

IV/IV B.Tech – 7th sem, Regular Exam, Jan 2025

**Sub: INDUSTRIAL MANAGEMENT & ENTREPRENEURSHIP
DEVELOPMENT**

[20CB705/20CS705/20DS705/20EC706/20EE706/20EI706/20IT705]

Scheme of valuation cum Solution set

Prepared by

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

January, 2025
Seventh Semester
Time: Three Hours

Common to CB, CS, DS, EC, EE, EI, & IT
Industrial Management and Entrepreneurship Development

Maximum: 70 Marks

<i>Answer question 1 compulsorily.</i>		(14X1 = 14 Marks)
<i>Answer one question from each unit.</i>		(4X14 = 56 Marks)
		CO BL M
1	a) Define management	CO1 L1 1M
	b) Name the managerial skills	CO1 L1 1M
	c) Define joint stock company	CO1 L1 1M
	d) Differentiate marketing vs selling	CO2 L1 1M
	e) What is meant by channels of distribution	CO2 L1 1M
	f) Name the leadership styles	CO2 L1 1M
	g) State the merits of supply chain management	CO3 L1 1M
	h) What do you understand by lead time	CO3 L1 1M
	i) List the benefits of total quality management	CO3 L1 1M
	j) What is meant by FSN Analysis	CO3 L1 1M
	k) Define capital	CO4 L1 1M
	l) State the characteristics of an entrepreneur	CO4 L1 1M
	m) Define entrepreneur	CO4 L1 1M
	n) Define breakeven point	CO4 L1 1M
Unit-I		
2	a) Explain the functions of management	CO1 L2 7M
	b) Describe Partnership organisation with the merits and demerits	CO1 L2 7M
(OR)		
3	a) Describe Line and staff organization structure with merits and demerits	CO1 L2 7M
	b) Enumerate and explain the Henry Fayol principles of management	CO1 L2 7M
Unit-II		
4	a) Explain the Maslow's theory of hierarchy of needs	CO2 L2 7M
	b) Define human resource management and discuss the functions of human resource management	CO2 L2 7M
(OR)		
5	a) Discuss the functions of marketing	CO2 L2 7M
	b) Describe the product life cycle	CO2 L2 7M
Unit-III		
6	a) Derive an expression for EOQ and total cost	CO3 L3 7M
	b) A chocolate factory uses 16000 bags of sugar per annum. The cost of each bag is Rs 2,000. The cost to process an order is Rs 500. The handling charges are 20% on cost. Find i) EOQ ii) Number of orders to be placed iii) The time gap between two consecutive orders	CO3 L3 7M
(OR)		
7	a) Describe the elements of total quality management	CO3 L2 7M
	b) Discuss the drivers of supply chain management	CO3 L2 7M
Unit-IV		
8	a) Differentiate fixed capital and working capital	CO4 L2 7M
	b) Explain break-even analysis	CO4 L2 7M
(OR)		
9	a) Discuss the factors affecting entrepreneurship	CO4 L2 7M
	b) Elaborate the functions of an entrepreneur	CO4 L2 7M

Sub: **INDUSTRIAL MANAGEMENT & ENTREPRENEURSHIP
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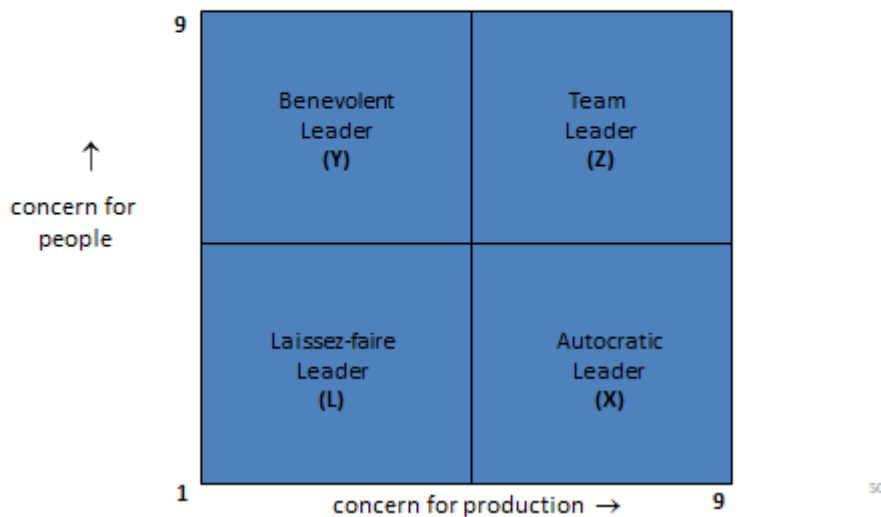
Scheme of valuation cum Solution set

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1 X 14 = 14 M

- a) According to Mary Parker Follet, "Management is the art of getting things done through people".
- b) Managerial skills include communication, problem-solving, and the ability to plan and organize.
- c) Lord justice Lindley explained the concept of the joint stock company form of organization as 'an association of many persons who contribute money or money's worth to a common stock and employ it for a common purpose.'
- d) Sales is trying to get the customer to want what the company produces whereas Marketing is trying to get the company produce what the customer wants.
- e) A set of interdependent organizations involved in the process of making a product or service available for use or consumption.
- f)

Styles of leadership



- g) Advantages of Supply Chain Management
 - Cost efficiency
 - Enhance output.

