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IV/IV B.Tech (Regular/Supplementary) DEGREE EXAMINATION

January, 2021

Common for ECE EEE & EIE

Seventh Semester

Industrial Management And Entrepreneurship Development

Time: Three Hours

Maximum : 60 Marks

Answer ALL Questions from PART-A.

(1X12 = 12 Marks)

Answer ANY FOUR questions from PART-B.

(4X12=48 Marks)

PART-A

1 Answer all questions

(1X12=12 Marks)

- Define business organization
- Write any two principles of management.
- What is marketing?
- Define inventory control
- What are various types of production systems?
- Define depreciation
- What is personnel management?
- Define placement
- Write any two sources of recruitment.
- Define entrepreneur
- Write any two factors affecting entrepreneurship.
- What is process design?

PART-B

- Explain the functions of management. 6M
 - Discuss the salient features of partnership firm. 6M
- Write the merits and demerits of private limited and public limited companies. 6M
 - Describe various stages in product life cycle. 6M
- Explain about functions of production planning and control. 6M
 - Ravi industry needs 5,400 units/year of a bought-out component which will be used in its main product. The ordering cost is Rs.250 per order and the carrying cost per unit per year is Rs.30. Find: the economic order quantity (EOQ), the number of orders per year and the time between successive orders. 6M
- What is working capital management? Explain its factors and principles. 6M
 - Explain about declining balance method of depreciation with an example. 6M
- Discuss in detail about human resource planning. 6M
 - Explain about different steps in selection process. 6M
- Write and explain about methods of performance appraisal. 6M
 - Define motivation. Explain about Maslow's needs hierarchy theory. 6M
- Discuss in detail about functions of an entrepreneur. 6M
 - Explain the role of communication in entrepreneurship. 6M
- Write and explain about objectives of entrepreneurship development. 6M
 - Explain in detail about steps in process design and plant design. 6M

IV/IV B.Tech Degree Examination (JANUARY 2021)

Solution and Scheme Evaluation for

INDUSTRIAL MANAGEMENT AND ENTREPREUNERSHIP DEVELOPMENT

(14 EC/EE/EI 701)

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PART-A

1

a. Define business organization

Business organization, an entity formed for the purpose of carrying on commercial enterprise. Such an organization is predicated on systems of law governing contract and exchange, property rights, and incorporation.

b. Write any two principles of management

1. Division of Work
2. Authority and Responsibility
3. Discipline
4. Unity of Command
5. Unity of Direction
6. Subordination of Individual Interest
7. Remuneration
8. Centralization
9. Scalar Chain
10. Order
11. Equity
12. Stability
13. Initiative
14. Esprit de Corps

c. What is marketing?

The action or business of promoting and selling products or services, including market research and advertising.

d. Define inventory control

Inventory control or stock control can be broadly defined as "the activity of checking a shop's stock." It is the process of ensuring that the right amount of supply is available within a business

e. What are the various types of production systems?

Job shop production, Batch production, mass production

f. Define depreciation

Depreciation is an accounting method of allocating the cost of a tangible asset over its useful life and is used to account for declines in value

g. What is personnel management?

Personnel management can be defined as obtaining, using and maintaining a satisfied workforce. ... According to Flippo, "Personnel management is the planning, organizing, compensation, integration and maintenance of people for the purpose of contributing to organizational, individual and societal goals."

h. Define placements

The action of placing someone or something somewhere.

i. Write any two sources of recruitment

Employment agencies, Casual Callers, management consultant

j. Define Entrepreneur

An entrepreneur is an individual who creates a new business, bearing most of the risks and enjoying most of the rewards. ... Entrepreneurs who prove to be successful in taking on the risks of a startup are rewarded with profits, fame, and continued growth opportunities

k. Write any two factors affecting entrepreneurship

Capital-Capital is one of the most important factors of production for the establishment of an enterprise.

Labor-Easy availability of right type of workers also effect entrepreneurship

l. What is process design?

Process Design is the act of transforming an organization's vision, goals, and available resources into a discernible, measureable means of achieving the organization's vision. Process design focuses on defining what the organization will do to achieve its financial and other goals.

