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SEM..... SUBJECT Economics

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GIIT PROFESSIONAL COLLEGE JAMSHEDPUR

75/100

Ans 2) Elasticity of Demand.

Elasticity of demand means proportionate change in demand by proportionate change in price.

$$Ed = \frac{\% \text{ change in demand}}{\% \text{ change in price}}$$

$$= \frac{\frac{\Delta D}{D}}{\frac{\Delta P}{P}}$$

$$= \frac{\Delta D}{D} \times \frac{P}{\Delta P}$$

$$\boxed{ed = \frac{\Delta D}{\Delta P} \times \frac{P}{D}}$$

ΔD = change in demand
P = ~~Price~~ Original price
ΔP = change in price
D = Original Demand

Δ = Delta

Eg:-

	P	D
A	5	20
B	10	480

$$ed = \frac{5}{5} \times \frac{5}{20_4} \times \frac{5}{20_4} = \frac{1}{16}$$

Types of Elasticity of demand.

(1) Relatively Elastic

(2) Relatively Inelastic

(3) Unit elastic

(4) Perfectly elastic

(5) Perfectly Inelastic.

(1) Relative Elastic

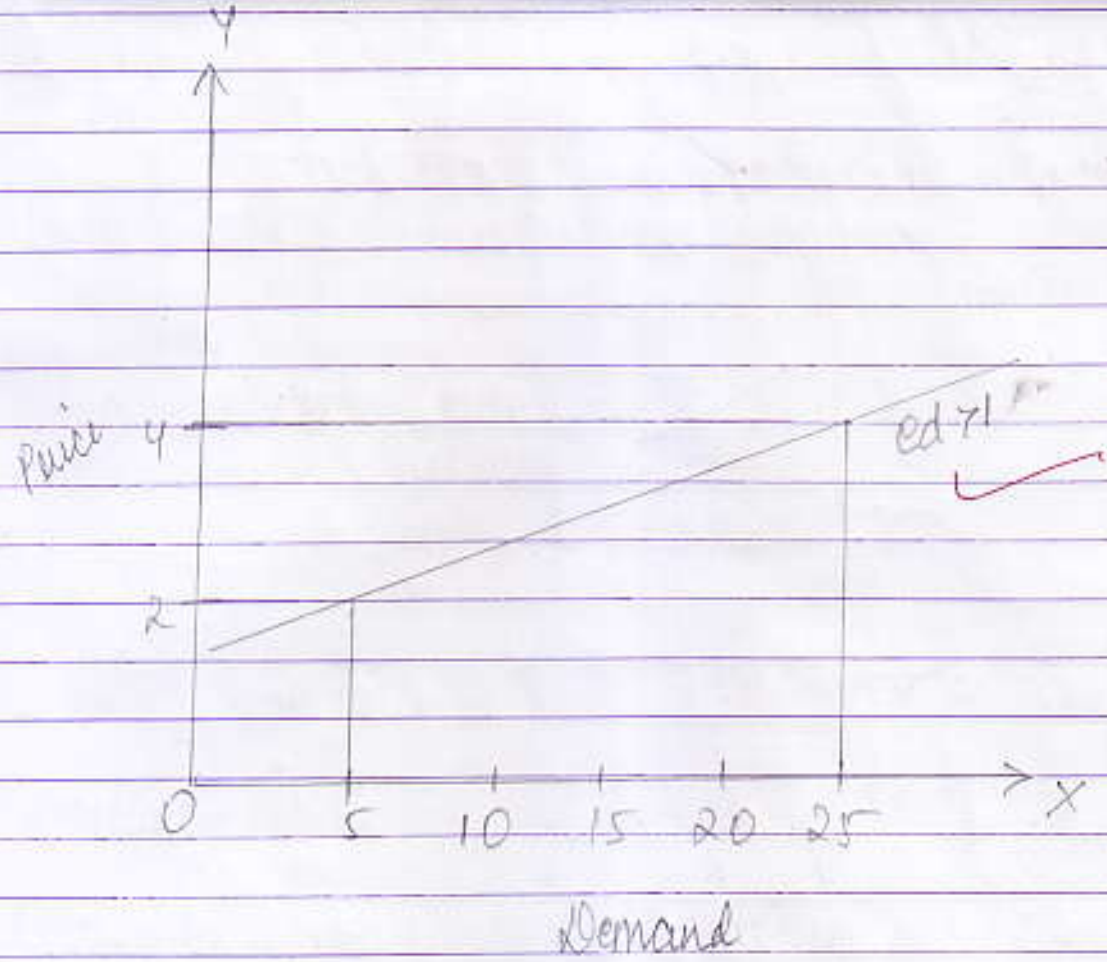
→ Relative Elastic means change in demand is more than change in price.

→ $\frac{\Delta D}{D} > \frac{\Delta P}{P}$

→ $e_d > 1$

P	Q
2	5
4	25

$$E_d = \frac{\frac{20}{5}}{\frac{2}{2}} \Rightarrow \frac{20}{5} \times \frac{2}{2} \Rightarrow 4$$



(2) Relative Inelastic

→ Relative Inelastic means change in demand is less than change in price.

→ $\frac{\Delta D}{D} < \frac{\Delta P}{P}$

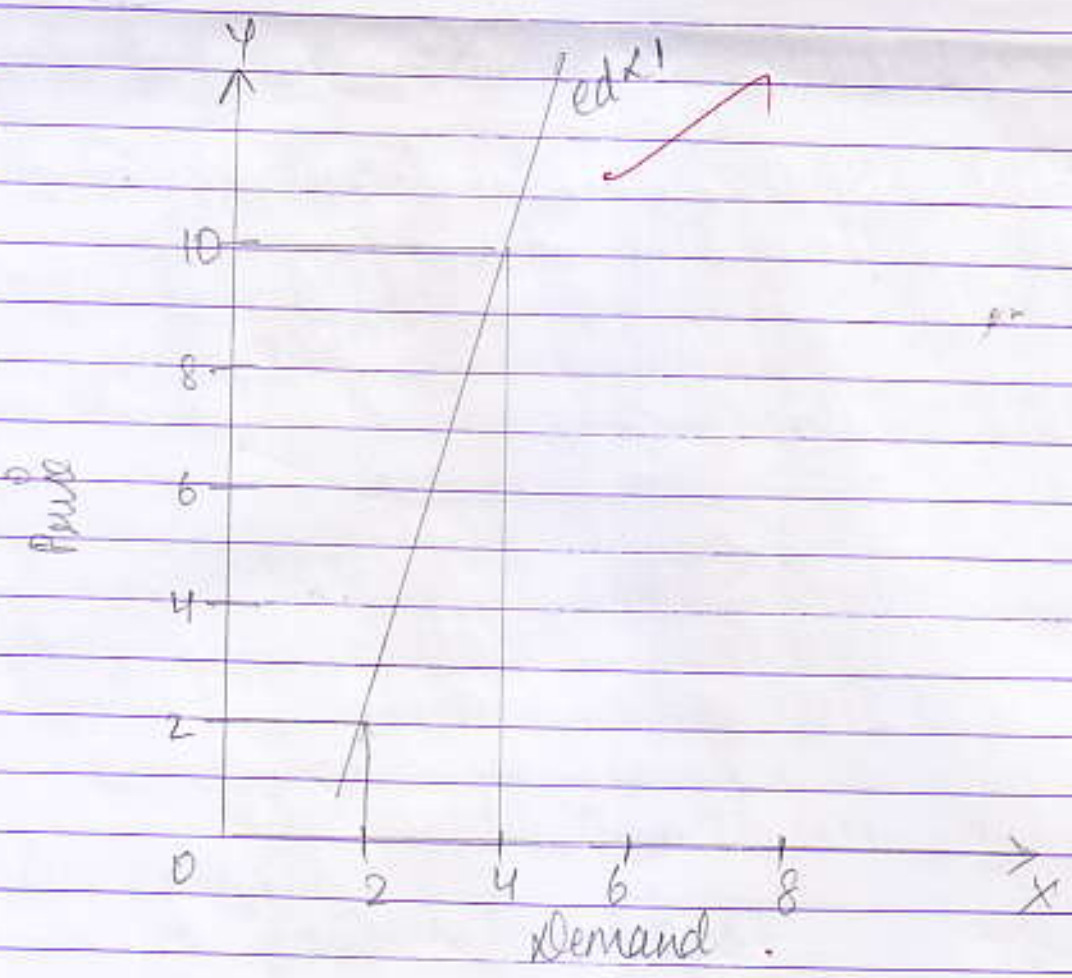
⇒ ed < 1

P	Q
2	2
10	4

$Ed = \frac{2}{\frac{2}{8}} \Rightarrow \frac{2}{2} \times \frac{2}{8}^{1}_{4} = 0.25$

ed < 1

4) $\frac{10}{8}(0.25$



(3) Unit elastic

→ Unit elastic means change in demand is equal to change in price.