- Avoids delay in process.
 - Easily identify problem areas.
 - Better collaboration.
- h) Lead time in inventory management is the time it takes to complete a purchase order and receive the order in the warehouse.
- i) Benefits of TQM:
- Greater customer loyalty
 - Market share improvement
 - Higher stock prices
 - Reduced service calls
 - Higher prices
 - Greater productivity
- j) Inventory is classified based on the MOVEMENT OF INVENTORIES from stores.
Inventory technique used to **AVOID OBSOLESCENCE**.
F- Fast moving
S- Slow moving
N- Non moving
- k) Every enterprise needs money to run business, which is termed as capital.
- l) **CHARACTERISTICS OF AN ENTREPRENEUR:**
- | | |
|---------------------------------|------------------------|
| ➤ Self-confident | ➤ Profit-oriented |
| ➤ Able to make decisions | ➤ Initiative-taker |
| ➤ Determined | ➤ Perceptive |
| ➤ Independent | ➤ Responsive to change |
| ➤ Energetic | ➤ Eager to learn |
| ➤ Able to lead | ➤ Responsible |
| ➤ Resourceful | ➤ Competitive |
| ➤ Versatile | ➤ Optimistic |
| ➤ Achievement-oriented | ➤ Impatient |
| ➤ Able to take calculated risks | ➤ Goal-oriented |
| ➤ Responsive to criticism | ➤ Efficient |
- m) A person, who takes responsibility for a business project, organizes the resources it requires, and assumes the risk it entails.
- n) Break even point (BEP) is the point at which cost or expenses and revenue are equal.

Unit-I

2. (14M)

a) Functions of Management (7M)

1. Planning
2. Organizing
3. Staffing
4. Leading/Directing
5. Controlling

1. Planning

It is the ongoing process of developing the business's mission and objectives and determining how they will be accomplished.

Planning includes both the broad view of the organization, e.g. its mission, and the narrowest, e.g. a tactic for accomplishing a specific goal.

- *Planning refers to what is to be done, how it is to be done and when it is to be done.*
- *Planning involves choosing tasks that must be performed to attain organizational goals, outlining how the tasks must be performed, and indicating when they should be performed.*

2. Organizing:

Organizing is an essential function of management.

It is the process of accumulating resources from different sources in order to work according to the plans laid out by the management.

Organizing is accumulating physical, human and monetary resources. This assembling would depend on the objective set by an organization.

Organizing can be thought of as assigning the tasks developed in the planning stages, to various individuals or groups within the organization. Organizing is to create a mechanism to put plans into action.

3. Staffing:

It is function in which qualified people are appointed to different posts relating to their skills and strengths.

The activities included in this function are recruiting, hiring, training, evaluating and compensating.

For achieving an objective, the company needs to appoint individuals for various positions in order to complete that objective.

The purpose of staffing is to control all recruitment and personnel needs of the organization.

After management decides what needs they have, they may decide to hire more employees in a certain department.

It is also responsible for training and development, promotions, transfers, and firing.

A lot of times management and the human resource department will work together because their roles are similar in this case.

4. Leading/Directing:

Directing is a function that comes after staffing of the organization, it is the function in which the management is supposed to lead, direct to a specific goal and motivate the employees for the achievement of any objective, big or small.

The manager in this function, is supposed to direct or lead appointed individuals and explain them how is their appointed jobs to be done.

Supervision, motivation, leadership, and communication are all involved in the directing function.

Management needs to be able to oversee and influence the behavior of the staff and achieve the company's goals, whether that means assisting or motivating them.

When morale is high within a company, it usually has a significant impact on job performance and efficiency. Incentive programs and rewards are a great way for a business to keep its employees happy and motivated.

5. Controlling:

It is a function in which the performance of the organization is measured and then evaluated after which the standard observed is determined to be either good or bad, which then in turn leads to taking preventive and corrective measures.

In this function the manager is supposed to explain the job essentials to the individuals and guide them in achieving their goals.

