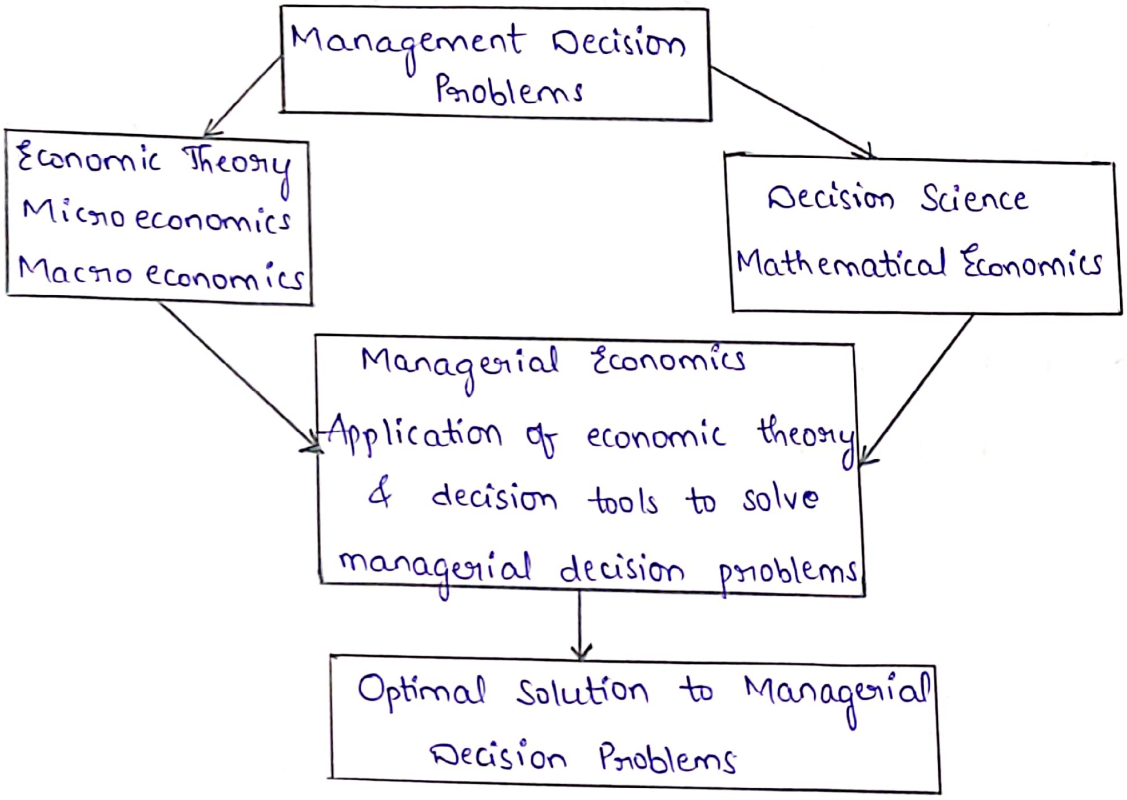
① Define Managerial Economics. Explain its nature and scope.

Ans:- Managerial Economics :-

Managerial Economics is defined as application of economic principles, tools and techniques in the business, decision making process of business organizations.

It is the integration of economic theory with business practice for the purpose of facilitating decision-making and forward planning by management.



Nature of Managerial Economics

1) Micro economics :- It studies the problems and principles of an individual business firm or an individual industry. It aids the management in forecasting and evaluating the trends of the market.

2) Normative economics :- It is concerned with varied corrective measures that a management undertakes under various circumstances. It deals with goal determination, goal development and achievement of these goals.

3) Pragmatic: Managerial economics is pragmatic. In pure micro-economic theory, analysis is performed based on certain exceptions, which are far from reality. However, in managerial economics, managerial

issues are resolved daily and difficult issues of economic theory are kept at bay.

4) Uses theory of firm :- Managerial economics employs economic concepts and principles, which are known as the theory of firm or 'Economics of the firm'. Thus, its scope is narrower than that of pure economic theory.

