

Ch-4 Price Determination in Different markets

Unit-1 Meaning & Types of market

→ MARKET

A place where **goods** are purchased & sold.

Eg:- Air

- Economic goods (not free) are scarce
- They command price.

→ Only **Exchange value** is significant here, not sentimental value (**price connotes money value** i.e., purchasing power of an article is expressed in money terms)

→ Elements of Market :-

- Buyers & sellers
- product or service
- Bargaining for price
- knowledge about market conditions
- One price for a product at a given time.

→ Markets are generally classified into **PRODUCT** market & **FACTOR** market.

→ Types of market.

On the basis of Area.

- Local — for perishable goods (Bread, Egg)
- Regional — for Semi-durables (cloths)
- National — for Durables (TV, CAR)
- International — for precious items (Gold, Diamond)

on the basis of time (Alfred Marshall)

- very short — Supply cannot change
- short — Supply can ^{slightly} change
- long — Supply can change
- very long or secular period. — Supply can easily change.

On the basis of transaction.

- Spot — goods are physically transacted.
- future — Contracts of future date.

on the basis of Regulation.

- Regulated — Stock Exchange.
- Unregulated — No regulation.

SEBI

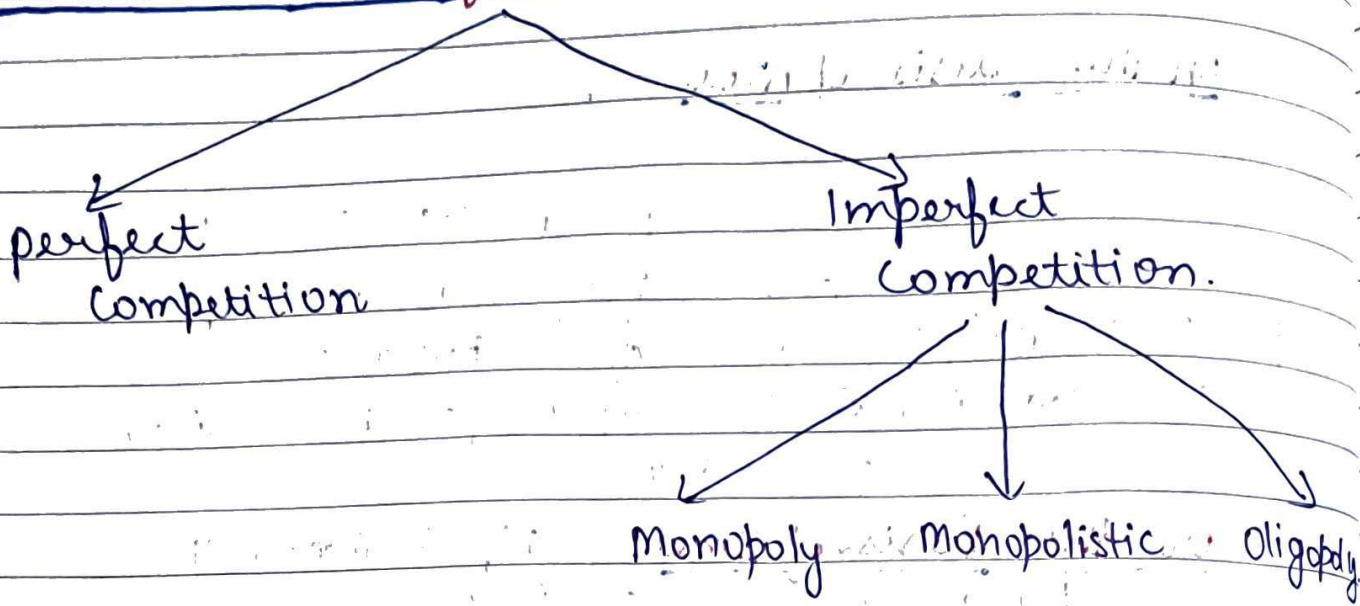
(Free market)

on the basis of Volume

- whole sale — Bulk / large Quantity
- Retail — Small Quantity.

(for ultimate consumer)

→ On the basis of Competition



** Basic Concepts **

① Total Revenue (TR)

$$= P \times Q$$

Amount realised by selling certain units of commodity.

② Average Revenue (AR)

$$= \frac{TR}{Q}$$

$$AR = \frac{P \times Q}{Q}$$

$$AR = P = \text{Price p.u.}$$

* Average curve is also "DEMAND CURVE"

③ Marginal Revenue

$$= \frac{\Delta TR}{\Delta Q} \quad \text{OR} \quad MR_N = TR_N - TR_{N-1}$$

* MR is **SLOPE** of TR.

price	Quantity	TR	AR	MR
₹10	5	₹50	₹10	-
₹9	6	₹54	₹9	4
₹8	10	₹80	₹8	6.5
₹7	14	₹98	₹7	4.5
₹6	20	₹120	₹6	3.67