Controlling involves:-

- Measurement of accomplishment against standards
- Analyzing reasons and deviations
- Responsibility Fixation
- Taking corrective measures

b) Partnership

(7M)

Partnership is an improved form of sole proprietorship in certain aspects.

Where there are like-minded persons with resources, they can come together to do the business and share the profits/losses of the business in an agreed ratio.

Persons who have entered into such an agreement are individually called 'partners' and collectively called 'firm'. The relationship among partners is called a partnership.

Advantages of Partnership firm:

The following are the advantages of the partnership firm:

1. **Easy to form:** Once there is a group of like-minded persons and good business proposal, it is easy to start and register a partnership.
2. **Availability of larger amount of capital:** More amount of capital can be raised from more number of partners.
3. **Division of labour:** The different partners come with varied backgrounds and skills. This facilities division of labour.
4. **Flexibility:** The partners are free to change their decisions, add or drop a particular product or start a new business or close the present one and so on.

5. **Personal contact with customers:** There is scope to keep close monitoring with customers requirements by keeping one of the partners in charge of sales and marketing. Necessary changes can be initiated based on the merits of the proposals from the customers.
6. **Quick decisions and prompt action:** If there is consensus among partners, it is enough to implement any decision and initiate prompt action. Sometimes, it may take some time for the partners on strategic issues to reach consensus.
7. **The positive impact of unlimited liability:** Every partner is always alert about his impending danger of unlimited liability. Hence he tries to do his best to bring profits for the partnership firm by making good use of all his contacts.

Disadvantages of Partnership firm:

The following are the disadvantages of partnership:

1. **Formation of partnership is difficult:** Only like-minded persons can start a partnership.
2. **Liability:** The partners have joint and several liabilities beside unlimited liability. Joint and several liability puts additional burden on the partners, which means that even the personal properties of the partner or partners can be attached. Even when all but one partner become insolvent, the solvent partner has to bear the entire burden of business loss.
3. **Lack of harmony or cohesiveness:** It is likely that partners may not, most often work as a group with cohesiveness. This result in mutual conflicts, an attitude of suspicion and crisis of confidence. Lack of harmony results in delayed decisions and paralyses the entire operations.
4. **Limited growth:** The resources when compared to sole trader, a partnership may raise little more. But when compared to the other forms such as a company, resources raised in this form of organization are limited. Added to this, there is a restriction on the maximum number of partners.
5. **Instability:** The partnership form is known for its instability. The firm may be dissolved on death, insolvency or insanity of any of the partners.
6. **Lack of Public confidence:** Public and even the financial institutions look at the unregistered firm with a suspicious eye. Though registration of the firm under the Indian Partnership Act is a solution of such problem, this cannot revive public confidence into this form of organization overnight. The partnership can create confidence in other only with their performance.

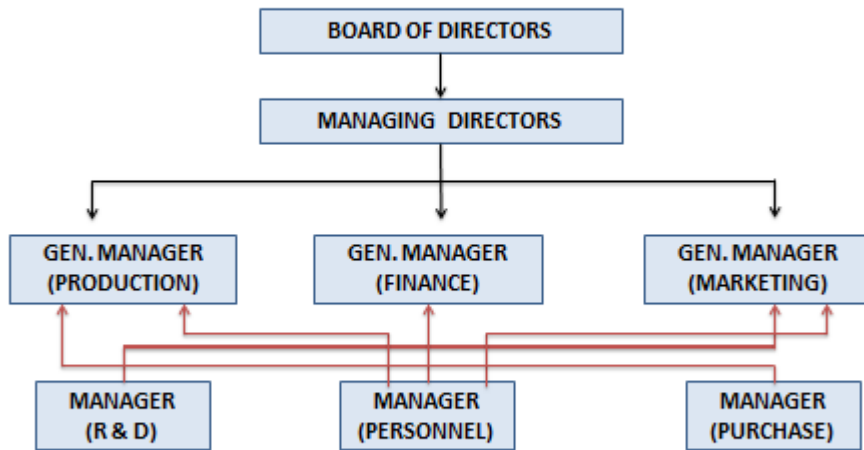
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14M

a)