PART-B

2. a) Functions of management

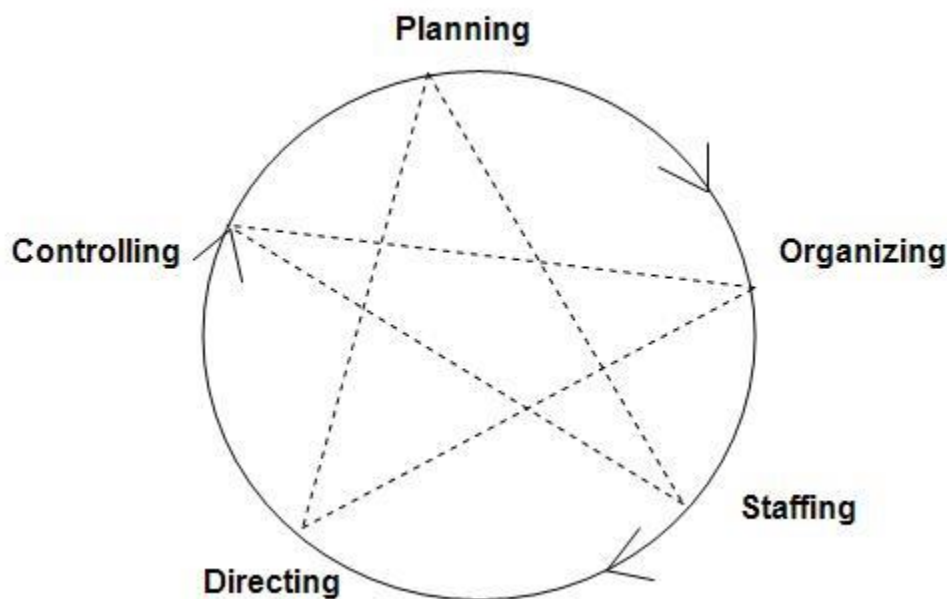
Management has been described as a social process involving responsibility for economical and effective planning & regulation of operation of an enterprise in the fulfillment of given purposes.

It is a dynamic process consisting of various elements and activities. These activities are different from operative functions like marketing, finance, purchase etc. Rather these activities are common to each and every manager irrespective of his level or status.

Different experts have classified functions of management. According to *George & Jerry*, “There are four fundamental functions of management i.e. planning, organizing, actuating and controlling”.

According to Henry Fayol, “To manage is to forecast and plan, to organize, to command, & to control”. Whereas Luther Gullick has given a keyword ‘**POSDCORB**’ where P stands for Planning, O for Organizing, S for Staffing, D for Directing, Co for Co-ordination, R for reporting & B for Budgeting. But the most widely accepted are functions of management given by KOONTZ and O’DONNEL i.e. **Planning, Organizing, Staffing, Directing and Controlling**.

For theoretical purposes, it may be convenient to separate the function of management but practically these functions are overlapping in nature i.e. they are highly inseparable. Each function blends into the other & each affects the performance of others.



1. Planning

It is the basic function of management. It deals with chalking out a future course of action & deciding in advance the most appropriate course of actions for achievement of pre-determined goals. According to KOONTZ, “Planning is deciding in advance - what to do, when to do & how to do. It bridges the gap from where we are & where we want to be”. A plan is a future course of actions. It is an exercise in problem solving & decision making. Planning is determination of courses of action to achieve desired goals. Thus, planning is a systematic thinking about ways & means for accomplishment of pre-determined goals. Planning is necessary to ensure proper utilization of human & non-

human resources. It is all pervasive, it is an intellectual activity and it also helps in avoiding confusion, uncertainties, risks, wastages etc.

2. Organizing

It is the process of bringing together physical, financial and human resources and developing productive relationship amongst them for achievement of organizational goals. 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”. To organize a business involves determining & providing human and non-human resources to the organizational structure. Organizing as a process involves:

- Identification of activities.
- Classification of grouping of activities.
- Assignment of duties.
- Delegation of authority and creation of responsibility.
- Coordinating authority and responsibility relationships.

3. Staffing

It is the function of manning the organization structure and keeping it manned. Staffing has assumed greater importance in the recent years due to advancement of technology, increase in size of business, complexity of human behavior etc. The main purpose of staffing is to put right man on right job i.e. square pegs in square holes and round pegs in round holes. According to Kootz & O’Donell, “Managerial function of staffing involves manning the organization structure through proper and effective selection, appraisal & development of personnel to fill the roles designed in the structure”. Staffing involves:

- Manpower Planning (estimating man power in terms of searching, choose the person and giving the right place).
- Recruitment, Selection & Placement.
- Training & Development.
- Remuneration.
- Performance Appraisal.
- Promotions & Transfer.

4. Directing

It is that part of managerial function which actuates the organizational methods to work efficiently for achievement of organizational purposes. It is considered life-spark of the enterprise which sets it in motion the action of people because planning, organizing and staffing are the mere preparations for doing the work. Direction is that inert-personnel aspect of management which deals directly with influencing, guiding, supervising, motivating sub-ordinate for the achievement of organizational goals. Direction has following elements:

- Supervision
- Motivation
- Leadership

- Communication

Supervision- implies overseeing the work of subordinates by their superiors. It is the act of watching & directing work & workers.

Motivation- means inspiring, stimulating or encouraging the sub-ordinates with zeal to work. Positive, negative, monetary, non-monetary incentives may be used for this purpose.

Leadership- may be defined as a process by which manager guides and influences the work of subordinates in desired direction.

Communications- is the process of passing information, experience, opinion etc from one person to another. It is a bridge of understanding.