5) Takes the help of macroeconomics :- Knowledge of macroeconomic issues such as business cycles, taxation policies, industrial policy of the government, price and distribution policies, wage policies and so on, is integral to the successful functioning of a business enterprise.

6) Prescriptive rather than descriptive :- Managerial economics is a normative and applied discipline. It suggests the application of economic principles with regard to policy formulation, decision-making and future planning. It not only describes the goals of an organization, but also prescribes the means of achieving these goals.

Scope of Managerial Economics

1) Theory of demand :

(a) Demand analysis : Analysis of demand is undertaken to forecast demand, which is fundamental component in managerial decision-making. Demand analysis helps the management in identifying factors that influence the demand for the products of affirm. Thus, demand analysis and forecasting is of prime importance to business planning.

(b) Demand theory : It relates to the study of consumer behaviour. It addresses questions such as what incites a consumer to buy a particular product, at what price does he/she purchase the product, why do consumers cease consuming commodity and so on.

2) Theory of Production :

Production is an economic activity that makes goods available for consumption. It is the process of creating goods or services by utilizing various available resources. Production function shows the relationship between the quantity of a good/service produced (output)

and the factors of or resources (inputs) used. The inputs employed for producing these goods and services are called factors of production.

3) Theory of Exchange (or) Price theory: It helps in determining the level to which an advertisment can be used to boost market sales of a firm. Price theory is important in determining the price policy of a firm. Price policy impresses upon the demand of products.

4) Theory of profit: Every business aims at maximizing profit. Profitability of an organization is greatly influenced by —

- demand of the product
- prices of the factors of production
- nature and degree of competition in the market
- price behavior under changing conditions.

5) Theory of capital and investment: It envinces the issues as follows:

- Selection of a ~~va~~ viable investment project
- Efficient allocation of capital Assessment of the efficiency of capital.
- Minimizing the possibility of under capitalization or over capita-lization.

6) Environmental issues: These relate to social and political environment in which a business and industrial firm has to operate. This is governed by —

- the type of economic system of the country
- business cycles
- Industrial policy of the country
- Price and labor policy

The management of a firm cannot exercise control over these facto Therefore, it should fashion the plans, policies and programmers of the firm according to these factors in order to offset their adverse effects on the firm.

2 What is meant by 'Elasticity of Demand'? Explain about Price Elasticity and its types.

Ans:- Elasticity of Demand: It refers to the degree of responsiveness of quantity demanded to the changes in the determinants of demand.

Price Elasticity of Demand :- It refers to the degree of responsiveness in quantity demanded to the change in the price of the product.

$$e_p = \frac{\% \text{ change in quantity demanded}}{\text{Percentage change in price.}}$$

$$\Rightarrow e_p = \frac{\Delta Q}{Q} \div \frac{\Delta P}{P}$$

$$\Rightarrow e_p = \frac{\Delta Q}{\Delta P} \times \frac{P}{Q}$$

From the definition, it follows that

⇒ when $\frac{\Delta Q}{Q} > \frac{\Delta P}{P}$, then price elasticity > 1 and Demand is said to be elastic.

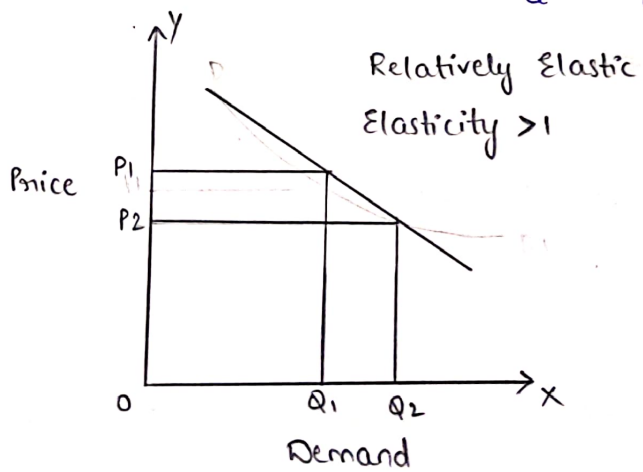
⇒ when $\frac{\Delta Q}{Q} < \frac{\Delta P}{P}$, then $e_p < 1$ and demand is said to be inelastic