7M

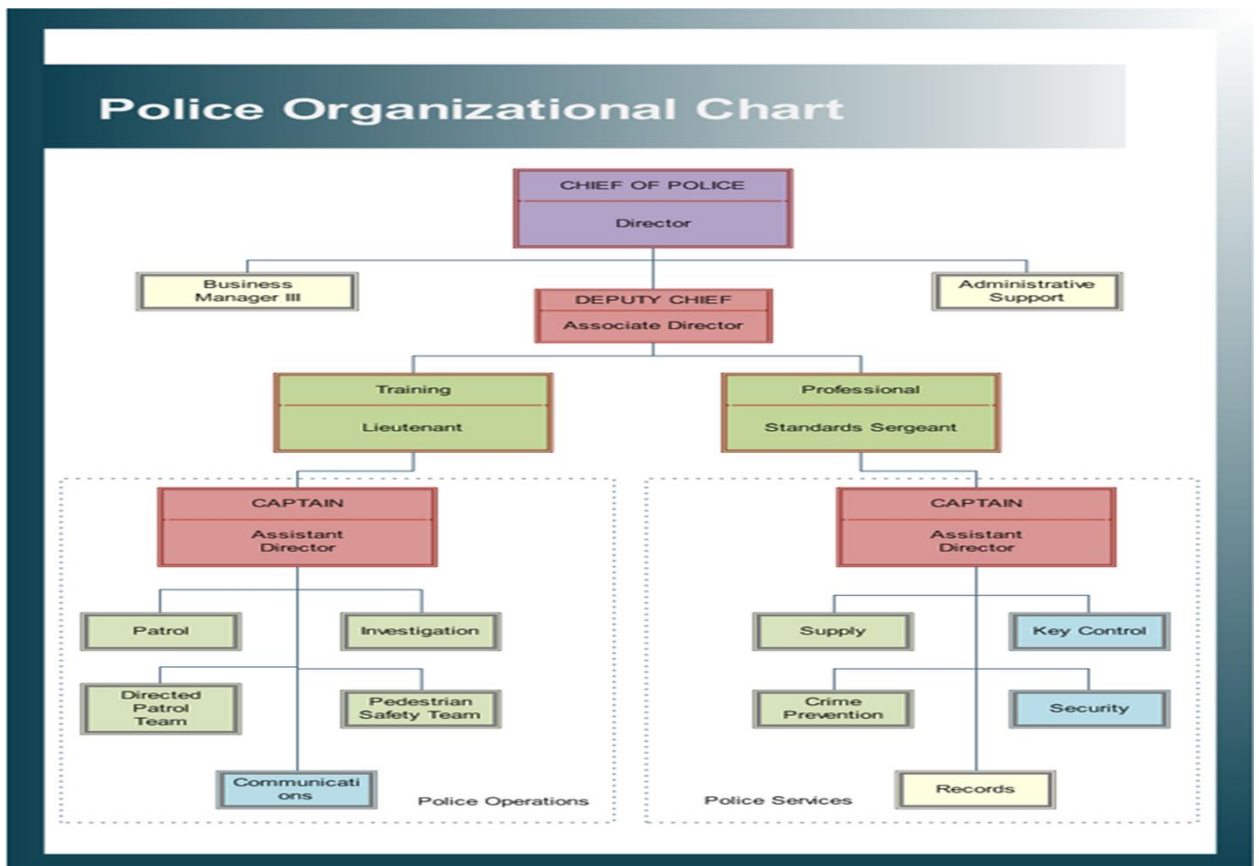
LINE AND STAFF ORGANISATION



→ LINE AUTHORITY

→ STAFF AUTHORITY

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DIFFERENCE BETWEEN LINE AND STAFF AUTHORITY

BASIS	LINE	STAFF
1. Purpose.	Responsible for accomplishment of major Organizational goals	Assist line managers in accomplishing the goals
2. Authority	They have direct authority over the sub-ordinates.	They do not have any such authority.
3. Direction of Authority	It flows from top to bottom. It is vertical in nature.	It flows between managers of different functional areas. It is horizontal in direction.
4. Nature of function	Primary	Supportive
5. Sources of Power	It is derived from organizational hierarchy. Use reward and punishment to get the work done.	Cannot use reward and punishment to get the work done. Derive power from their expert knowledge and skills.

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b)

7M

Principles of Management

1. Division of Work
2. Authority & responsibility
3. Discipline
4. Unity of Command
5. Unity of Direction
6. Subordination of individual interest to general interest
7. Remuneration
8. Centralization
9. Scalar Chain
10. Order
11. Equity
12. Stability
13. Initiative
14. Espirit de corps

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Brief explanation of above principles

Unit-II

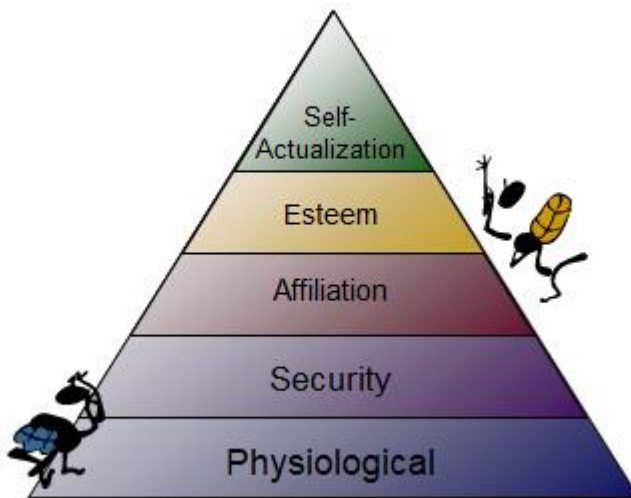
4.