→ $\frac{\Delta D}{D} = \frac{\Delta P}{P}$

⇒ $ed = 1$

P	Q
5	50
10	100

$$ed = \frac{50}{\frac{50}{5}}$$

$$= \frac{50}{50} \times \frac{5}{5}$$

$$= 1$$

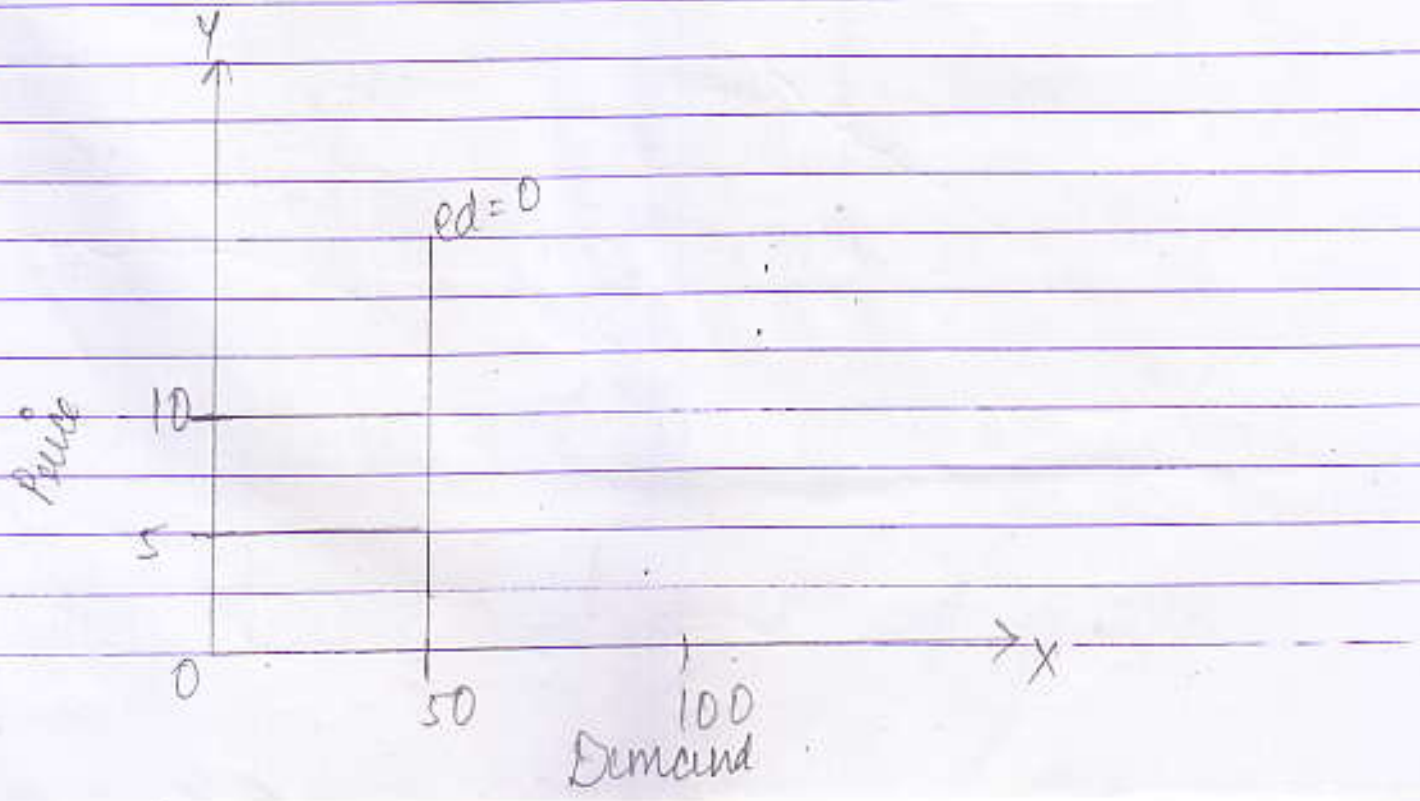
$$ed = 1$$

(4) Relatively elastic ?

→ Relatively elastic means change in price but demand remains constant.