5. Controlling

It implies measurement of accomplishment against the standards and correction of deviation if any to ensure achievement of organizational goals. The purpose of controlling is to ensure that everything occurs in conformities with the standards. An efficient system of control helps to predict deviations before they actually occur. According to *Theo Haimann*, “Controlling is the process of checking whether or not proper progress is being made towards the objectives and goals and acting if necessary, to correct any deviation”. According to Koontz & O’Donell “Controlling is the measurement & correction of performance activities of subordinates in order to make sure that the enterprise objectives and plans desired to obtain them as being accomplished”. Therefore controlling has following steps:

- a. Establishment of standard performance.
- b. Measurement of actual performance.
- c. Comparison of actual performance with the standards and finding out deviation if any.
- d. Corrective action.

Definition of Coordination

Co-ordination is the unification, integration, synchronization of the efforts of group members so as to provide unity of action in the pursuit of common goals. It is a hidden force which binds all the other functions of management. According to Mooney and Reelay, “Co-ordination is orderly arrangement of group efforts to provide unity of action in the pursuit of common goals”. According to Charles Worth, “Co-ordination is the integration of several parts into an orderly hole to achieve the purpose of understanding”.

Management seeks to achieve co-ordination through its basic functions of planning, organizing, staffing, directing and controlling. That is why, co-ordination is not a separate function of management because achieving of harmony between individuals efforts towards achievement of

group goals is a key to success of management. Co-ordination is the essence of management and is implicit and inherent in all functions of management.

A manager can be compared to an orchestra conductor since both of them have to create rhythm and unity in the activities of group members. Co-ordination is an integral element or ingredient of all the managerial functions as discussed below: -

Co-ordination through Planning - Planning facilitates co-ordination by integrating the various plans through mutual discussion, exchange of ideas. e.g. - co-ordination between finance budget and purchases budget.

Co-ordination through Organizing - Mooney considers co-ordination as the very essence of organizing. In fact when a manager groups and assigns various activities to subordinates, and when he creates department's co-ordination uppermost in his mind.

Co-ordination through Staffing - A manager should bear in mind that the right no. of personnel in various positions with right type of education and skills are taken which will ensure right men on the right job.

Co-ordination through Directing - The purpose of giving orders, instructions & guidance to the subordinates is served only when there is a harmony between superiors & subordinates.

Co-ordination through Controlling - Manager ensures that there should be co-ordination between actual performance & standard performance to achieve organizational goals.

From above discussion, we can very much affirm that co-ordination is the very much essence of management. It is required in each & every function and at each & every stage & therefore it cannot be separated.

b) 'Partnership' is an association of two or more persons who pool their financial and managerial resources and agree to carry on a business, and share its profit. The persons who form a partnership are individually known as partners and collectively a **firm or partnership firm**. Let's assume that Gopal joins hand with Rahim to start a big grocery shop. Here both Gopal and Rahim are called partners who are running the partnership firm jointly. Both of them will pool their resources and carry on business by applying their expertise. They will share the profits and losses in the agreed ratio. In fact, for all terms and conditions of their working, they have to sit together to decide about all aspects. There must be an agreement between them. The agreement may be in oral, written or implied. When the agreement is in writing it is termed as partnership deed. However, in the absence of an agreement, the provisions of the Indian Partnership Act 1932 shall apply. Partnership form of business organisation in India is governed by the Indian Partnership

CHARACTERISTICS OF PARTNERSHIP FORM OF BUSINESS ORGANISATION

Based on the definition of partnership as given above, the various characteristics of partnership form of business organisation, can be summarised as follows:

(a) **Two or More Persons:** To form a partnership firm atleast two persons are required.

The maximum limit on the number of persons is ten for banking business and 20 for other businesses. If the number exceeds the above limit, the partnership becomes illegal and the relationship among them cannot be called partnership.

(b) **Contractual Relationship:** Partnership is created by an agreement among the persons who have agreed to join hands. Such persons must be competent to contract. Thus, minors, lunatics and insolvent persons are not eligible to become the partners. However, a minor can be admitted to the benefits of partnership firm i.e., he can have share in the profits without any obligation for losses.

(c) **Sharing Profits and Business:** There must be an agreement among the partners to share the profits and losses of the business of the partnership firm. If two or more persons share the income of jointly owned property, it is not regarded as partnership.

(d) **Existence of Lawful Business:** The business of which the persons have agreed to share the profit must be lawful. Any agreement to indulge in smuggling, black marketing etc. cannot be called partnership business in the eyes of law.

(e) **Principal Agent Relationship:** There must be an agency relationship between the partners. Every partner is the principal as well as the agent of the firm. When a partner deals with other parties he/she acts as an agent of other partners, and at the same time the other partners become the principal.

(f) **Unlimited Liability:** The partners of the firm have unlimited liability. They are jointly as well as individually liable for the debts and obligations of the firms. If the assets of the firm are insufficient to meet the firm's liabilities, the personal properties of the partners can also be utilised for this purpose. However, the liability of a minor partner is limited to the extent of his share in the profits.