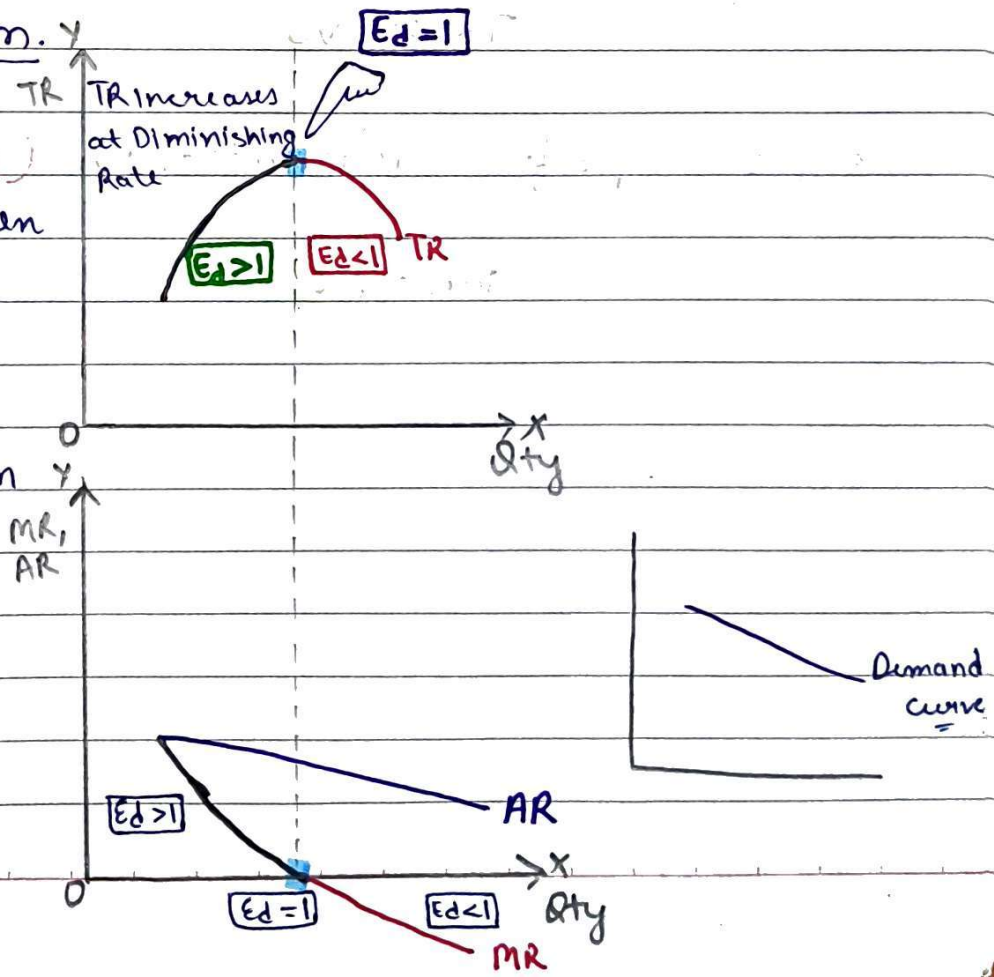
Output	MR	TR
3	4	22
5	9	40

→ General Diagram.

① $MR > 0$ i.e (+ve) then TR increases at Diminishing rate.

② $MR = 0$, TR is MAXIMUM

③ $MR < 0$ i.e (-ve) then TR falls.



Very Important

Relation between E_d , MR, AR, TR

$$MR = AR \times \frac{E_d - 1}{E_d}$$

**

	MR	TR
$E_d > 1$ (Elastic)	(+ve)	TR increases at Diminishing Rate
$E_d = 1$ (Unit Elastic)	0	TR is MAXIMUM
$E_d < 1$ (Inelastic)	(-)ve	TR falls

→ Behavioural principle

• for a firm to produce.

$$TR \geq TVC$$

• for profit maximisation. (Producer's Equilibrium)

$$MR = MC$$

Unit-2 Determination of Price.

→ In general, interaction between demand & supply determines the price.

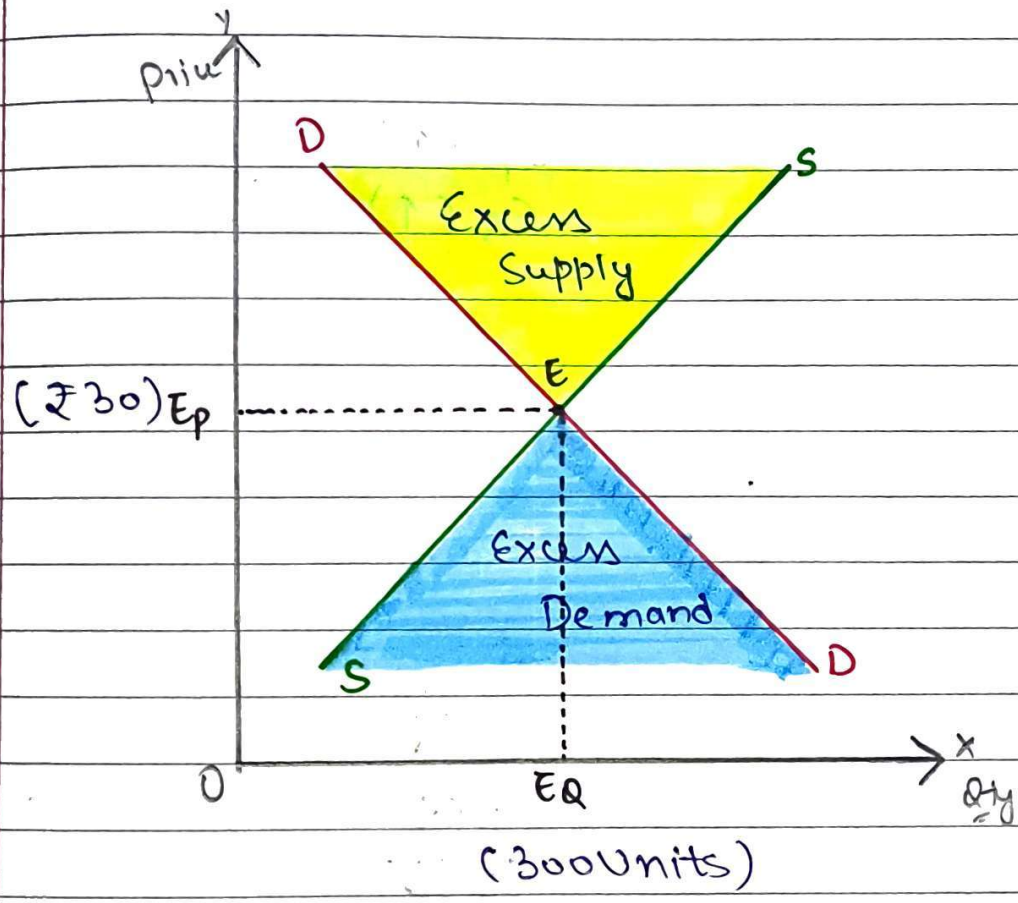
		Consumers	Producers	
Eg	Price	Qty Demanded	Qty Supplied	
	₹10	500 Units	100 Units] Excess Demand.
	₹20	400 Units	200 Units	
	₹30	300 Units	300 Units	
	₹40	200 Units	400 Units] Excess Supply.
	₹50	100 Units	500 Units	