→ $ed = 0$

P	Q
5	50
10	50

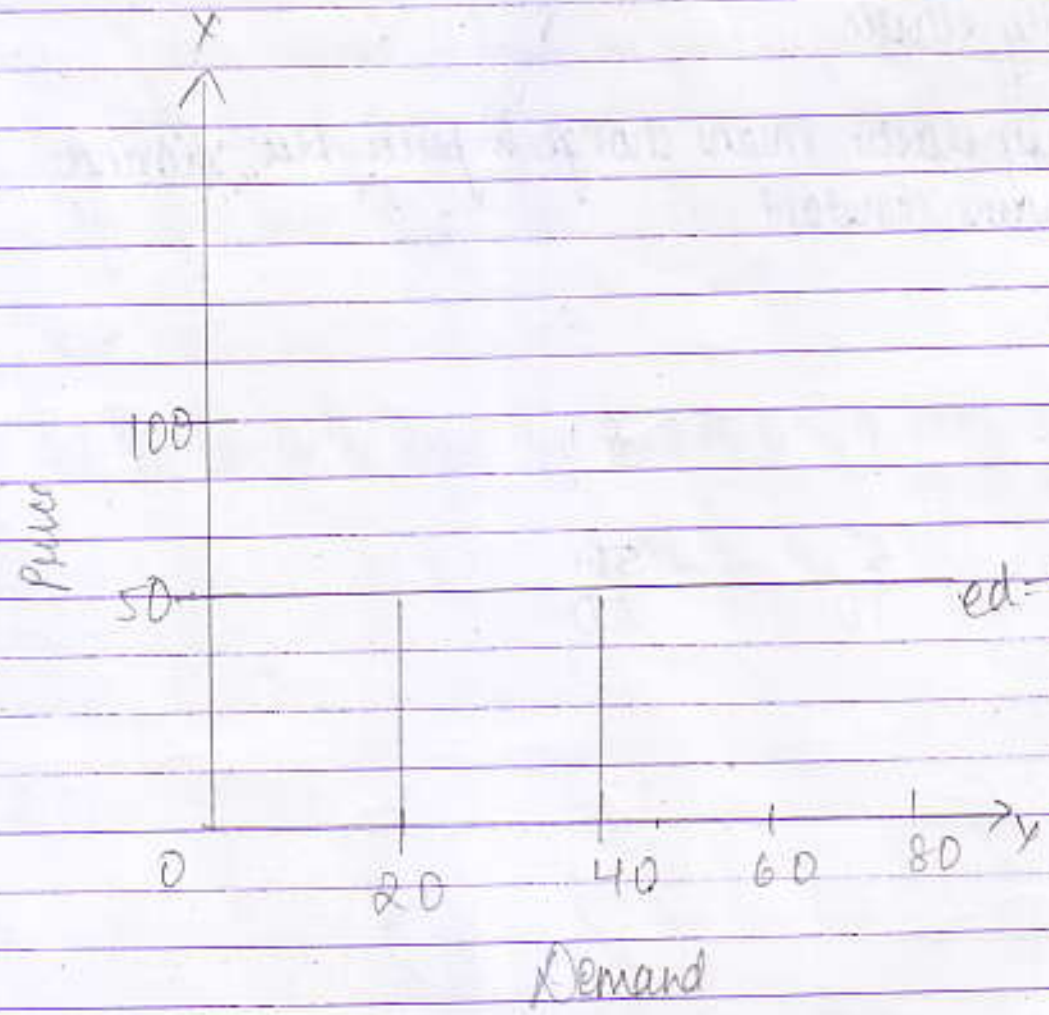


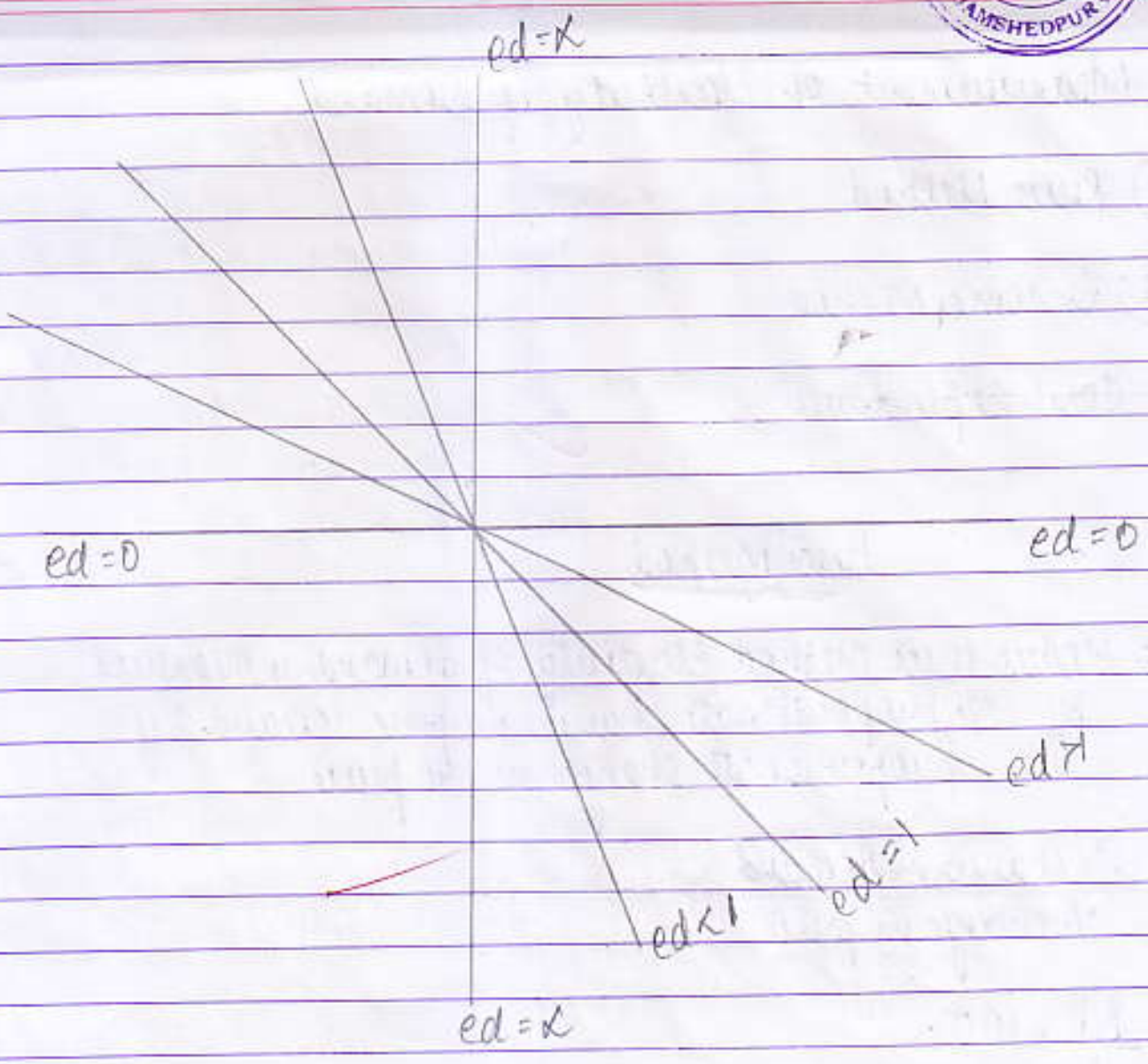
(3) Relatively Inelastic ?

→ Relatively Inelastic means change in demand but price remains constant.

→ $ed = \infty$

P	Q
50	20
50	40





Types	Value of ed	Characteristic
(1) Relatively elastic	$ed > 1$	$\frac{\Delta D}{D} > \frac{\Delta P}{P}$
(2) Relatively Inelastic	$ed < 1$	$\frac{\Delta D}{D} < \frac{\Delta P}{P}$
(3) Unit elastic	$ed = 1$	$\frac{\Delta D}{D} = \frac{\Delta P}{P}$
(4) Perfectly elastic	$ed = 0$	$\frac{\Delta P}{D}$ constant $\frac{\Delta P}{P}$ changes
(5) Perfectly Inelastic	$ed = \infty$	$\frac{\Delta D}{D}$ changes $\frac{\Delta P}{P}$ constant

Measurement of Elasticity of Demand.

1. Price Method
2. Income Method
3. ~~Total Expenditure~~

Price Method

→ Under Price method Elasticity of demand is measured by % proportionate change in ~~the~~ demand by proportionate change in ~~the~~ price.

→ $\frac{\%\text{ change in demand}}{\%\text{ change in price}}$

→ $\frac{\frac{\Delta D}{D} \times 100}{\frac{\Delta P}{P} \times 100}$

⇒ $\frac{\Delta D}{D} \times \frac{P}{\Delta P}$

~~e~~

P	Q
2	2
10	4

$$ed = \frac{2}{\frac{8}{2}} \Rightarrow \frac{2}{2} \times \frac{2}{8} \quad 1 \quad 4$$

$$= 0.25$$

Income Method

→ Under Income Method Elasticity of demand is measured by proportionate change in demand by proportionate change in Income.

⇒ % change in demand / % change in Income

→ $\frac{\frac{\Delta D}{D}}{\frac{\Delta Y}{Y}} \Rightarrow \frac{\Delta D}{D} \times \frac{Y}{\Delta Y}$

$$\boxed{ed = \frac{\Delta D}{\Delta Y} \times \frac{Y}{D}}$$

Total Expenditure Method

ed = [Total quantity purchased × Total price per unit]

Measurement of price Elasticity of demand

1. Arc Method
2. Point Method
3. Total Expenditure method

Arc Method

$$\rightarrow \frac{Q_2 - Q_1}{Q_2 + Q_1} \times \frac{P_2 + P_1}{P_2 - P_1}$$

Q_2 = Change in demand
Q_1 = Original demand
P_2 = Change in price
P_1 = Original price.

Total Expenditure Method

Total Exp = Total quantity purchased x Price per unit.

Point Method

At point Method elasticity is measured at certain point.

Eg:

P	Q
5	30
10	40

At pt A = $\frac{5}{5}$ $\frac{10}{30}$ $\frac{10}{5}$ $\frac{30}{5}$

$= \frac{5}{5} \times \frac{30}{10}$ $\Rightarrow \frac{10}{30} \times \frac{5}{5} = \frac{1}{3}$

$= 3.$ $= 0.33.$

At pt B = $\frac{-10}{40}$ $\frac{40}{-5}$ $\frac{10}{10}$

$\Rightarrow \frac{-10}{40} \times \frac{10}{-5}$

$= \frac{1}{2}$

$= 0.5.$

Ans 4 Consumer Surplus.

Consumer Surplus means what a consumer willing to buy - what he actually pays.