(g) **Voluntary Registration:** The registration of partnership firm is not compulsory. But an unregistered firm suffers from some limitations which makes it virtually compulsory to be registered. Following are the limitations of an unregistered firm.

(i) The firm cannot sue outsiders, although the outsiders can sue it.

(ii) In case of any dispute among the partners, it is not possible to settle the dispute through court of law.

(iii) The firm cannot claim adjustments for amount payable to, or receivable from, any other parties.

3. a)

Advantages of a Joint Stock Company

One of the biggest drawing factors of a joint stock company is the limited liability of its members. Their liability is only limited up to the unpaid amount on their shares. Since their personal wealth is safe, they are encouraged to invest in joint stock companies.

The shares of a company are transferable. Also, in the case of a listed public company they can also be sold in the market and be converted to cash. This ease of ownership is an added benefit.

Perpetual succession is another advantage of a joint stock company. The death/retirement/insanity/etc does not affect the life of a company. The only liquidation under the Companies Act will shut down a company.

A company hires a board of directors to run all the activities. Very proficient, talented people are elected to the board and this results in effective and efficient management. Also, a company usually has large resources and this allows them to hire the best talent and professionals.

Disadvantages of a Joint Stock Company

One disadvantage of a joint stock company is the complex and lengthy procedure for its formation. This can take up to several weeks and is a costly affair as well.

According to the Companies Act, 2013 all public companies have to provide their financial records and other related documents to the registrar. These documents are then public documents, which any member of the public can access. This leads to a complete lack of secrecy for the company.

And even during its day to day functioning a company has to follow a numerous number of laws, regulations, notifications, etc. It not only takes up time but also reduces the freedom of a company. A company has many stakeholders like the shareholders, the promoters, the board of directors, the employees. the debenture holders etc. All these stakeholders look out for their benefit and it often leads to a conflict of interest.

Features	Public Company	Limited Private Limited Company
Minimum members	7	2
Minimum directors	3	2
Maximum members	Unlimited	200
Minimum capital	5,00,000	1,00,000
Invitation to public	Yes	No
Issue of prospectus	Yes	No
Quorum at AGM	5 members	2 members
Certificate for commencement of business	Yes	No
Term used at the end of name	Limited	Private limited
Managerial remuneration	No restriction	Can not exceed more than 11\\% of net profits
Statutory meeting (mandatory)	Yes	No

b)

Product Life cycle

We define a product as "anything that is capable of satisfying customer needs. This definition includes both physical products (e.g. cars, washing machines, DVD players) as well as services (e.g. insurance, banking, private health care).

Businesses should manage their products carefully over time to ensure that they deliver products that continue to meet customer wants. The process of managing groups of brands and product lines is called portfolio planning.

The stages through which individual products develop over time is called commonly known as the "Product Life Cycle".

Introduction Stage

At the Introduction (or development) Stage market size and growth is slight. It is possible that substantial research and development costs have been incurred in getting the product to this stage. In addition, marketing costs may be high in order to test the market, undergo launch promotion and set up distribution channels. It is highly unlikely that companies will make profits on products at the Introduction Stage. Products at this stage have to be carefully monitored to ensure that they start to grow. Otherwise, the best option may be to withdraw or end the product.

Growth Stage

The Growth Stage is characterized by rapid growth in sales and profits. Profits arise due to an increase in output (economies of scale) and possibly better prices. At this stage, it is cheaper for businesses to invest in increasing their market share as well as enjoying the overall growth of the market. Accordingly, significant promotional resources are traditionally invested in products that are firmly in the Growth Stage.

Maturity Stage

The Maturity Stage is, perhaps, the most common stage for all markets. It is in this stage that competition is most intense as companies fight to maintain their market share. Here, both marketing and finance become key activities. Marketing spend has to be monitored carefully, since any significant moves are likely to be copied by competitors. The Maturity Stage is the time when most profit is earned by the market as a whole. Any expenditure on research and development is likely to be restricted to product modification and improvement and perhaps to improve production efficiency and quality.

Decline Stage

In the Decline Stage, the market is shrinking, reducing the overall amount of profit that can be shared amongst the remaining competitors. At this stage, great care has to be taken to manage the product carefully. It may be possible to take out some production cost, to transfer production to a cheaper facility, sell the product into other, cheaper markets. Care should be taken to control the amount of stocks of the product. Ultimately, depending on whether the product remains profitable, a company may decide to end the product.

4. a) FUNCTIONS OF PPC

1. Materials

2. Methods
3. Machines and equipment
4. Manpower
5. Routing
6. Estimating
7. Loading & scheduling
8. Dispatching
9. Inspection & quality control
10. Expediting
11. Evaluation

Materials:

- Raw materials, finished parts and bought out components should be made available in required quantities and at required time to ensure the correct start and end for each operation resulting in uninterrupted production.
- The function includes the specification of materials (quality & quantity) delivery dates, variety reduction (standardization) procurement and make or buy decisions.

Methods:

- This function is concerned with the analysis of alternatives and selection of the best method with due consideration to constraints imposed.