Equilibrium Price



Law of Demand

Law of Supply



→ But in some cases, government intervenes and determines the prices. (Eg. kerosene, fertilizers etc.)

** Change in Demand or change in Supply **

Increase
in Demand

Rightward
shift

①

Decrease

in
Demand
(leftwards
shift)

②

Increase

in
Supply
(Rightwards
shift)

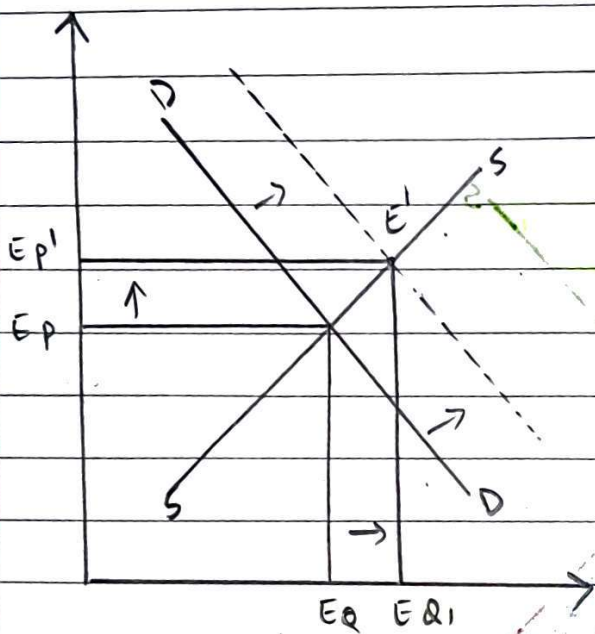
③

Decrease

in
Supply
(leftwards
shift)