14M

a)

7M

Maslow's Hierarchy

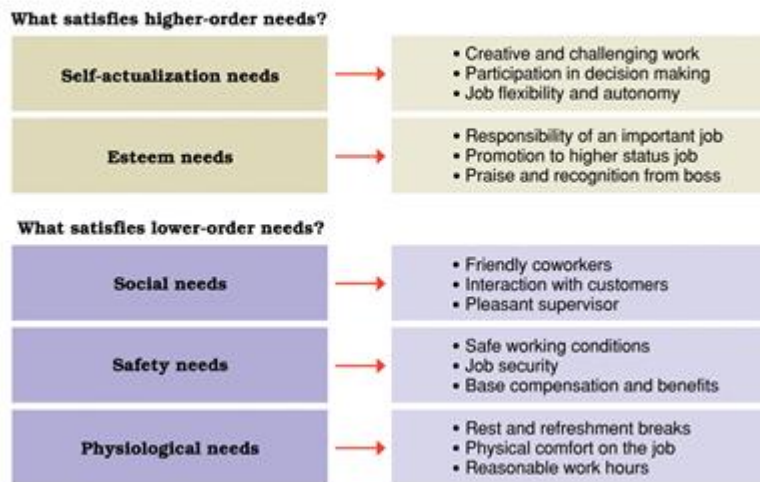


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Levels of Needs

- Physiological/Survival needs
 - Food, Clothing, Shelter, Air
- Security
 - Feel safe, absence of pain, threat, or illness
- Affiliation
 - friendship, company, love, belonging
 - first clear step up from physical needs
- Esteem Needs
 - self-respect, achievement, recognition, prestige
 - cues a persons worth
- Self-Actualization
 - personal growth, self-fulfillment, realization of full potential

Maslow's Hierarchy of needs



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b)

7M

Human Resource Management

According to Brech, "Human Resource Management is that part of the management process which is primarily concerned with the human constituents of an organisation".

Following are the functions of Human Resource Management:

- Human resources Planning
- Recruitment
- Selection
- Placement
- Training and Development
- Performance appraisal

Brief explanation of above functions

5 a)

7M

Functions of Marketing:

Marketing is related to the exchange of goods and services. Through its medium the goods and services are brought to the place of consumption. This satisfies the needs of the customers.

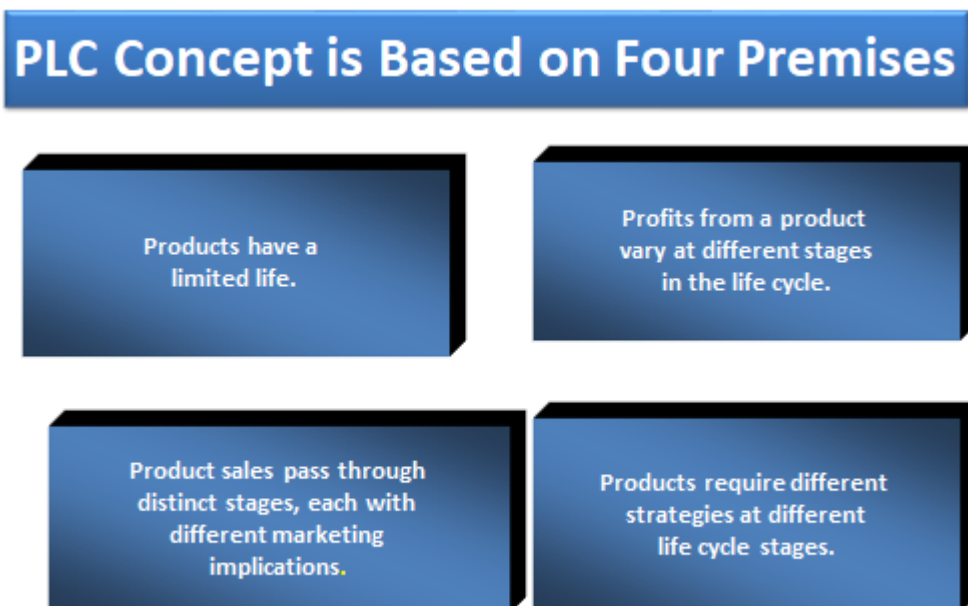
The following activities are undertaken in respect of the exchange of goods and services