Developing specifications for processes is an important aspect of PPC and determination of sequence of operations.

Machines and Equipment:

- This function is related with the detailed analysis of available production facilities, equipment down time, maintenance policy procedure and schedules. Concerned with economy of jigs and fixtures, equipment availability.
- Thus the duties include the analysis of facilities and making their availability with minimum down time because of breakdowns.

Routing:

- Process which decides the sequence of operations to be undertaken.
- Under this, the operations, their path and sequence are established. To perform these operations the proper class of machines and personnel required are also worked out. The main aim of routing is to determine the best and cheapest sequence of operations and to ensure that this sequence is strictly followed

Estimating:

- Deciding on the quantity of products to be manufactured. This is based on the sales forecast.
- Once the overall method and sequence of operations is fixed and process sheet for each operation is available, then the operations times are estimated.
- This function is carried out using extensive analysis of operations along with methods and routing and standard times for operation are established using work measurement techniques.

Loading and Scheduling:

- Scheduling is concerned with preparation of machine loads and fixation of Starting and completion dates for each of the operations. Machines have to be loaded according to their capability of performing the given task and according to their capacity.
- Dispatching:
 - This is the execution phase of planning. It is the process of setting production activities in motion through release of orders and instructions. It authorizes the start of Production activities by releasing materials, components, tools, fixtures and instruction sheets to the operator.
 - Dispatching involves issue of production orders for starting the operations. Necessary authority and conformation is given for:
 1. Movement of materials to different workstations.
 2. Movement of tools and fixtures necessary for each operation.
 3. Beginning of work on each operation.
 4. Recording of time and cost involved in each operation.
 5. Movement of work from one operation to another in accordance with the route sheet.
 6. Inspecting or supervision of work

Inspection:

This is mainly to ensure the quality of goods. It can be required as effective agency of production control.

Expedite/Follow up:

These include status reporting, reviews and progress charts to ensure timely completion of jobs.

- Every production programme involves determination of the progress of work, removing bottlenecks in the flow of work and ensuring that the productive operations are taking place in accordance with the plans.
- It spots delays or deviations from the production plans. It helps to reveal defects in routing and scheduling, misunderstanding of orders and instruction, under loading or overloading of work etc.
- All problems or deviations are investigated and remedial measures are undertaken to ensure the completion of work by the planned date.
- Evaluation:
- This stage though neglected is a crucial to the improvement of productive efficiency. A thorough analysis of all the factors influencing the production planning and control helps to identify the weak spots and the corrective action with respect to preplanning and planning will be effected by a feed back.
- The success of this step depends on the communication, Data and information gathering and analysis.

b) Given Data,

Annual demand, $D=5400$ units/year

Annual ordering cost, $C_o=Rs\ 250$ per order

Carrying cost, $C_c=Rs\ 30$ per unit per year

$$EOQ = \sqrt{2 * D * C_o / C_c} = \sqrt{2 * 5400 * 250 / 30} = 900 \text{ units}$$

$$\text{Number of orders} = D/Q = 5400/900 = 6 \text{ orders}$$

$$\text{Time between successive orders} = 1/(D/Q) = 1.66$$

5. a) Working capital management is a business tool that helps companies effectively make use of current assets, helping companies to maintain sufficient cash flow to meet short term goals and obligations.

1. Principle of Optimization:

According to this principle, finance manager must aim at selecting the level of working capital that optimizes the firm's rate of return. This level is defined as the point at which the incremental cost associated with a decline in working capital investment is equal to the incremental gain associated with it.

A finance manager is supposed to determine optimal level of working capital after analysing correctly the factors which determine the amount of various components of working capital as well as predicting the state of the economy.

Optimization principle is based on the premise that a definite relation exists between the degree of risk that the firm assumes and the rate of return. The more risk a firm assumes, the greater is the opportunity for gain or loss fort.

2. Principle of Worthwhileness of Investment in Working Capital:

According to this principle, funds should be invested in each component of working capital as long as the equity position of the enterprise increases. Thus, this principle suggests that investment of each rupee in fixed or working capital should contribute to the net worth of the firm. Adherence to this principle strengthens the financial position of the firm and reduces the magnitude of risk involved in it.

3. Risk Principle:

The third principle of working capital management is concerned with the risk resulting from the type of capital used to finance current assets. This principle is "the type of capital used to finance working capital directly affects the amount of risk that a firm assumes as well as the opportunity for gain or loss, and cost of capital."

4. Principle of Suitability:

Principle of suitability should be followed while considering to finance different components of working capital. According to this principle, each asset should be offset with a financing instrument of the same approximate maturity. Thus, temporary or seasonal working capital would be financed by short-term borrowings and permanent working capital with long-term sources.

b) This is also called "Reducing balance" method. The diminishing value of machine is much greater in the early years. It depreciates rapidly in the early years and later on slowly. Therefore, it is better to depreciate much during the early years, when the repair and renewals are not costly.