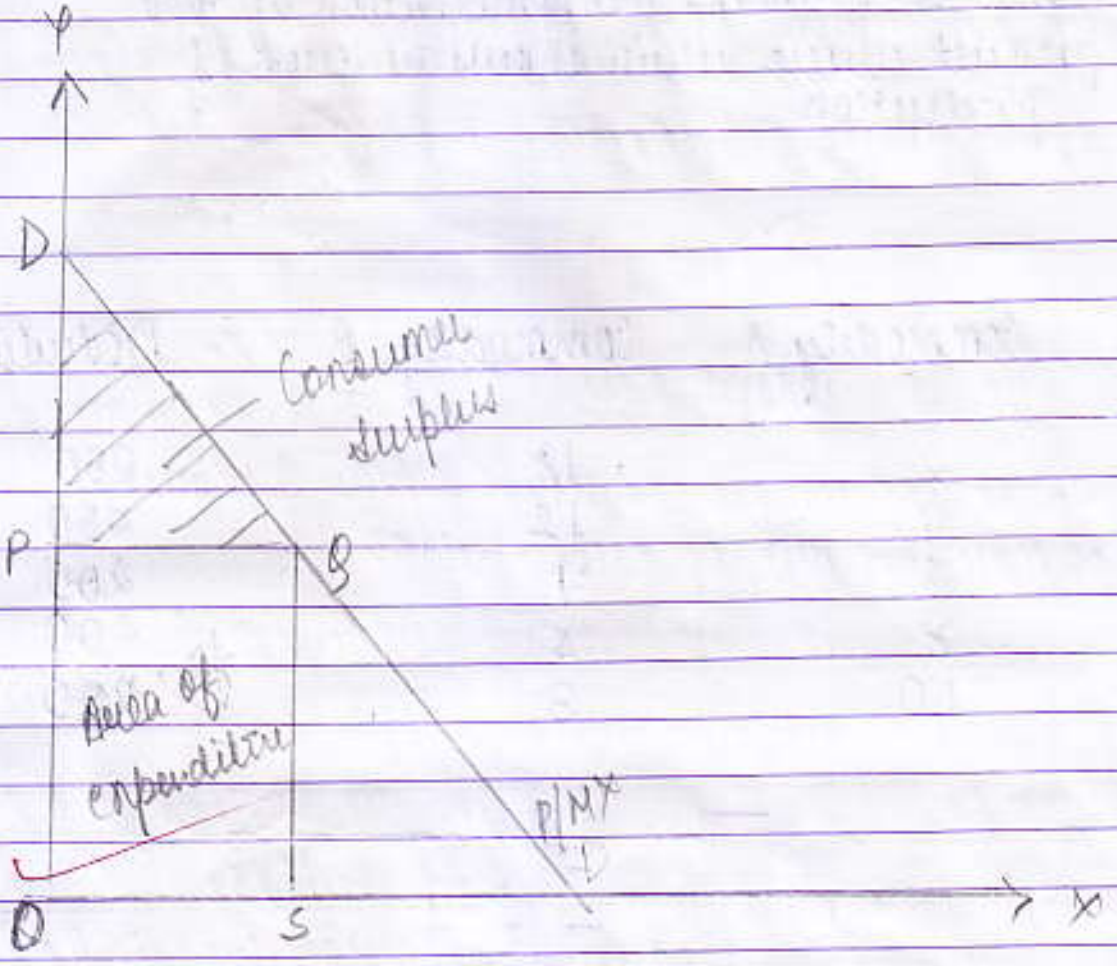
Consumer surplus = Consumer willing to pay - what he actually pays.

M.V of a commodity	Price per unit	Consumer surplus.
50	30	20
45	30	15
40	30	10
35	30	5
30	30	0
200	150	50

200 - 150 = 50

Consumer surplus = 50.

According to Marshall consumer surplus means extra money paid other than to go without the commodity.



ISO Product curve.

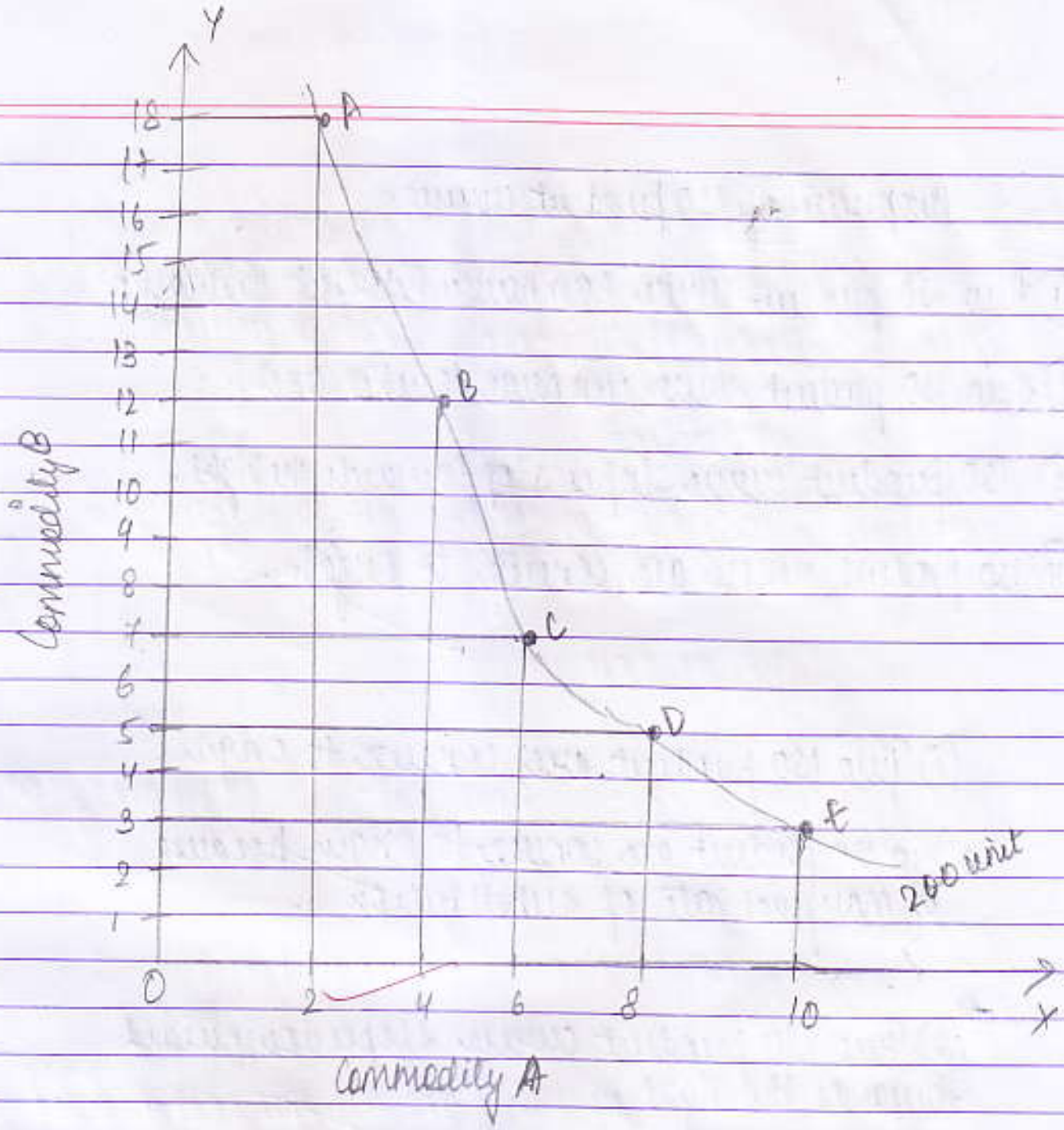
ISO product curve shows combination of two curves which shows the level of production. Both the curve are indifferent from each other.

ISO product curve means the combination of two ISO product curve which shows the level of production.

	Commodity A	Commodity B	Production
A	2	18	200
B	4	12	200
C	6	7	200
D	8	5	200
E	10	3	200

A shows combination of commodity A and B.

- A (2X + 18Y) means X contains 2 units and commodity Y contains 18 units.
- B (4X + 12Y) means X contains 4 units and Y contains 12 units.
- C (6X + 7Y) means X contains 6 units and Y contain 7 units.
- D (8X + 5Y) means X contains 8 units and Y contains 5 units.
- E (10X + 3Y) means X contains 10 units and Y contains 3 units.