⇒ when $\frac{\Delta Q}{Q} = \frac{\Delta P}{P}$, then $e_p = 1$ and demand is said to be unit elastic

Types of price elasticity of demand

1) Relatively Elastic demand (EP >1)

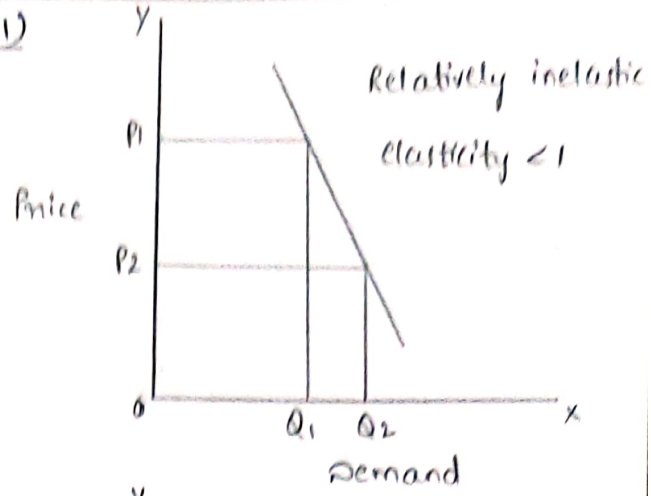
Percentage change in demand is greater than the percentage change in price ie, $E_p > 1$ when $\frac{\Delta Q}{Q} > \frac{\Delta P}{P}$



2) Relatively Inelastic Demand ($E_p < 1$)

Percentage change in quantity demanded is less than the percentage change in price.

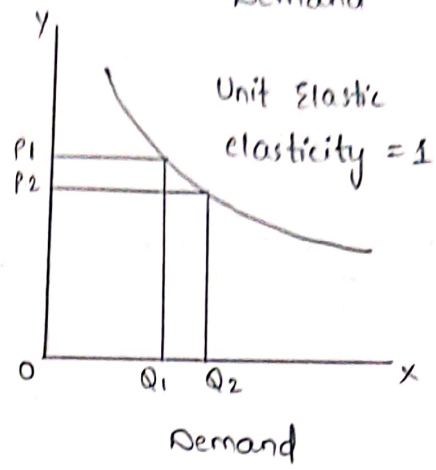
ie, $E_p < 1$ when $\frac{\Delta Q}{Q} < \frac{\Delta P}{P}$



3) Unitary Elastic Demand ($E_p = 1$)

Percentage change in quantity demanded is equal to the percentage change in price.

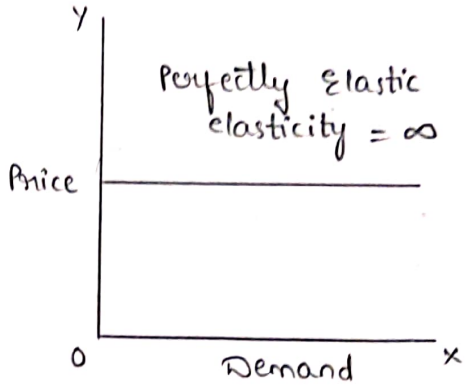
$E_p = 1$ when $\frac{\Delta Q}{Q} = \frac{\Delta P}{P}$



4) Perfectly Elastic Demand ($E_p = \infty$)

The quantity demanded increases infinitely with a small fall in price or quantity demanded falls to zero with a small rise in price

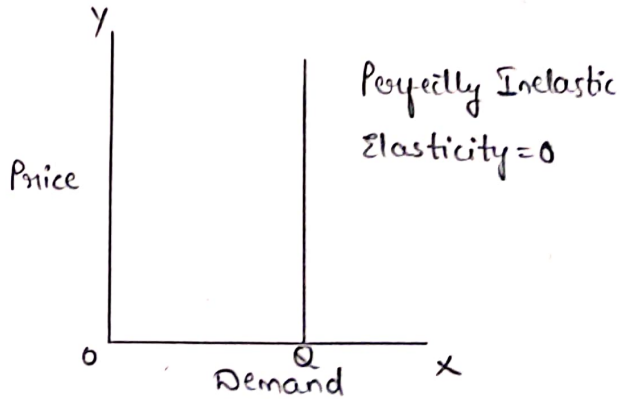
$E_p = \infty$ when $\frac{\Delta Q}{Q} = \infty$



5) Perfectly Inelastic Demand ($E_p = 0$)

The demand remains constant ~~whenever~~ ~~or~~ whatever may be the price

$E_p = 0$ when $\frac{\Delta Q}{Q} = 0$



(4) What is Law of Variable Proportions? Explain its stages.