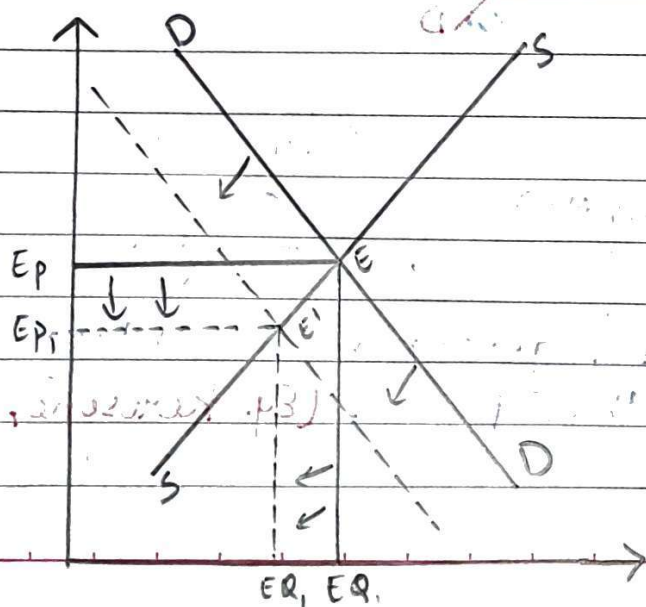
④

①

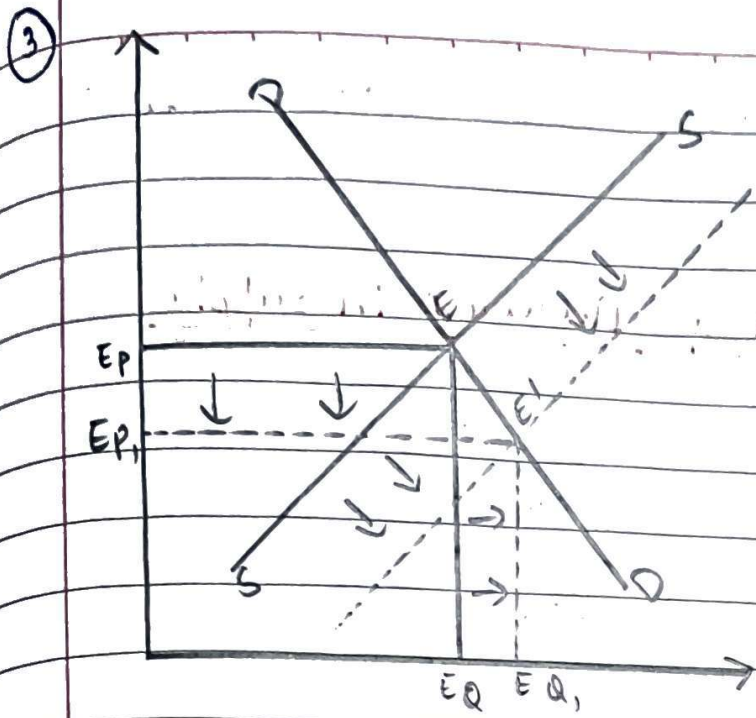


$E_P (\uparrow)$
 $E_Q (\uparrow)$

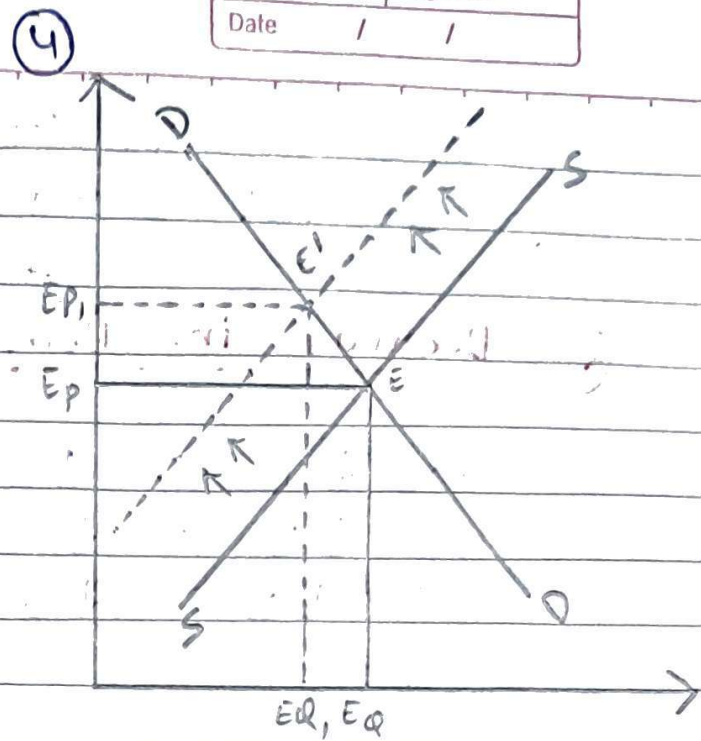
②



$E_P (\downarrow)$
 $E_Q (\downarrow)$



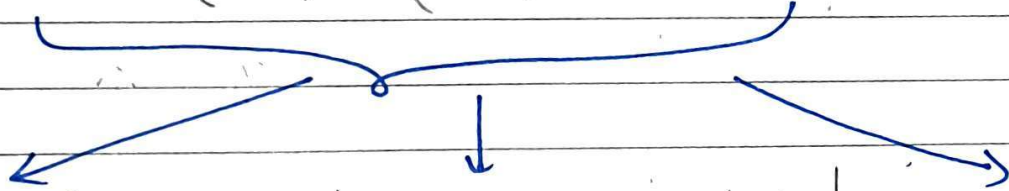
$E_p (\downarrow)$
 $E_Q (\uparrow)$



$E_p (\uparrow)$
 $E_Q (\downarrow)$

When Simultaneously both demand & Supply changes.

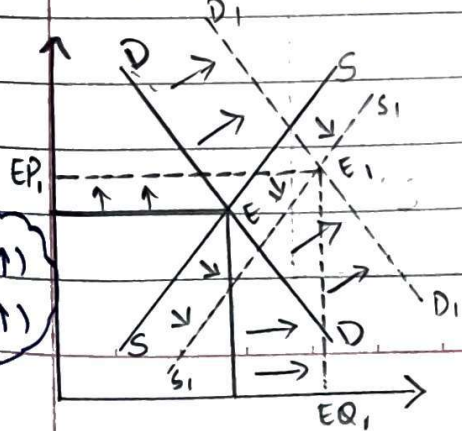
① Increase in Demand & Increase in Supply.
(D↑) (S↑)



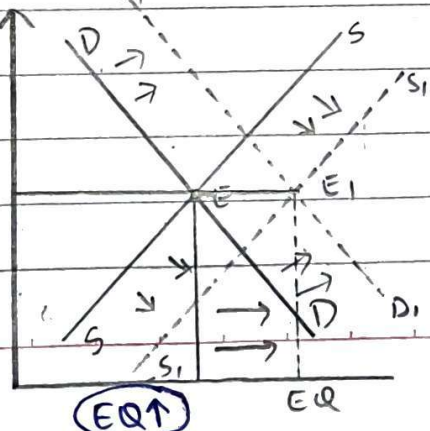
$D(\uparrow) > S(\uparrow)$

$D(\uparrow) = S(\uparrow)$

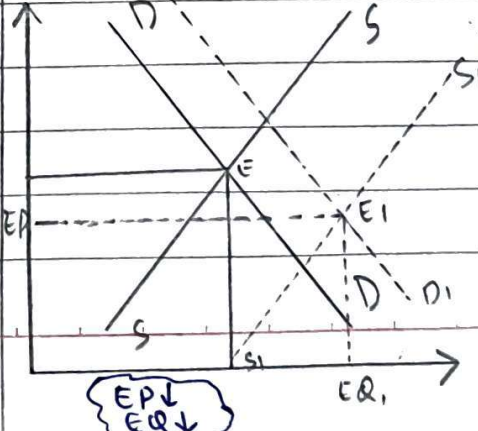
$D(\uparrow) < S(\uparrow)$



$E_p(\uparrow)$
 $E_Q(\uparrow)$



$E_Q(\uparrow)$



$E_p(\downarrow)$
 $E_Q(\uparrow)$

EQ will definitely Rise, E_p may rise, fall or do not change.

② Decrease in Demand & Decrease in Supply.

→ $\downarrow D > \downarrow S$ $E_p \downarrow$ $E_Q \downarrow$
 → $\downarrow D = \downarrow S$ E_p Same $E_Q \downarrow$
 → $\downarrow D < \downarrow S$ $E_p \uparrow$ $E_Q \uparrow$

③ Increase in Demand & Decrease in Supply.