$A = 2X + 18Y$

$B = 4X + 12Y$

$C = 6X + 7Y$

$D = 8X + 5Y$

$E = 10X + 3Y$

Properties of ISO product curve.

(1) Two ISO product curve can never intersect each other

(2) Two ISO product curve can never touches axis.

(3) ISO product curve slopes ~~stop~~ towards the right.

(4) ISO product curve are convex to origin.

(1) Two ISO product are convex to origin.

→ Two ISO product are convex to origin because of marginal rate of substitution.

(2) Two ISO product curve slopes downward towards the right.

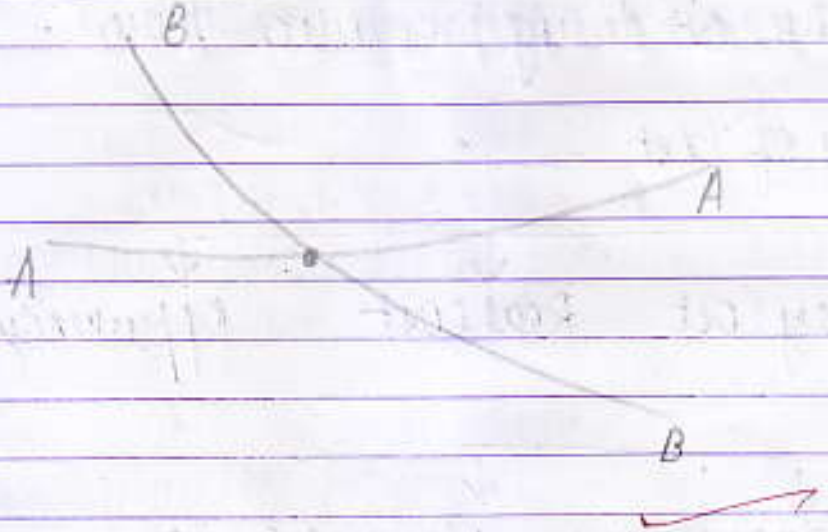
→ ISO product curve slopes downward towards the right as producer has to sacrifice commodity if he want to take extra unit of commodity.

(3) ISO product curve can never touches axis.

→ ISO product curve can never touches the axis.

(4) Two ISO product curve can never intersect each other.

→ Two ISO product curve can never intersect each other.



~~Assumption~~

Assumptions

(1) Two commodity

→ There should be two commodity as ISO product curve means combination of two commodity.

(2) Rational consumer

→ Consumer should be rational.

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Ans 5) Cost.

Cost of production plays very important role in production process. Cost incurred during production process is called cost of production.

Producers invest capital and start their business and incurs cost during production process.

Types of Cost.

- Money cost
- Real cost
- Opportunity cost

Money cost:
- Explicit cost
- Implicit cost
- Normal Profit.

(1) Money cost :- Money cost means all the cost incurred in monetary terms is called money cost. Money cost are measured in monetary terms.

Eg:- Purchase of raw material.
Purchase of material.
Paid salary
Paid wages.
Paid Lightning exp.
Paid water expenses.

i) Explicit cost :- Explicit cost is the cost which is directly paid by the firm for the expenses incurred. Explicit cost are the cost paid for the purchase for business

Eg:- Purchase of raw material
Purchase of machinery ; etc.

ii) Implicit cost :- Implicit cost are the cost of producer ~~firm~~ It is the personal cost of producer but not paid directly by the producer but paid by the firm.

iii) Normal profit :- Normal profit is the minimum profit needed by all the producer to induce him in the business. It is the minimum profit to run the business.

(2) Real cost :- Real cost means the encertion faced by all the labour. It consist ~~by~~ the physical and mental pressure faced by the labour.

Real cost is difficult to calculate in terms of money.

(3) Opportunity cost :- Opportunity cost means the next best alternative option

Eg:- Mr X get 3 job 1st for teacher for Rs 6000 2nd for manager for Rs 10000 and 3rd for staff for Rs 4000. As a consumer, he

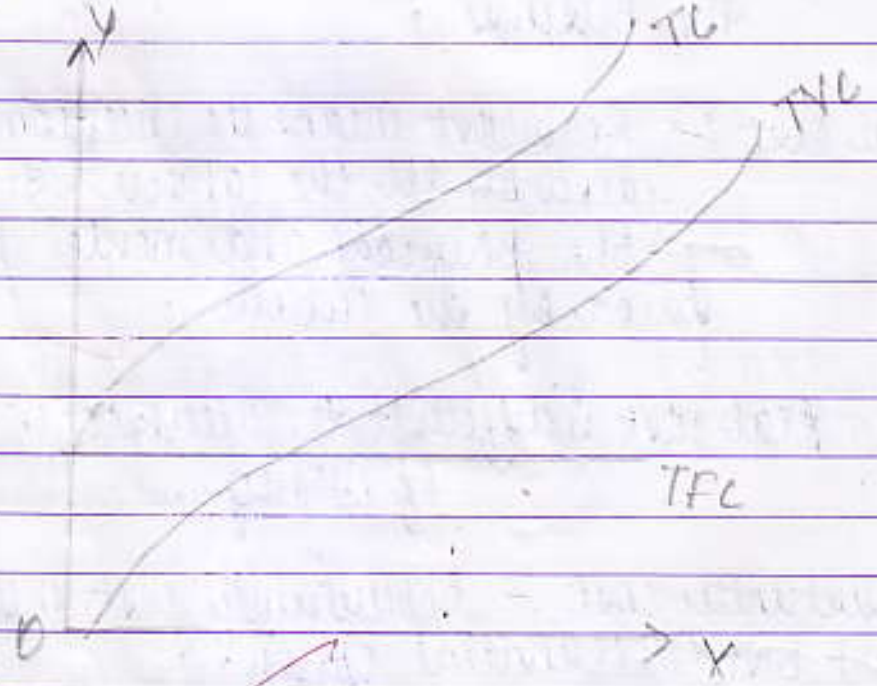
main motive is profit ~~maximum~~ maximization and he will choose job for 10,000 and will sacrifice the job for 6,000 and 4,000. that are opportunity cost.

Short Run.

In short run we have three types of cost.

1. Total cost
2. Average cost
3. Marginal cost

Total cost.



$TC = TFC + TVC$.

Fixed cost :- Fixed cost are the cost which are fixed in nature. They donot vary.

Eg :- Machinery, land.

Variable cost :- Variable cost are the cost which changes according to the level of production. It varies according to the level of production.

Eg :- Purchase of raw material, Electric charges, etc.

- Fixed cost can never be 0. If we does production or not producer has to bear fixed cost as he has to pay the rent, etc.
- Variable cost can be 0. If we donot want to do production variable cost is not beared.

Average Cost.

→ Average cost means the Total cost divided by the output.

→ AC = AFC + AVC.

⇒ $AC = \frac{TC}{Q}$.

~~AF~~

Qty	AFC	AVC.	AC
1	30	10	40
2	20	20	40
3	10	30	40
4	70	40	110
5	30	50	80.

$AC = AFC + AVC.$

Qty	TC	AC
1	10	10
2	8	4
3	12	4
4	24	6
5	30	6

$AC = \frac{TC}{Q}$

Marginal Cost

Marginal cost means additional cost incurred in every unit of production.

$$MC_n = TC_n - TC_{n-1}$$

Qty	TC.	MC
1	10	~~10~~ =
2	12	2
3	16	4
4	20	4
5	22	2

Long Run.

In long run no cost are fixed. All the cost are variable in nature. The cost depends upon the amount of production done by the producer.

(1b)

Ans 9) Perfect Competition

Perfect competition is a market where there are large number of buyers and sellers. They deals with homogeneous product.
In perfect competition there is no interference of government.