Ans- The Law of Variable Proportions

It states that as the quantity of one factor is increased, keeping the other factors fixed, the marginal product of that factor increases

in the initial stage and it will eventually declines.

Assumptions of Law :-

» Constant Technology : This law assumes that technology does not change throughout the operation of the law.

» Fixed amount of some factors : at least one factor of production must be fixed for this law.

» Possibility of varying factor proportions : variable factors can be changed in short run.

Stages of Law of variable Proportions

This law has three stages.

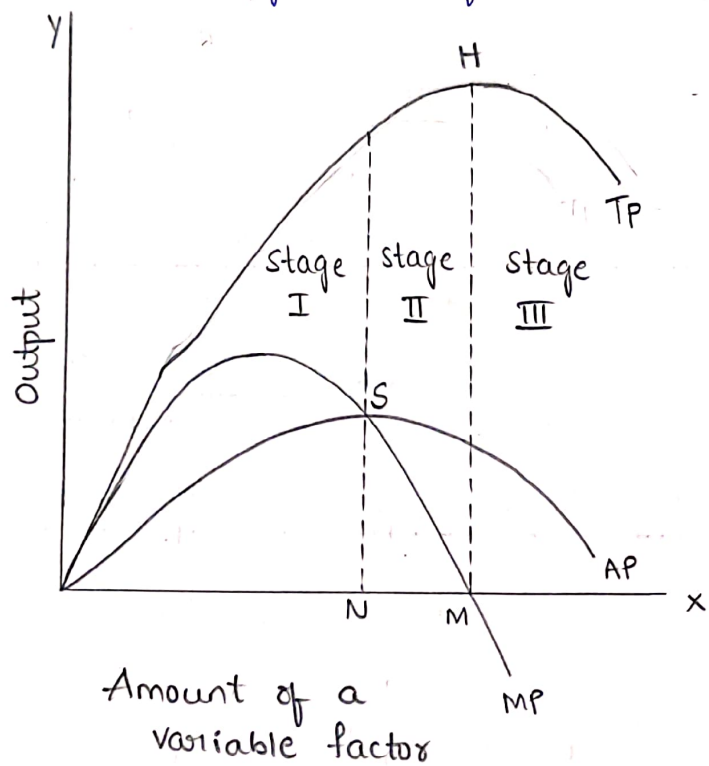
1) Increasing Returns : In this stage, Average Product ~~increases~~, Marginal Product and Total Product increases. TP increases at more proportionate rate. TP increases from 10 to 25 units. This stage is known as Increasing returns. This stage of increasing output by increasing labour does not last for a long time. This continues upto 3rd unit. In stage I, marginal product curve of a variable factor rises in a part and then falls. Average product curve rises throughout and remains below the MP curve. MP reaches maximum here.

Land in Hectares (fixed factor)	Variable Input (Labour)	Total Product (in quintals)	Average Product (in quintals)	Marginal Product (in quintals)	Stage of Production
1	1	10	10	10	Stage I : Increasing marginal returns
1	2	25	12.5	15	
1	3	37	12.3	12	Stage II : Diminishing marginal returns
1	4	47	11.8	10	
1	5	55	11	8	
1	6	60	10	5	
1	7	63	9	3	
1	8	63	7.9	0	Stage III : Negative marginal returns
1	9	62	6.8	-1	

he

2) <u>Diminishing Returns</u> :- This is the most important stage in the production function. In stage II, the total production continues to increase at a diminishing rate until it reaches its maximum point where the 2nd stage ends. In this stage, both MP and average product of the variable factor are diminishing but are positive. When TP reaches the maximum, MP is zero. MP intersects the x-axis in this stage. As more and more variable factors are used on fixed factor, marginal and average product begins to decrease. Factors of production are indivisible. Economically, this is the most viable area of production.