So under this method, the book value of the machine goes on decreasing as its existence continues. A certain percentage of the current book value is taken as depreciation. Therefore, this is also called “percentage on book value” method.

In this let ‘x’ be the fixed percentage taken to calculate the yearly depreciation on the book value

$$X = 1 - \left(\frac{S}{C} \right)^{\frac{1}{N}}$$

Let C = Initial cost of the machine
 S = Scrap value (salvage value) in rupees
 N = Estimated life of the machine in years

Declining balance method

Initial cost C = Rs 1,50, 000, Scrap value S = Rs 25, 000, Expected life of machine N = 6 years,
 X= 0.25

Value of machine at the end of first year $C_1 = C (1-x) = 1,50, 000 (1-0.25) = \text{Rs } 112,500$

Depreciation fund at the end of first year $D_1 = C - C_1 = 1,50,000 - 112,500 = \text{Rs } 37,500$

Value of machine at the end of second year $C_2 = C_1 (1-x) = 112,500 (1-0.25) = \text{Rs } 84,375$

Depreciation fund at the end of second year $D_2 = C_1 - C_2 = 112,500 - 84,375 = \text{Rs } 28, 125$

Value of machine at the end of third year $C_3 = C_2 (1-x) = 84,375 (1-0.25) = \text{Rs } 63,281.25$

Depreciation fund at the end of third year $D_3 = C_2 - C_3 = 84,375 - 63, 281.25 = \text{Rs } 21093.75$

Value of machine at the end of fourth year $C_4 = C_3 (1-x) = 63,281.25 (1-0.25) = \text{Rs } 47,460.937$

Depreciation fund at the end of fourth year $D_4 = C_3 - C_4 = 63, 281.25 - 47,460.937 = \text{Rs } 15, 820.32$

Value of machine at the end of fifth year $C_5 = C_4 (1-x) = 47,460.937 (1-0.25) = \text{Rs } 35595.7$

Depreciation fund at the end of fifth year $D_5 = C_4 - C_5 = 35595.7 - 35595.7 = 11,865.237$

Value of machine at the end of sixth year $C_6 = C_5 (1-x) = 35595.7 (1-0.25) = \text{Rs } 26,696.77$

Depreciation fund at the end of sixth year $D_6 = C_5 - C_6 = 35595.7 - 26,696.77 = 8,898.93$

$D_1 + D_2 + D_3 + D_4 + D_5 + D_6 = 37,500 + 28,125 + 21093.75 + 15,820.32 + 11,865.237 + 8,898.93 = \text{Rs } 123,303.237$

6. a) 1. It checks the corporate plan of the organisation

2. It offsets uncertainty and change. But the human resource planning offsets uncertainties and changes to the maximum extent possible and enables the organisation to have right men at right time and in right place
3. It provides scope for advancement and development of employees through training, development etc
4. It helps to anticipate the cost of salary enhancement, better benefits etc
5. To plan for physical facilities, working conditions and the volume of fringe benefits like canteen, schools, hospitals, conveyance, child care centres, quarters, company stores etc
6. It gives an idea of type of tests to be used and interview techniques in selection based on the level of skills, qualifications, intelligence, values etc of future human resource.
7. It causes the development of various sources of human resources to meet the organisational needs
8. It helps to take steps to improve human resource contributions in the form of increased productivity, sales, turnover etc
9. It facilitates the control of all the functions, operations, contribution and cost of human resources.

b)

After identifying the sources of human resources, searching for prospective employees and stimulating them to apply for jobs in an organisation, the management has to perform the function of selecting the right employees at the right time. The obvious guiding policy in selection is the intention to choose the best qualified and suitable job candidate for each unfilled job. The objective of the selection decision is to choose the individual who can most successfully perform the job from the pool of qualified candidates. The selection procedure is the system of functions and devices adopted in a given company to ascertain whether the candidates specifications are matched with the job specifications and requirements or not. The selection procedure cannot be effective until and unless:

1. Requirements of the job to be filled, have been clearly specified(job analysis)
2. Employee specifications (physical, mental, social, behavioral etc) have been clearly specified
3. Candidates for screening have been attracted

Thus, the development of job analyses, human resource planning and Recruitment are necessary prerequisites to the selection process.

Steps in the scientific selection process:

1. Job analysis
2. Recruitment
3. Application form
4. Written examination
5. Preliminary interview

6. Business games
7. Tests
8. Final interview
9. Medical examination
10. Reference checks
11. Line manager's decision
12. Employment

7. a) Grading Method:

In this method, certain categories of worth are established in advance and carefully defined. There can be three categories established for employees: outstanding, satisfactory and unsatisfactory. There can be more than three grades. Employee performance is compared with grade definitions. The employee is, then, allocated to the grade that best describes his or her performance.

Such type of grading is done in Semester pattern of examinations and in the selection of a candidate in the public service sector. One of the major drawbacks of this method is that the rater may rate most of the employees on the higher side of their performance.