Features of Perfect Competition

(1) Large number of buyers
(2) Large number of sellers
(3) Homogeneous product
(4) Firms are price taker.
(5) Industry are price getter/maker
(6) No Interference of government.
(7) Free entry and exit of firm.
(8) No control on price
(9) Full knowledge ~~about th~~
(10) Mobility of factor

DATE .....

(1) Large number of buyers.

→ In perfect competition there are large number of buyers.

→ Buyers are the one who purchases the commodity at a certain price.

(2) Large number of sellers

→ In perfect competition there are large number of sellers.

→ sellers are the one who sells their product at certain price.

(3) Homogeneous product

→ In perfect competition products are homogeneous in nature.

→ Product are same in nature.

(3) Firms are price taker

→ Firms have no control over type.

→ Firms are price taker.

(4) Industry are price maker

→ Firms Industry are price maker.

→ Industry set the price.

(6) No Interference of Government.

→ In perfect competition there is no interference of government.

→ There is no rule of government.

(7) Free entry and exit of firm

→ There is free entry and exit of firm.

→ There are no barriers.

(8) No control over price

→ In perfect competition firm has no control over price.

→ They have to charge same price.

(9) Full Knowledge

→ Consumer has full knowledge about the price and product.

(10) Mobility of factors

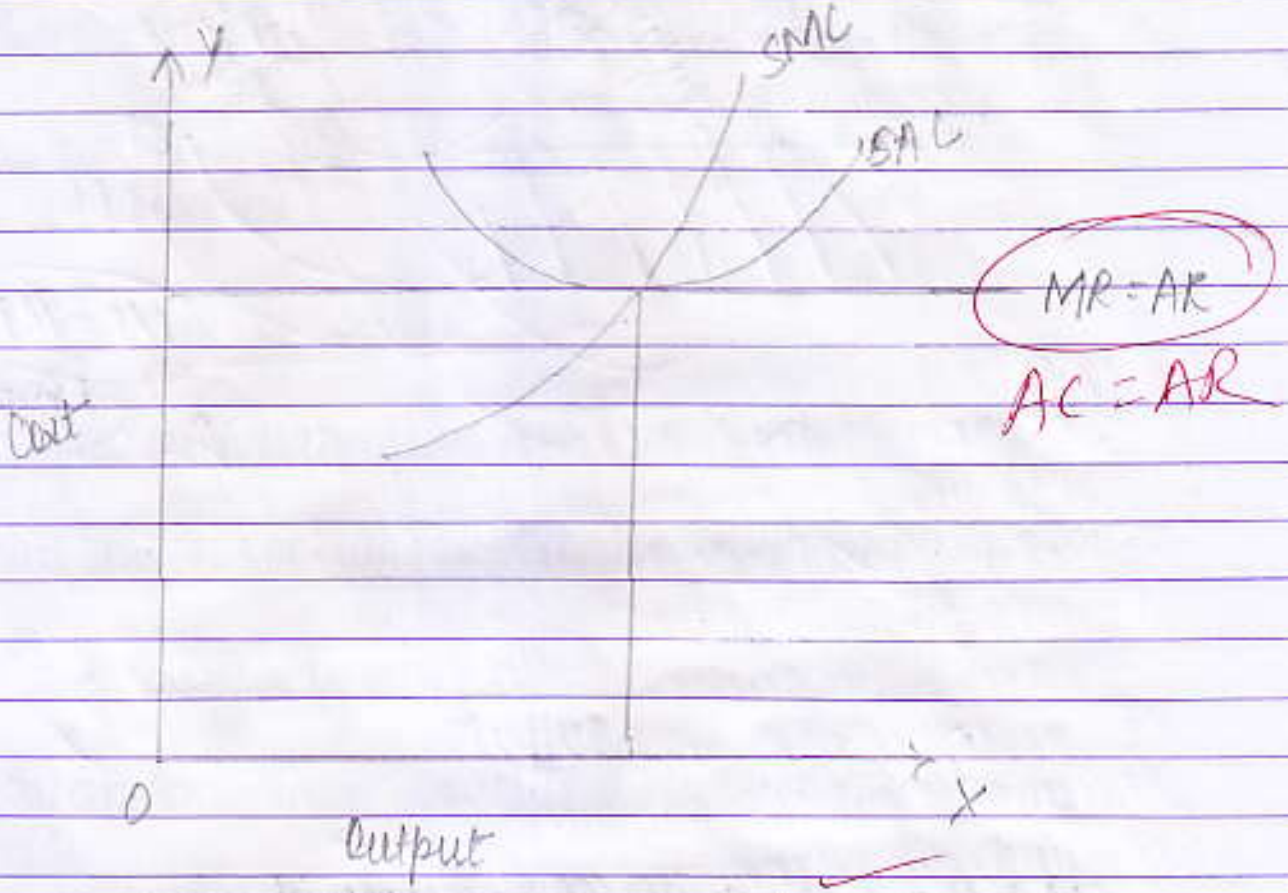
→ Factors are mobile in nature.

→ They are freely move.

Short Run

Normal

(1) Nomeral Profit



SMC = Short run marginal cost

SAC = Short run average cost

MR = Marginal Revenue

AR = Average Revenue

Yaxis denote cost

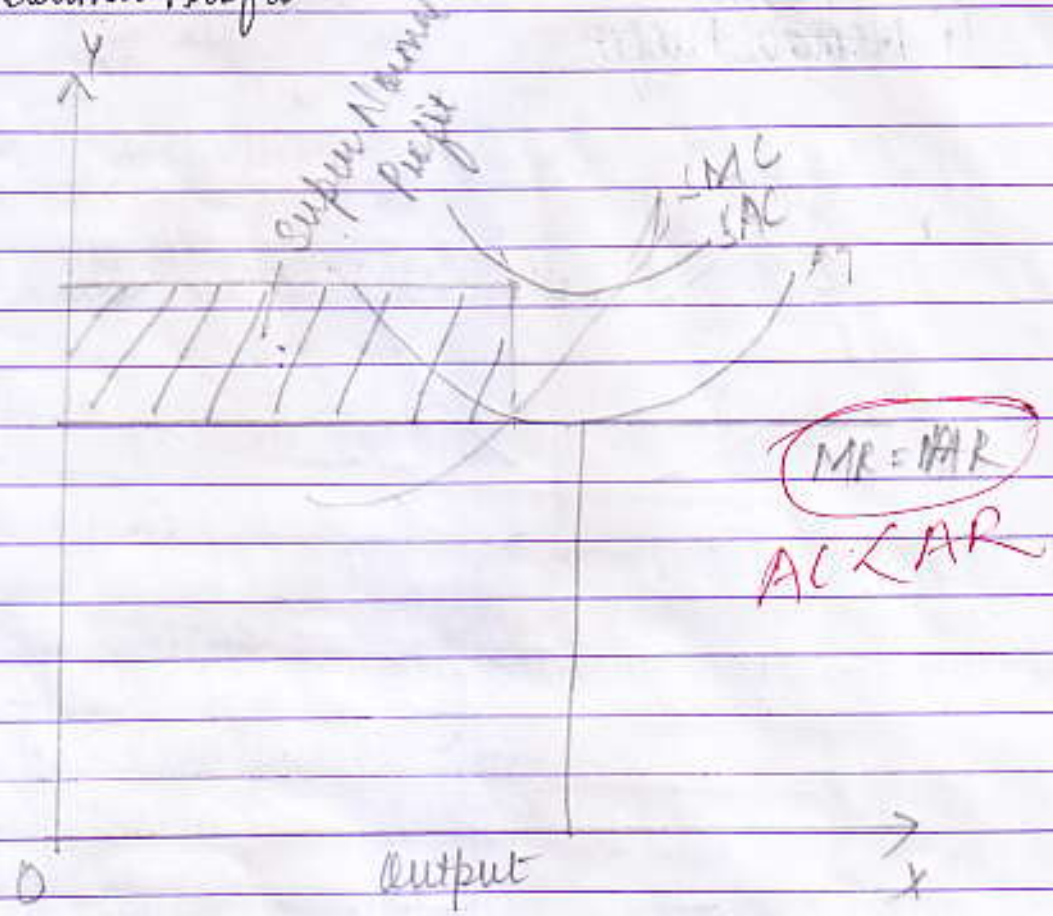
Xaxis denotes output

This figure shows ~~Nomir~~ Normal profit.