3) <u>Negative Returns</u> :- In stage III, the TP decreases. Its curve slopes downward. The MP curve falls to zero and then is negative. When we increase the labour even after MP becomes zero, then MP becomes negative and it goes below the x-axis. This is the most unviable region. In the given table, ~~p~~ this stage starts from 8th unit.



Any sensible producer will stop the production in stage II where, AP and MP begins to decrease, but MP has not become negative. The producer will employ the variable factor (say labour) up to the point where the marginal product of the labour equals to the wage rate.

5 From the following data, Calculate (i) BEP (Units and Rs) (ii) P/V ratio (iii) Sales required (in Units and Rs) to earn a desired profit of Rs. 150000. (iv) Actual units produced (v) Margin of safety in units.

Total fixed costs = Rs. 200000 = TFC

Selling price per unit = Rs. 100 = SP

Variable cost per unit = Rs. 60 = VC

Total Sales Revenue = Rs. 600000 = SR

Sol:- (i) BEP (Units) = $\frac{TFC}{SP - VC}$

$\Rightarrow$ BEP (Units) = $\frac{200000}{100-60} = \frac{\overset{5}{\cancel{200000}}}{\cancel{40}}$ = 5000 units.

BEP (Rs) = BEP (Units) × SP

$\Rightarrow$ BEP (Rs) = 5000 × 100 = Rs. 5,00,000

(ii) P/V ratio = $\frac{SP - VC}{SP} \times 100$

$\Rightarrow$ P/V ratio = $\frac{100-60}{\cancel{100}} \times \cancel{100}$ = 40%

(iii) Sales required to earn a desired profit of Rs. 150000

= $\frac{\text{TFC + desired profit}}{\text{P/V ratio}}$

$\Rightarrow$ sales required (Rs) = $\frac{200000 + 150000}{(0.4)}$ = Rs. 8,75,000

sales required (Units) = $\frac{\text{sales required (Rs)}}{SP}$

$\Rightarrow$ sales required (Units) = $\frac{875000}{100}$ = 8750 units.

(iv) Actual units produced

= $\frac{\text{Total Sales Revenue} \cancel{- \text{Total fixed costs}}}{\text{selling price} \cancel{- \text{variable cost}}}$

= $\frac{600000 \cancel{- 200000}}{100 \cancel{- 60}} = \frac{\overset{10000}{\cancel{400000}}}{\cancel{40}}$ ~~= 10000 units~~

= 6000 units

(V) Margin of safety (in Units) = Actual Units produced - BEP (Units)

⇒ Margin of safety (in Units) = ~~4000~~ 6,000 - 5000 = 1000 units

7) What is perfect competition? Explain the price-output relationship in short run.

Ans:- Perfect Competition: It refers to a market structure in which the number of buyers and sellers are very large, all are engaged in buying and selling a homogeneous product without any entry restrictions and all sellers are the price takers

Features of Perfect Competition

1) Large number of sellers: Because no seller can influence the price. Influence of an individual seller is absolutely insignificant. If he increases, he will have no buyers for the product.

2) Large number of buyers: Buyers are in a large number, so that individually no buyer is in a position to influence the price. They will have to accept the price established in the market. The buyers cannot bargain for a lower price, as there are enough buyers at the prevailing price.

3) Homogeneous commodity: A commodity sold in the market is homogeneous, that is, identical in quality and size. When goods are homogeneous there is no possibility of charging a higher price by any seller under the pretext of qualitative or quantitative differences.

4) Every firm/seller is a price taker: No seller have power to set the price in the market. Each seller contribute less or negligible quantity for the market supply.

5) Free Entry and Exit: The firms are free to enter or exit the market. New firms enter the industry when excess profits are earned by the industry. Some firms may leave when loss is sustained by the industry.