$\uparrow D > \downarrow S$ $E_p \uparrow$ $E_Q \uparrow$
 $\uparrow D = \downarrow S$ $E_p \uparrow$ E_Q Same
 $\uparrow D < \downarrow S$ $E_p \uparrow$ $E_Q \downarrow$

④ Decrease in Demand & Increase in Supply.

$\downarrow D > \uparrow S$

$EP \downarrow \quad EQ \downarrow$

$\downarrow D = \uparrow S$

$EP \downarrow \quad EQ \text{ same}$

$\downarrow D < \uparrow S$

$EP \downarrow \quad EQ \uparrow$

Individual = ...
the price

Individual = ...

Individual = ...

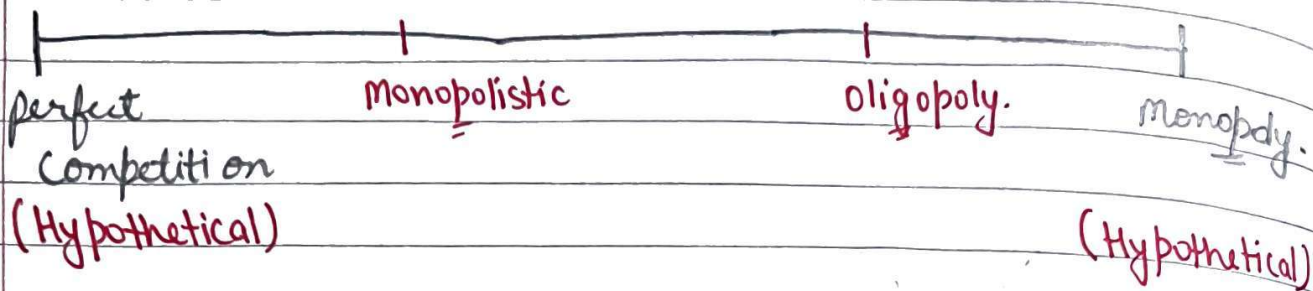
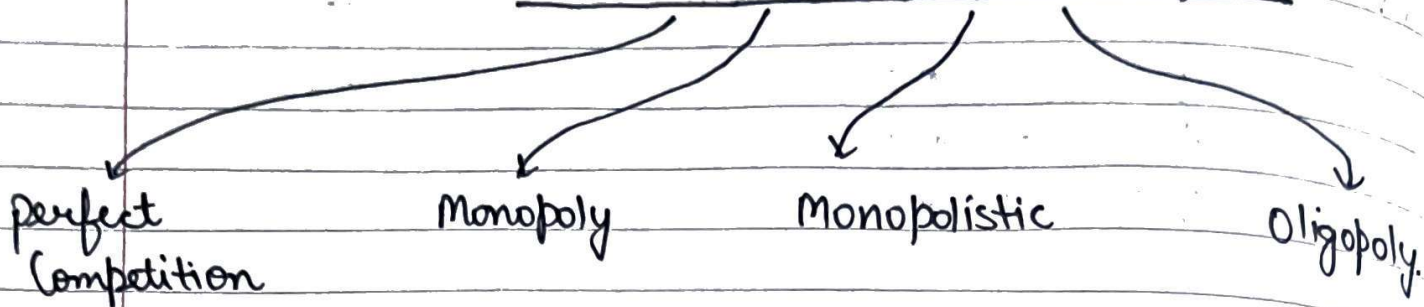
Individual = ...

Individual = ...

Individual = ...

Unit-3 price output determination

Under different Market forms.



** (I) PERFECT COMPETITION **

(Eg. Agricultural products, Stock (Bonds), Metals etc)

① very large no. of Buyers & Sellers. - Individual Buyer or Individual Seller cannot influence the price.

② Homogeneous products ~~Similar~~ **IDENTICAL** goods.

i.e., perfect substitutes. → price remains constant.

③ free Entry & Exit. firms will earn Normal profits in long run.

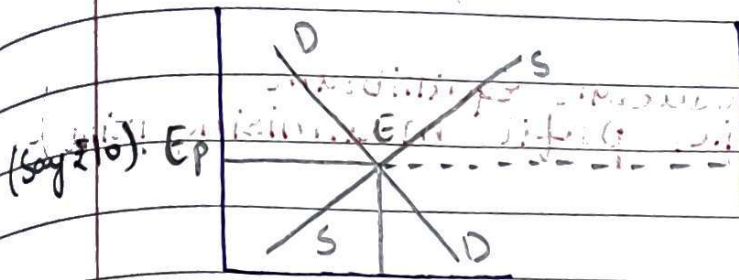
* first 3 features are considered as PURE Competition.

④ perfect knowledge of market

⑤ free mobility of factors of production. ^{perfect mobility} Eg. "labour"

⑥ No Transportation / selling cost is involved.
(Advertisement)

⑦ firm is Price taker.



Industry

firms.

Price taker.

Price maker.

Industry = Group of firms

* perfect market is also Ideal market.

COMPETITIVE MARKET

*

Pure comp.

perfect competition.

* All perfect Competition are pure. - Yes

* All pure competition are perfect - No.