Forced Distribution Method:

This method was evolved by Tiffen to eliminate the central tendency of rating most of the employees at a higher end of the scale. The method assumes that employees' performance level conforms to a normal statistical distribution i.e., 10,20,40,20 and 10 per cent. This is useful for rating a large number of employees' job performance and promo ability. It tends to eliminate or reduce bias.

It is also highly simple to understand and easy to apply in appraising the performance of employees in organisations. It suffers from the drawback that improvement similarly, no single grade would rise in ratings.

Forced-Choice Method:

The forced-choice method is developed by J. P. Guilford. It contains a series of groups of statements, and rater rates how effectively a statement describes each individual being evaluated. Common method of forced-choice method contains two statements, both positive and negative.

b) Maslow's theory of Hierarchy of needs:

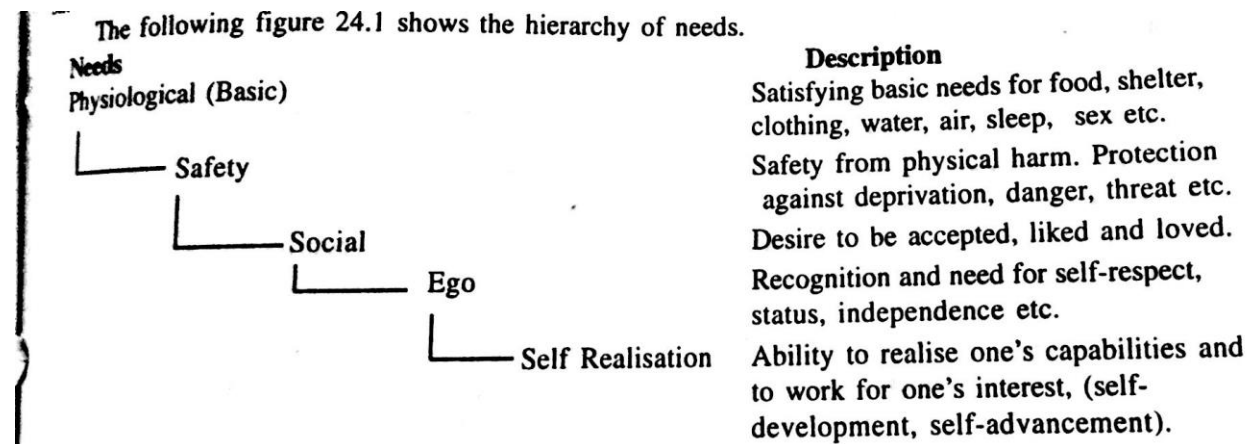
1. Physiological needs: These are the basic necessities of human life-food, water, shelter, sleep. Maslow says that until these needs are satisfied to the required level the man does not aim for the satisfaction of the next higher level needs. As far as work organisation is concerned these needs include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



8. a) 1. Conceive and Generate the Idea:

The entrepreneur plays an important role in generating the idea of a commercial venture. The entrepreneur must be able to visualize the need and utility of a product or a new project. Entrepreneurs carry out environmental analysis and study the future business environment and thereby provide novel ideas.

2. Conduct Market Research:

The entrepreneur after concretizing the ideas of the product has to undertake a market research. The market research would enable the entrepreneur to know the prospect of the product that

he/she intends to produce. The entrepreneur may deploy research teams to conduct the survey and prepare the report.

3. Setting the Vision, Objectives, Goals, and Modus Operandi of the Enterprise:

The entrepreneur has to develop and determine the vision and mission of the enterprise. The entrepreneur has to convert the conceived ideas into clear cut objectives and goals of the enterprise. Whether the enterprise would manufacture its own products or would confine to trading only. The entrepreneur has to ascertain the nature and type of the business and the scale of operation. He/she has to draw out an action plan to be implemented in a time bound manner.

4. Ascertaining the Form of Enterprise:

The entrepreneur has to ultimately decide the form of the enterprise whether it should be a sole proprietorship, partnership, Joint Stock Company or a cooperative society. The legal status of the enterprise has to be decided by the entrepreneur.

5. Arrangement of Capital:

The entrepreneur has to arrange the funds necessary for the business initiative. It is not necessary that the entrepreneur has ready access to funds. The entrepreneur has to raise funds from other sources. The entrepreneur can take aid from government schemes, loans from commercial banks and financial institutions raise private loans etc.

6. Arrangement of Raw Materials:

The entrepreneur has to ensure availability of quality raw materials at lowest cost. The supply of raw materials has to be steady.

7. Arrangement of Machinery:

Keeping in view the requirements of the enterprise, the entrepreneur must procure appropriate machineries and equipment. The entrepreneur has to keep a watch on the technological environment and has to procure and install machinery that would be useful for the company.

8. Hiring of Manpower:

The entrepreneur has to decide the recruitment process, the eligibility norms and salaries of the workers. The entrepreneur also has to determine the rules and regulations of service and ensure development of skills of the manpower.