6) Complete market information: This condition implies close contact between buyers and sellers. They have perfect knowledge of the place where the transactions are being carried on. This condition forces

the sellers to sell the product at the prevailing market price and buyers to buy at that price.

7) Perfect mobility of factors of production : Factors are assumed to be freely mobile. Every firm can access the required quantity of production factors irrespective of size of their firm.

8) No transport cost : From the place of production to the market factors of production and goods are transported without any cost. This is essential for the existence of perfect competition which requires that a commodity must have the same price everywhere at any time.

9) No intervention of Government : Price in the market and output of the firms are ~~do~~ not involved influenced by government policies.

Conditions of Equilibrium of the Firm in the perfect Competition

A firm is in equilibrium when it has no tendency to change its level of output.

MC = MR.

Conditions

1) MC curve must equal to MR curve

2) MC curve must cut MR curve from below and after the point of equilibrium it must be above the MR.

At equilibrium point; firm is MC = MR = AR

Price – Output Relationship in Short Run.

There are three possibilities for the level of profit.

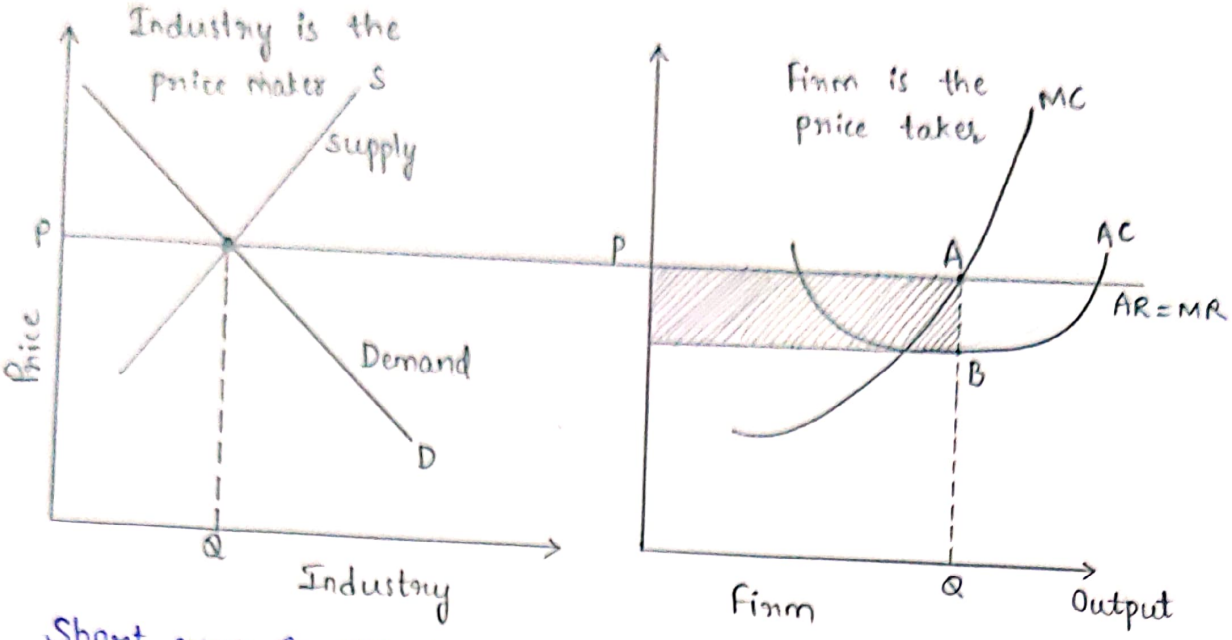
1) Average Cost (AC) < Average Revenue (AR) ⇒ Super Normal Profits

2) Average Cost (AC) = Average Revenue (AR) ⇒ Normal Profits

3) Average Cost (AC) > Average Revenue (AR) ⇒ Loss..

In the short-run firms, earn Abnormal or Super normal profits when AC is below the AR. In Fig. A, a firm produces the output to the Q level where its MC = MR, at this point its AC is B and AR is A. The difference between A and B is the per uni-

Profit and Total profit earned by the firm is the super normal profit.



Short run Equilibrium of Perfect Competitive firm.