* In Perfect Competitive

Price = AR = MR = demand curve

"parallel to x-axis"

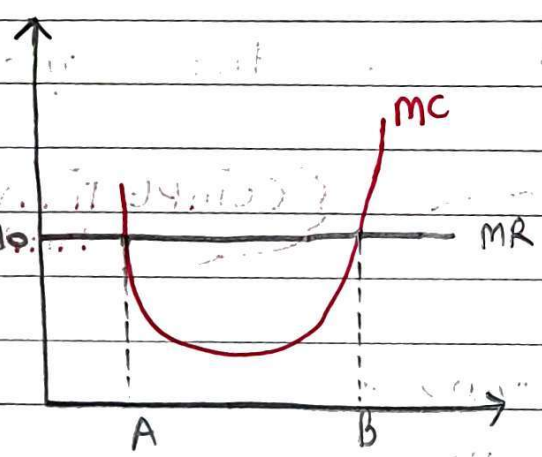
$E_d = \infty$

(Perfectly Elastic)

* EQUILIBRIUM (Producer's Equilibrium i.e., profit maximising point)

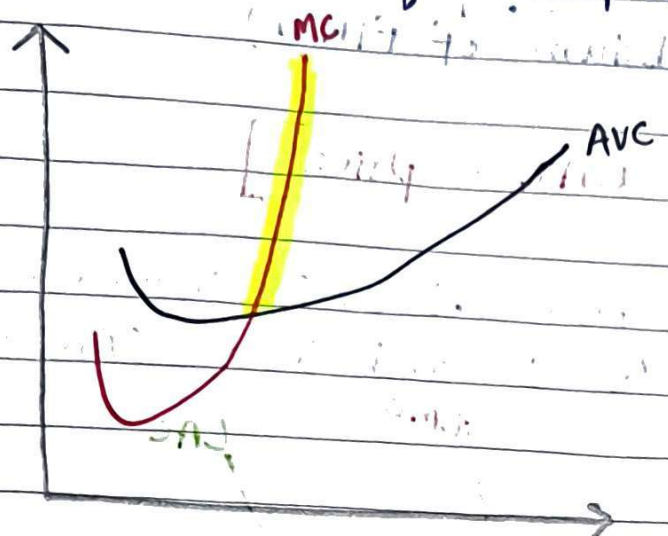
(i) $MC = MR$

(ii) MC should have positive slope i.e MC should cut MR from below (After Intersection $MC > MR$)



Producer's Equilibrium.

* Supply Curve (perfect competition)



The rising portion (after intersection) of MC is SUPPLY CURVE.

* profits of Competitive firm. (perfect competition)

- Abnormal profits : $AR > AC$
(Super Normal)
- Normal profits : $AR = AC$
- losses : $AR < AC$

4

price = ₹10
 AC = ₹12
 AVC = ₹9 } Analysis.

Should the firms continue??

Answer Yes, the firm should continue.

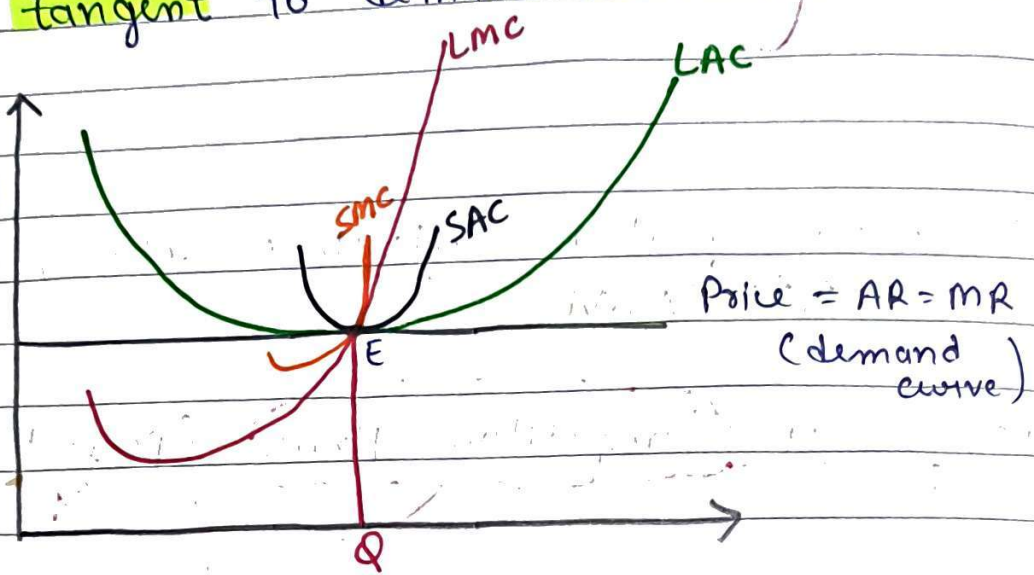
$Price > AVC$

* Long Run Producer's Equilibrium. (Equilibrium of FIRM)

$$LMC = LAC = \text{Price}$$

i.e, minimum point of LAC should be **tangent** to demand Curve (AR curve) i.e price.

Figure 1.A



Also

$$SMC = LMC = SAC = LAC = \text{Price} = MR.$$

- **Minima** of LAC & SAC coincide.
- Point E shows **OPTIMUM COST**.
- firm producing Q level of Output at optimum cost is called **OPTIMUM FIRM**.

* Long Run Equilibrium of Industry.

- when **all** the firms earn **Normal profits.**

AND

- No further Entry or Exit takes place.

(i) Point E denotes

(a) $MC = AR$

Consumer pays minimum price.

(b) $MC = AC$

plants are used at full capacity
i.e., no wastage of resources.