1. Gathering and Analysing Market Information
2. Marketing Planning
3. Product Designing and Development
4. Standardisation and Grading
5. Packaging and Labeling
6. Branding
7. Customer Support Service
8. Pricing of Products
9. Promotion
10. Physical Distribution
11. Transportation
12. Storage or Warehousing

Brief explanation of above functions

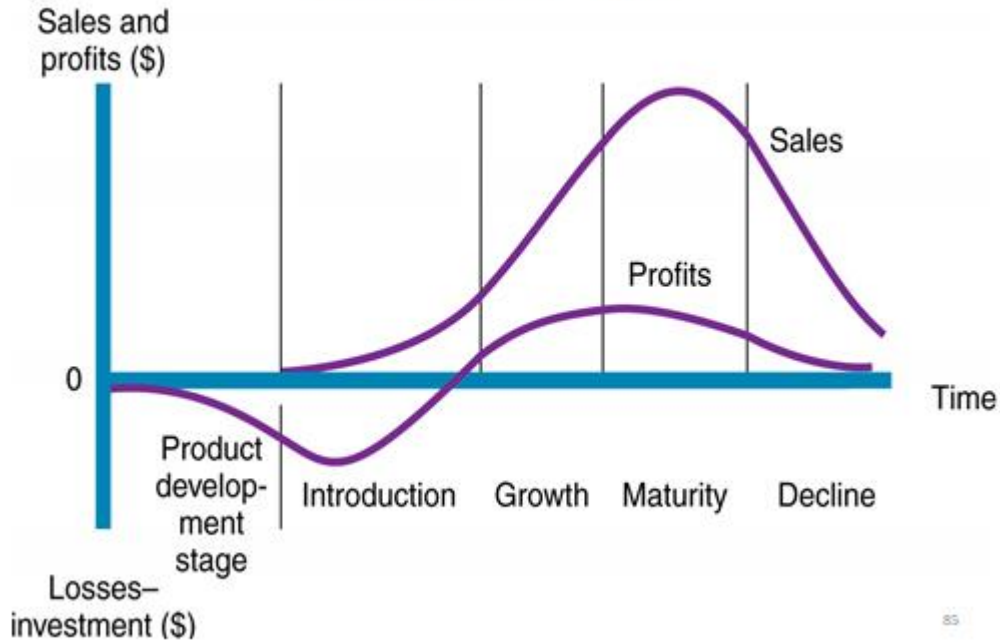
5 b)

7M



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Product Life Cycle



Brief explanation of above stages.

Unit-III

6.

14M

a)

7M

First let us define the terms involved in this mathematical expression and the notations.

Let C_o = ordering cost per order

C_c = carrying cost per unit per year

D = annual demand or requirement per year

p = price of item

Q = ordered quantity per order.

Now,

1. **Annual Order Costs (AOC):**

Total no. of order in the year

$$= \frac{\text{Total demand of the year}}{\text{Quantity ordered per order}} = \frac{D}{Q}$$

$$\therefore \text{Total annual orders cost (AOC) = order cost per order} \times \text{No. of orders per year}$$

$$= C_o \times \frac{D}{Q}$$

2. Annual Carrying Costs (ACC):

Average quantity stocked

$$\begin{aligned} &= (\text{Max. quantity} + \text{Min. quantity})/2 \\ &= (Q + 0)/2 = Q/2 \end{aligned}$$

Annual Carrying Costs

$$\begin{aligned} &= \text{carrying cost per unit per period} \times \text{average quantity stocked} \\ &= C_c Q/2 \end{aligned}$$

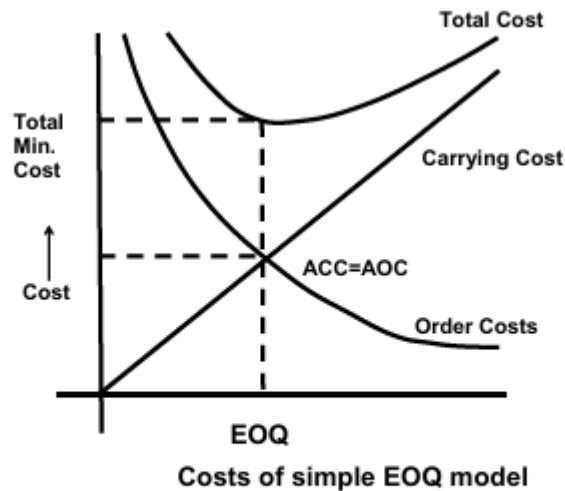


Figure 6.5: Costs vs Quantity - The concept of EOQ

3. Annual Purchase Cost (APC):

Price of item \times demand = $p \cdot D$.