9. Proper Implementation and Execution of the Project:

The entrepreneur must ensure that the project commences as per the schedule of the action plan. All possible efforts are to be made to prevent any delay.

10. Bringing about Innovation:

An entrepreneur can develop new technology in production; discover new products, source of raw materials, and new markets. The entrepreneur as an innovator comes up with new ideas, products, services, methods in order to meet the ever changing needs of consumers most successfully. As innovator he/she has a profound influence on the level of business activities. Innovations can affect the life of a common consumer. Innovations can also influence the competitiveness of an economy.

11. The Bearing of Risk and Uncertainty:

In the entire process of establishing an enterprise, the entrepreneur bears the uncertainty involved in the enterprise. The entrepreneur undertakes the responsibility of bearing the losses that may arise on account of new ideas and projects undertaken by him/her.

12. Providing Training and Developing Skills of the Workers:

The entrepreneur has to make proper arrangements of programmes to develop the skill of the employees.

13. Try to Remove the Inertia or the Resistance to Change:

Usually the society opposes new ideas, products and techniques. The entrepreneur has to skillfully win the confidence of the people around. He /she can pave the way for others to accept the change or new innovation. He/she has to strive to change their attitude.

14. Catalyst of Economic Development:

An entrepreneur makes a vital contribution towards accelerating the pace of economic development of a country. The different functions of the entrepreneurs assign different roles to the entrepreneurs.

b) The paper states that **effective communication** is indispensable at all stages of **entrepreneurial** success, such as to generate an innovative idea; to **communicate** it to rest of the world; to organize a team and to materialize it in successful profitable business venture among others

The role of entrepreneurship in economic development involves more than just increasing per capita output & income; it involves initiating & constituting changes in the structure of business & society. This change is accompanied by growth & increase output which allows more wealth to be divided by various participants. Entrepreneurship is presently the most effective method for bridging the gap between science & the market place, creating new enterprises & bridging new products & service to the market. These activities significantly effect the economy of an area by building the economic base & providing jobs given its impact on bot the overall economy & the employment of an area.

Following roles are played by entrepreneurs in economic development of the country

1. Raises productivity
2. Powerful tool for job creation
3. Transfer of technology
4. Strategic role in commercializing new invention
5. Crucial role in restructuring & transfer of economy
6. Support growth to organized sector
7. Make market more competitive
8. Improve social welfare
9. Create new market-expansion into international market
10. Stimulate a redistribution of wealth, income & political power.

9. a) 1. To let the entrepreneur set or reset the objectives of his business and work individually and along with his group for their realization.

2. To prepare him for accepting totally unforeseen risks of business after such training.

3. To enable him to take strategic decisions

4. To enable him to build an integrated team to fulfill the demands of tomorrow.

5. To communicate fast, clearly and effectively

6. To develop a broad vision to see the business as a whole and to integrate his function with it

7. To enable him to relate his product and industry to the total environment, to find what is significant in it and to take it into account in his decisions and actions.

8. To enable him to cope with and co ordinate all relevant paper work, most of which is statutorily obligatory.

9. To make him accept industrial democracy that is accepting workers as partners in enterprise and

10. To strengthen his integrity, honesty and compliance with law the key to success in the long run.

b) The engineering **design process** begins by defining a problem and completing background research on the problem. Requirements are specified and a solution is chosen. A prototype of the solution is built and then tested. If the solution built meets the requirements then the results can be shared.

Companies are constantly coming up with solutions to problems consumers didn't even know they had. You may be browsing store or website and see products that make tasks easier, simplify daily processes or automate formerly-manual functions and wonder how this was ever thought of. The answer to this lies in the process used by the company's team of designers, architects and engineers to find problems and provide solutions. This process is the design process, and this article will explain the process in detail to help you smoothly and successfully complete your next project.

1. Define the problem

To begin developing helpful products, you have to identify a pain point that needs to be addressed and define opportunities and requirements to fulfill that need.

2. Conduct research

Considering the anticipated user as well as current solutions on the market, study similar projects and take note of the weak points and well as the positive outcomes.

3. Brainstorming and conceptualization

After you've defined the basis for your project and its specific requirements, ideas will begin to form. Come together with your team to brainstorm and compare ideas to decide on the best features for your product. Use personas, scenarios and storyboards to help you get a clear view from the perspective of a user.

4. Create a prototype

Testing out your concepts requires creating a prototype that mimics the finished product. Your outline will begin to fill in and flesh out and throughout your prototyping process, you'll likely find new areas of improvement as well as validation of your existing concepts regarding the user experience.

5. Build and market your product

This phase requires considering all the feedback you gathered from the prototype testing to begin building the 'final' product (there will be instances of going back to reiterate as the process moves along). When your finished product is ready to be released to the public, it's time to prepare for the next step, which is product analysis.

6. Product analysis

When your product has been bought, used and reviewed, you can begin to gain insight into how your product accomplished solving the originally stated problem. Feedback about the user experience is extremely important to consider when developing the next version of your product.