Projects
- 2. Visibility of Critical Path
- 3. Analysis of Activities
- 4. Coordinating Ability
- 5. The What-if -Analysis

Various Demerits of PERT are mentioned below:

- 1. Time Focused Method
- 2. Subjective Analysis
- 3. Inaccuracy due to Prediction
- 4. Expensive
- 5. Other Issues

#### What is CPM? Explain. (06 M)

#### Critical Path Method (CPM)

Critical path method is based on mathematical calculations and it is used for scheduling project activities. This method was first introduced in 1950s as a joint venture between Remington Rand Corporation and DuPont Corporation

The initial critical path method was used for managing plant maintenance projects. Although the original method was developed for construction work, this method can be used for any project where there are interdependent activities.

In the critical path method, the critical activities of a program or a project are identified. These are the activities that have a direct impact on the completion date of the project.

Key Steps in Critical Path Method

Let's have a look at how critical path method is used in practice. The process of using critical path method in project planning phase has six steps.

Step 1: Activity specification

You can use the Work Breakdown Structure (WBS) to identify the activities involved in the project. This is the main input for the critical path method.

In activity specification, only the higher-level activities are selected for critical path method.

When detailed activities are used, the critical path method may become too complex to manage and maintain.

Step 2: Activity sequence establishment

In this step, the correct activity sequence is established. For that, you need to ask three questions for each task of

c)

your list.

- Which tasks should take place before this task happens.
- Which tasks should be completed at the same time as this task.
- Which tasks should happen immediately after this task.

Step 3: Network diagram

Once the activity sequence is correctly identified, the network diagram can be drawn (refer to the sample diagram above).

Although the early diagrams were drawn on paper, there are a number of computer softwares, such as Primavera, for this purpose nowadays.

Step 4: Estimates for each activity

This could be a direct input from the WBS based estimation sheet. Most of the companies use 3-point estimation method or COCOMO based (function points based) estimation methods for tasks estimation.

You can use such estimation information for this step of the process.

Step 5: Identification of the critical path

For this, you need to determine four parameters of each activity of the network.

- Earliest start time (ES) The earliest time an activity can start once the previous dependent activities are
  over.
- Earliest finish time (EF) ES + activity duration.
- Latest finish time (LF) The latest time an activity can finish without delaying the project.
- Latest start time (LS) LF activity duration.

The float time for an activity is the time between the earliest (ES) and the latest (LS) start time or between the earliest (EF) and latest (LF) finish times.

During the float time, an activity can be delayed without delaying the project finish date.

The critical path is the longest path of the network diagram. The activities in the critical path have an effect on the deadline of the project. If an activity of this path is delayed, the project will be delayed.

In case if the project management needs to accelerate the project, the times for critical path activities should be reduced.

Step 6: Critical path diagram to show project progresses

Critical path diagram is a live artifact. Therefore, this diagram should be updated with actual values once the task is completed.

This gives more realistic figure for the deadline and the project management can know whether they are on track regarding the deliverables.