Annual Total Cost (ATC) = Total Variable Costs + Total Fixed Costs

$$= (\text{AOC} + \text{ACC}) + \text{APC}$$

[AOC + ACC are total variable costs while APC is total fixed costs].

$$\text{ATC} = \frac{C_0 D}{Q} + C_c \times \frac{Q}{2} + pD$$

$$\text{For, } Q \text{ to be optimum, } (Q_0), \quad \frac{d\text{ATC}}{dQ} = 0$$

$$= \frac{-C_0 D}{Q_0^2} + \frac{C_c}{2} = 0$$

$$Q_0 = \sqrt{\frac{2C_0 D}{C_c}}$$

Now, we shall compute the total cost in terms of its cost components i.e.,

C_o and C_c . We know that,

Annual Total Cost (ATC) = Total Variable Costs + Total Fixed Costs

= (AOC + ACC) + APC

Since, APC is fixed and is independent of order quantity Q , we consider TVC here

$$TVC = AOC + ACC = C_o \times \frac{D}{Q} + C_c \cdot Q/2$$

$$TVC = C_o \cdot D/Q_o + C_c \cdot Q_o/2$$

Substituting the above expression for Q_o in the equation of above TVC,

We get,
$$TVC = \sqrt{2C_o C_c D}$$

b) 7M

M= 16000 bags

c = Rs 2000

C_o = Rs 500

i = 20% = 0.2

i. **EOQ = SQRT (2MC_o/Ic)** **3M**
= SQRT (2x 16000 x 500/0.2 x 2000)
= SQRT 40,000
= 200 bags

ii. **N = M / Q = 16000 / 200 = 80 orders** **2M**

iii. **T = Q / M = 200/16000 = 0.0125 year** **2M**
= 0.0125 x 320 = 4 days
(Assuming 320 working days in an year)

7 a) 7M

Elements of TQM

1. Continual improvement
2. Competitive benchmarking
3. Employee empowerment
4. Team approach
5. Decisions based on facts
6. Knowledge of tools
7. Supplier quality
8. Champion
9. Quality at the source
10. Suppliers

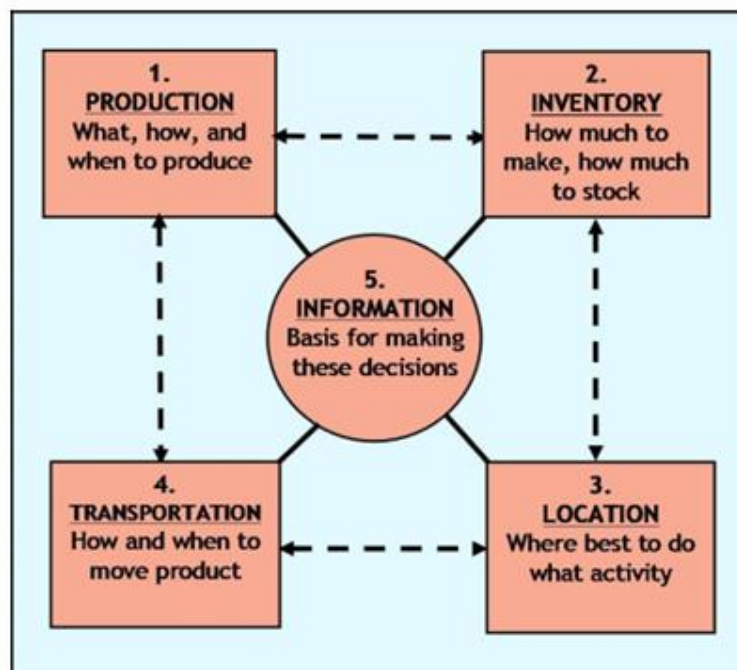
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Brief explanation of above

7 b)

7M

Drivers of Supply Chain Management



PRODUCTION – This driver can be made very responsive by building factories that have a lot of excess capacity and use flexible manufacturing techniques to produce a wide range of items. To be even more responsive, a company could do their production in many smaller plants that are close to major groups of customers so delivery times would be shorter. If efficiency is desirable, then a company can build factories with very little excess capacity and have those factories optimized for producing a limited range of items. Further efficiency can also be gained by centralizing production in large central plants to get better economies of scale, even though delivery times might be longer.

INVENTORY – Responsiveness can be had by stocking high levels of inventory for a wide range of products. Additional responsiveness can be gained by stocking products at many locations so as to have the inventory close to customers and available to them immediately. Efficiency in inventory management would call for reducing inventory levels of all items and especially of items that do not sell as frequently. Also, economies of scale and cost savings can be gotten by stocking inventory in only a few central locations such as regional distribution centers (DCs).

LOCATION – A location decision that emphasizes responsiveness would be one where a company establishes many locations that are close to its customer base. For example, fast-food chains use location to be very responsive to their customers by opening up lots of stores in high volume markets. Efficiency can be achieved by operating from only a few locations and centralizing activities in common locations. An example of this is the way e-commerce retailers serve large geographical markets from only a few central locations that perform a wide range of activities.