In this figure SMC cuts SAC curve and MR = AR. AC = AR

Normal profit is the minimum profit every businessman needs to endure in his business.

(2) Super Normal Profit

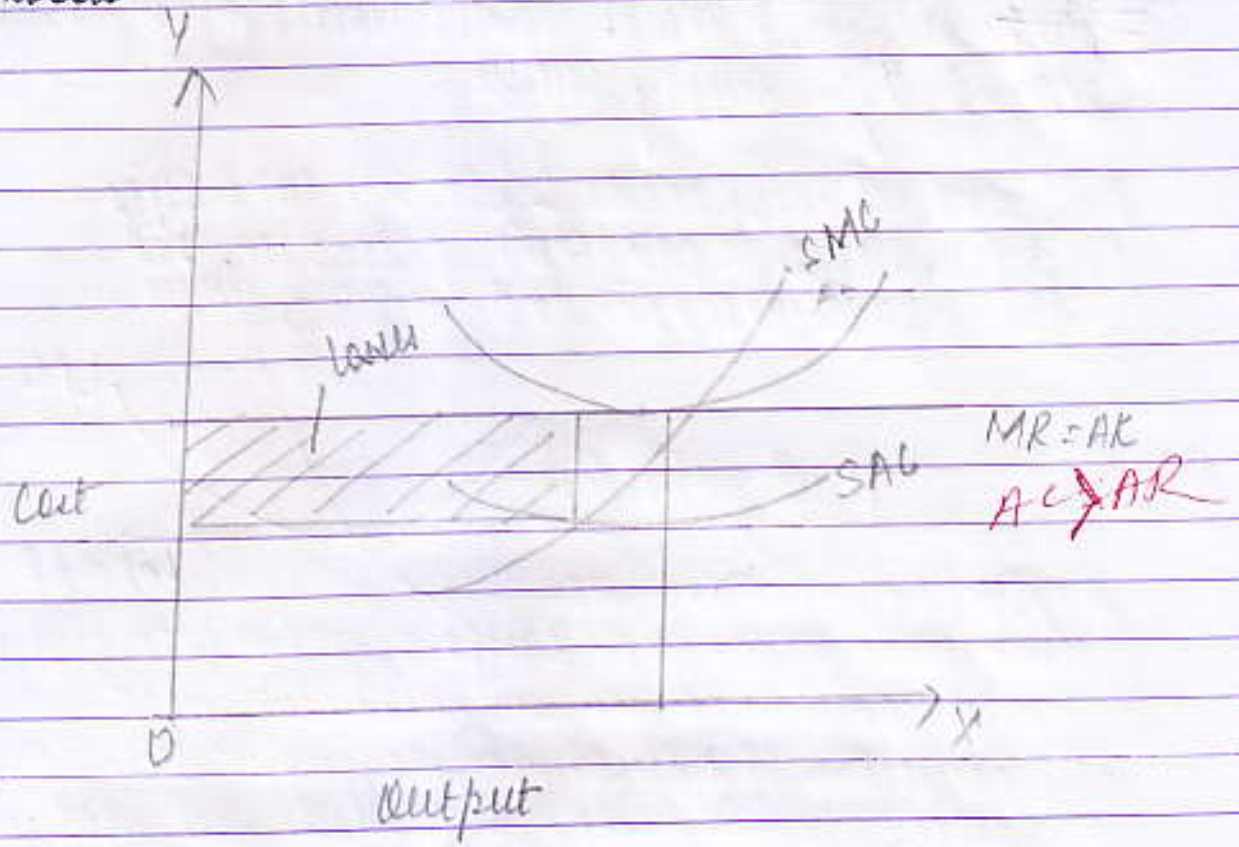


SMC shows short run marginal cost.
SAC short run average cost.
X axis denotes output
Y axis denotes cost.

In this figure firm attains super normal profit as average cost is lower than Marginal revenue and Average revenue.

Super Normal Profit is the time when producer increase his supply.

(3) Losses

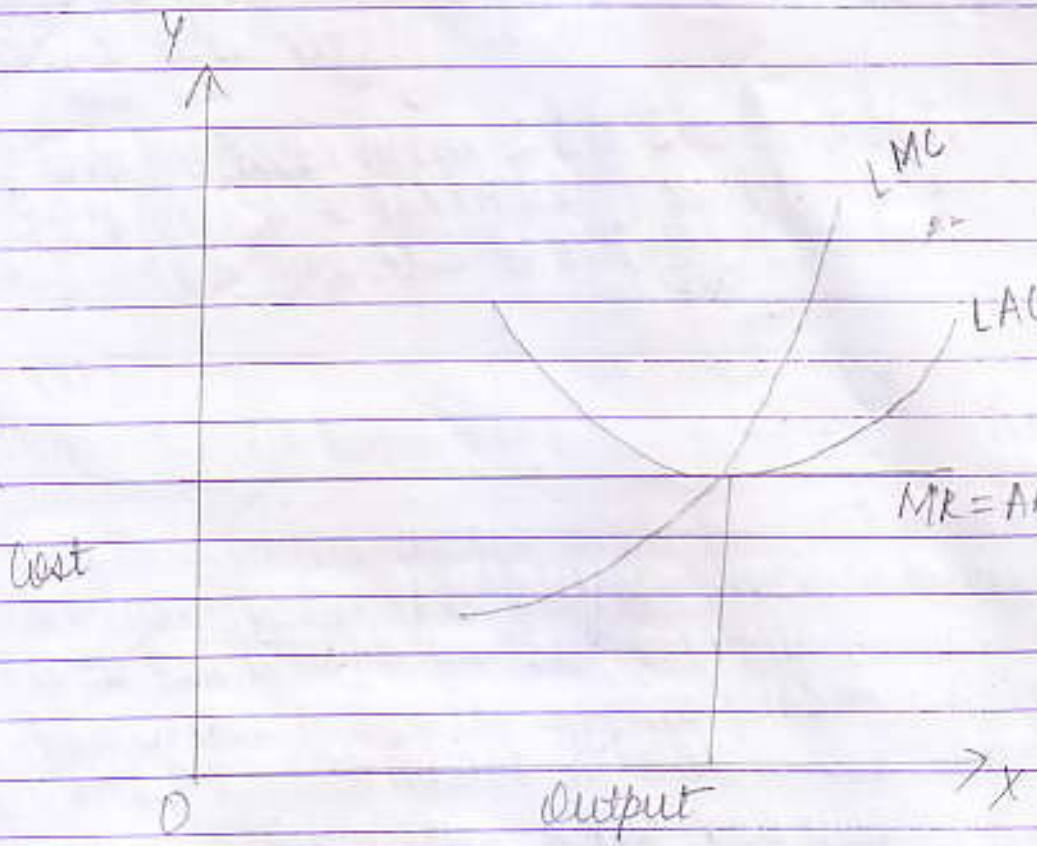


SMC shows short run marginal cost.
SAC Short run average cost
MR = Marginal Revenue
AR = Average cost.
X axis denotes output.
Y axis denotes cost.

In this figure firm suffers losses. Average cost is less than Marginal Revenue and Average Revenue.