(c) $AC = AR$

firms earn **Normal profit**

(d) $MC = MR$

firms earn **Maximum profit.**

II

* **MONOPOLY** *

Single Seller. (Indian Railways)

→ Monopoly means "alone to sell"

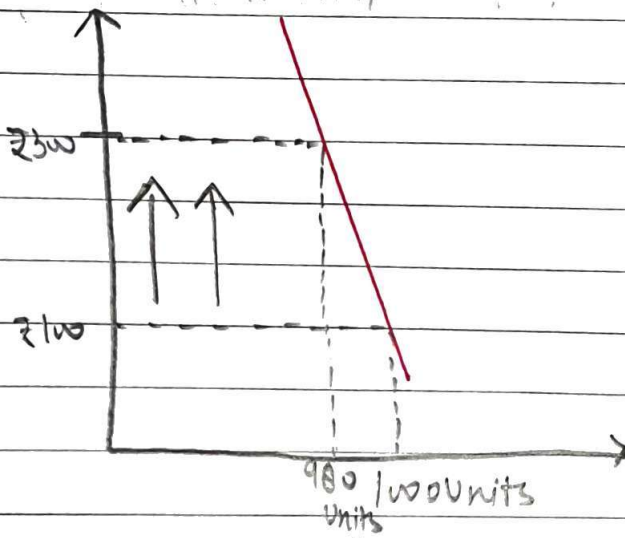
→ Here firm and Industry is one & the same thing.

features

- ① Single Seller → **Price Maker** i.e., Substantial Control Over Supply.
- ② Restriction in Entry.
- ③ No close substitutes.

→ Cross Elasticity is **Zero**

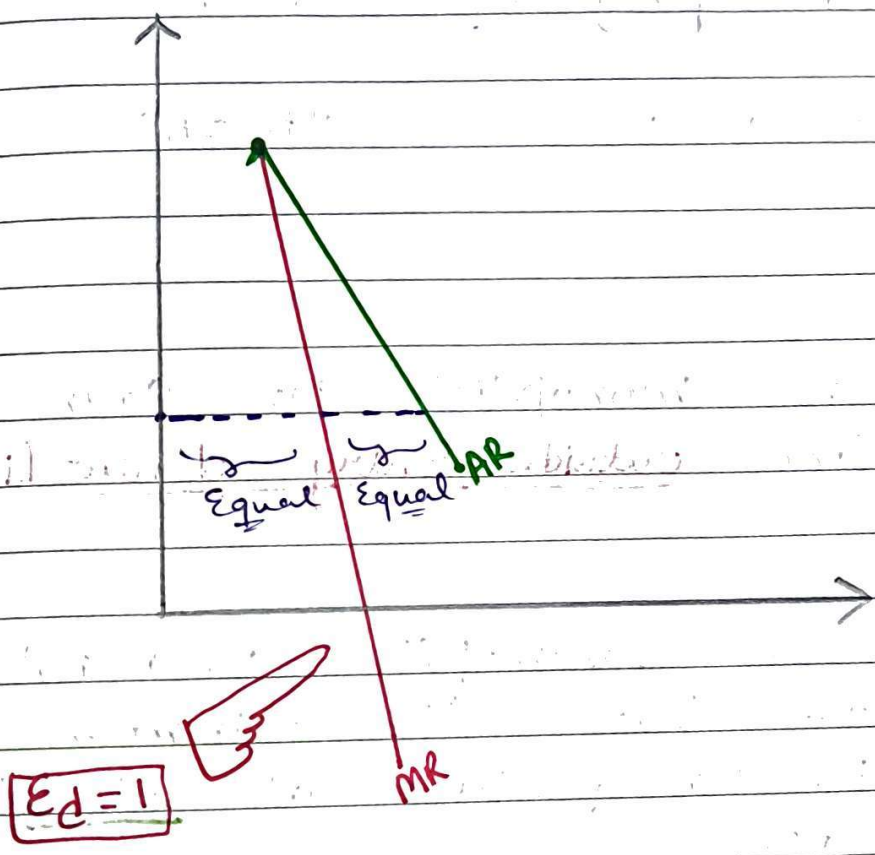
→ Demand Curve (or AR curve) is **Negatively sloped (STEEPER Curve)**.



$E_d < 1$
(Inelastic)

- ④ monopolist has market power i.e. **charging price above MC.**
- ⑤ monopolist may adopt **price discrimination.**
- ⑥ A monopolist can also **incur losses** ($AR < AC$)

⑦ Relation of AR & MR



- AR & MR curve are negatively sloped
- MR curve lies half way between AR curve & Y-axis.
- AR curve cannot be zero but MR can be zero or negative.

* EQUILIBRIUM (profit Maximisation)

$$MR = MC$$

* Profits

(AR > AC)

→ Abnormal profit :- $AR > AC$

→ Normal profit :- $AR = AC$

→ losses :- $AR < AC$

* LONG RUN

→ In long run monopolist can earn abnormal profits since outside entry of new firm is blocked.

→ In long run, monopolist need not produce at optimum level (i.e., minimum point of LAC). He can produce at sub-optimal level also.

* How do monopoly arise??

- Strategic Control over Resources
- Government granting Exclusive rights (Patents or Copyrights)
- Business Combinations (Cartel)
- Extremely large Startup Cost.
- firm may use anti-competitive practice like predatory/limit pricing.