TRANSPORTATION – Responsiveness can be achieved by a transportation mode that is fast and flexible such as trucks and airplanes. Many companies that sell products through catalogs or on the Internet are able to provide high levels of responsiveness by using transportation to deliver their products often within 48 hours or less. FedEx and UPS are two companies that can provide very responsive transportation services. And now Amazon is expanding and operating its own transportation services in high volume markets to be more responsive to customer desires. Efficiency can be emphasized by transporting products in larger batches and doing it less often. The use of transportation modes such as ship, railroad, and pipelines can be very efficient. Transportation can also be made more efficient if it is originated out of a central hub facility or distribution center (DC) instead of from many separate branch locations.

INFORMATION – The power of this driver grows stronger every year as the technology for collecting and sharing information becomes more wide spread, easier to use, and less expensive. Information, much like money, is a very useful commodity because it can be applied directly to enhance the performance of the other four supply chain drivers. High levels of responsiveness can be achieved when companies collect and share accurate and timely data generated by the operations of the other four drivers. An example of this is the supply chains that serve the electronics market; they are some of the most responsive in the world. Companies in these supply chains, the manufacturers, distributors, and the big retailers all collect and share data about customer demand, production schedules, and inventory levels. This enables companies in these supply chains to respond quickly to situations and new market demands in the high-change and unpredictable world of electronic devices (smartphones, sensors, home entertainment and video game equipment, etc.).

Unit-IV

a)

7M

Fixed capital Vs working capital

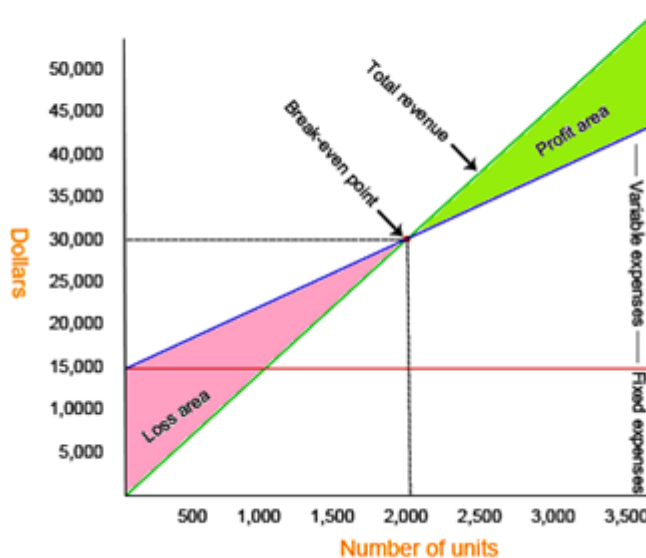
BASIS FOR COMPARISON	FIXED CAPITAL	WORKING CAPITAL
Meaning	Fixed capital refers to the investment of the enterprise in long term assets of the company.	Working capital means the capital invested in the current assets of the company.
Comprise of	Durable goods whose useful life is more than one accounting period.	Short term assets and liabilities
Liquidity	Comparatively illiquid.	Highly liquid.
Uses	Used to buy non-current assets for business.	Used for short term financing.
Serves	Strategic objectives	Operational objectives

b)

7M

Breakeven analysis is used to determine when your business will be able to cover all its expenses and begin to make a profit. It is important to identify your startup costs, which will help you determine your sales revenue needed to pay ongoing business expenses.

Break-Even chart



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- “Break even point (BEP) is the point at which cost or expenses and revenue are equal”

- There is no net loss or gain at this point.
- Break-even point represents that volume of production where total costs equal to total sales revenue resulting into a no-profit no-loss situation.
- If output of any product falls below that point there is loss; and if output exceeds that point there is profit.
- Thus, it is the minimum point of production where total costs are recovered.

9

14M

a)

7M

Factors affecting entrepreneurship

1. Great need for achievement
2. Urge for independence
3. Urge for power
4. Family background
5. Flexibility
6. Creative and Innovative spirit
7. Fluency
8. Decision making capacity

Brief explanation of above

b)

7M

Functions of an Entrepreneur:

1. He manages business and takes decisions
2. He studies the market and selects the business
3. He makes a selection of plant size
4. He selects plant site
5. He organizes sales and holds the customers
6. He promotes new inventions

7. He coordinates different factors of production
8. He arranges raw material, machinery and finance
9. He employs laborers
10. He deals with government departments such as sales tax,
labour, electricity, export-import, railways.
11. He decides pricing policies
12. He Distributes wages of labourers, interest to the capitalist.

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