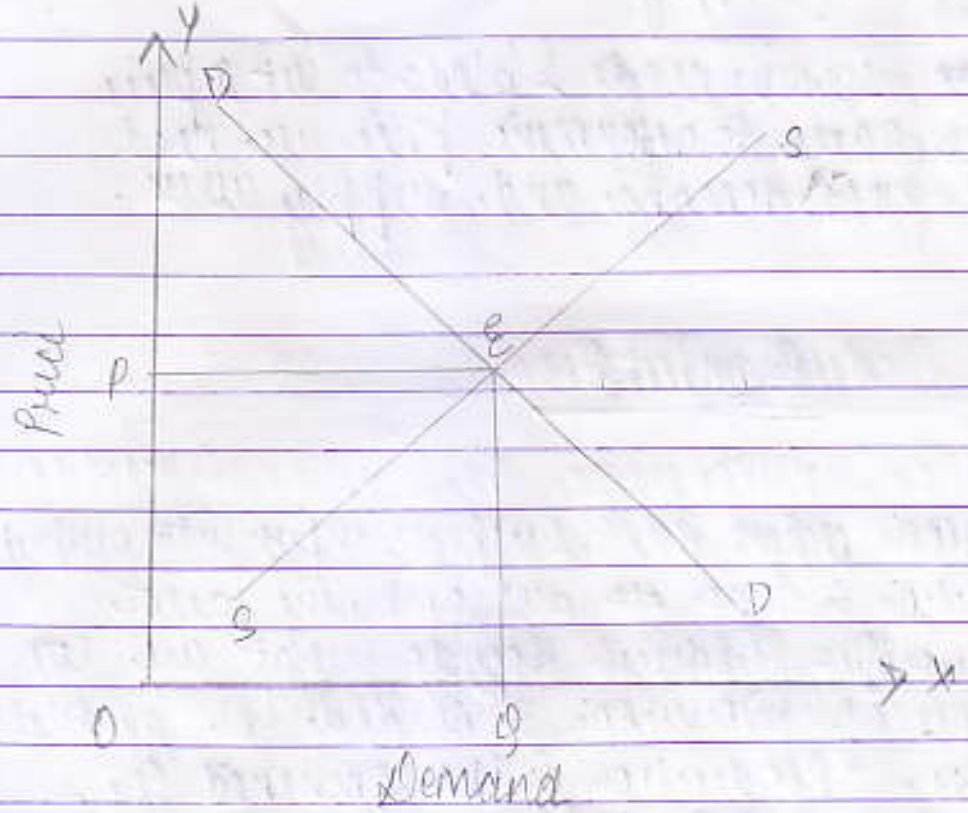
~~Loss is the~~ When firm suffers losses ~~firm~~ produces. start leaving the firm.

Long Run



LAC curve shows long run average cost
LMC curve shows long run marginal cost
MR = Marginal revenue
AR = Average Revenue
X axis denotes Output
Y axis denotes cost.

Price Determination Under Perfect Competition.



S shows supply curve. Supply curve is always upward sloping as it is made by the view point of producer. Producer always try to earn profit and his main aim is profit maximisation.

D shows demand curve. Demand curve is always downward sloping as it is made by the view point of consumer as consumer wait for the price to low. He always tries to buy at a cheap rate.

Price is determined by the intersection point of Demand and supply curve.

Price is determined by equilibrium point.

Eq uilibrium point means the intersection of demand and supply curve. (13)

A ~~stu~~ scissor needs 2 blade to cut A piece of paper same to determine price we need both demand and supply curve.

Ans6 **Production**

Production means the change of input into output. Production is done ~~by~~ by combining factor of production. Produce decide what are the factor of production is needed for production process. Production is the combined effo of factor of production.

Input → Process → Output

raw materials — Transformation — Finished output good.

Production means transformation of input into finished output. Production undergoes process.

Input : Input are the things needed at the time of production.
Eg:- Raw materials, labour etc.

Input are of two types :-

(1) Fixed Input

(2) Variable Input

(1) Fixed Input : Fixed input are the input which are fixed in nature. It doesnot change by production. Eg:- machinery, specialised labour, etc.

(2) Variable Input :- Variable Input are the input which varies according to the quantity of production.

Eg:- raw material, labour, etc.

Variable Input changes as we increase or decrease production.

Process :- Process means the transformation process which changes input into output.

Output :- Output means the finished good which is made to sell.

Four major factors of production :-

1. Land
2. labour
3. Capital
4. Entrepreneur

Production function

Production function means the functional relationship between input and output.

$$Q = f(L, K, N \ldots)$$

L → labour land
K → Capital
N → labour
Q → Output
f → functional Relationship.

Production can be done in two terms

1. Short Run
2. Long Run.

1. Short Run

→ In short run production some factors of production are fixed and some are variable.

→ Fixed factors of production are :- land, machinery, permanent labour, etc.

→ Variable factors of production are :- raw material, labour, etc.

② Long Run.

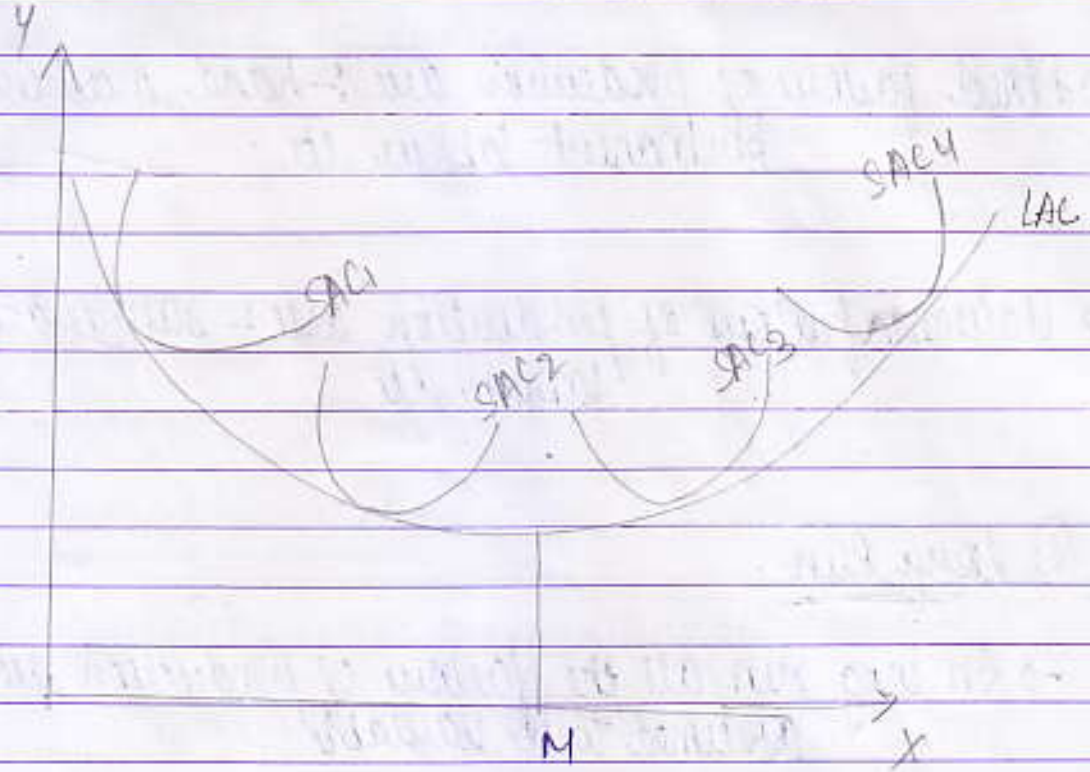
→ In long run all the factors of production are assumed to be variable.

→ None of the factors are fixed.

→ All the factor of production varies/changes.

→ In long run labour are involved more and more.

→ Labour does overtime, extra time duty.



This figure shows long run Average cost curve.

SAC_1, SAC_2, SAC_3, SAC_4 are all short run average cost.

LAC curve is envelope shaped, as it contains all all SAC curves.

LAC curve can never intersect SAC curve.

LAC minimum point shows optimum level of production at minimum cost.

Factors of Production

① Land :- Land is a type of factor of production for every production. Land is very important. Land needs rent. earns

② Labour :- Labour is a type of factor of production. Labour needs wages. earns
Some labour ~~are of~~ does full time and some part time. Some labour does overtime, night shift, etc.

③ Capital :- Capital is very important factor of production. Capital is the amount invested in business for production.
The amount / money invested by every businessman in his business is called capital. Capital gives interest. gets

④ Entrepreneur :- Entrepreneur is the most important factor of production. Entrepreneur is the owner of the business. Entrepreneur decides what to do and what not to do in business. Entrepreneur decides what are the factors of production he have to use and in what quantities.
Entrepreneur earns Profit