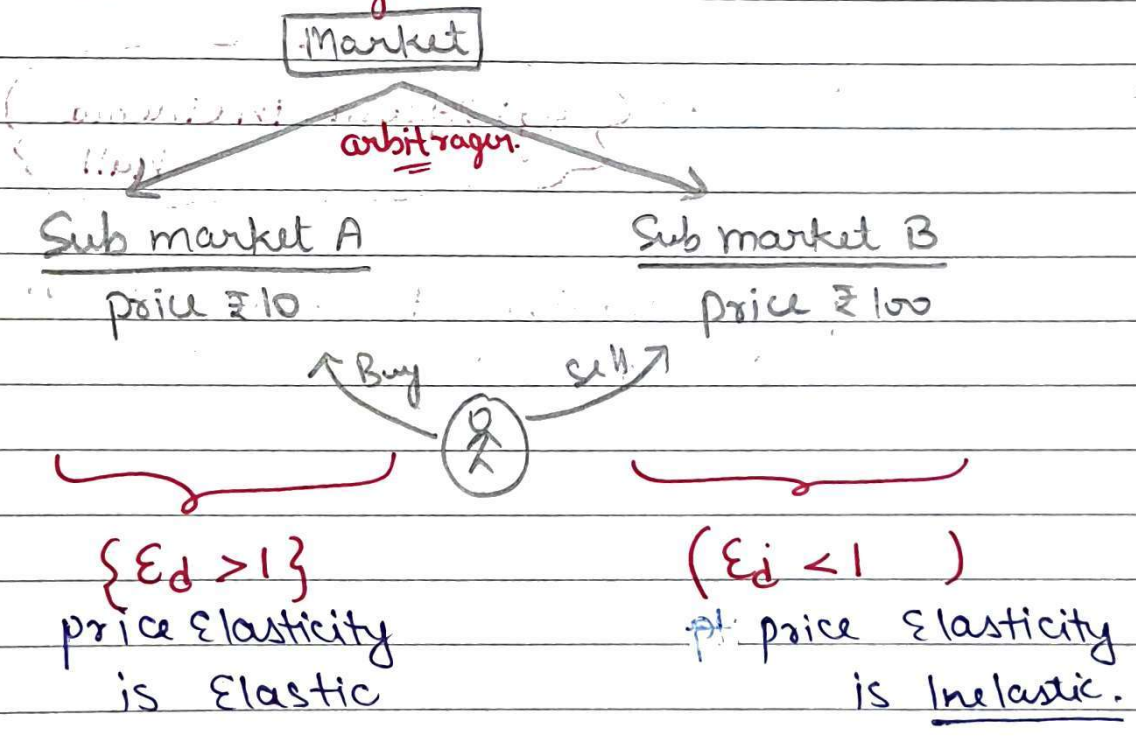
* PRICE Discrimination *

→ objectives

- to Earn maximum profits.
- to Capture foreign markets
- to Enjoy Economies of scale / dispose Excess stock.

→ price discrimination is possible only under the following conditions:-

- Monopoly must exist
- Seller must be able to divide the market.
- price Elasticity is different in different submarkets.
- No market arbitrage.



* Higher price where demand is Inelastic.

→ price discrimination may relate to:-

- (a) Time
- (b) Size of purchase.
- (c) Income Etc Etc.

^{100%}
 (R) → Degrees of price discrimination. (A.C Pigou.)

• **First Degree**:- price is such that it takes away **ENTIRE** Consumers Surplus.

• **Second Degree**:- Price is such that it takes away **ONLY or PART** of Consumers Surplus.

• **Third Degree**:- Eg:- popcorn in Cinema hall

price varies because of **LOCATION** or Customer segment Etc.

III * MONOPOLISTIC COMPETITION *

→ This market is a blend of monopoly & perfect competition.

→ Eg:- SOAP Industry.

features

(i) large no. of Buyers & Sellers.

- Individual buyer or seller has a very small share in market.

(ii) Product differentiation.

- Heterogeneous products (Similar products)

- products are Close substitutes.

(iii) Free Entry & Exit of firms.

- Normal profits in long run.
(AR = AC)

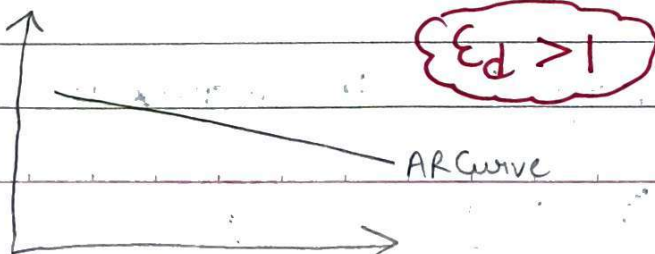
(iv) Selling/ Advertising Cost is involved.

↓
HUGE.

(v) Non price competition.

~~Price war~~

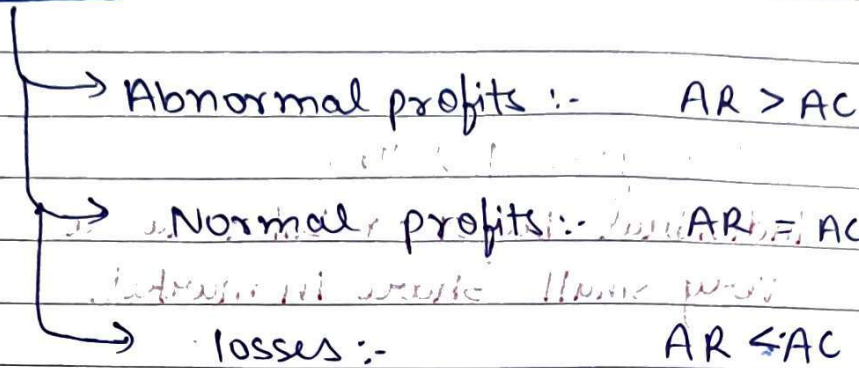
(vi) Demand curve (AR curve) is Downward sloping flatter curve.



* EQUILIBRIUM (PROFIT MAXIMISATION)

- $MC = MR$
- MC should cut MR from below.

* PROFITS



* long Run

In Long Run all the firms earn zero **Super normal profits** (i.e, normal profits)

IV * OLIGOPOLY *
(Eg. - COLDRINK Industry)

- ① Competition among **few**
↓
2-10
- ② Strategic dependence
- ③ Group Behaviour
- ④ Price Rigidity.
- ⑤ Product may be **Homogeneous** or **Heterogeneous**
- ⑥ Difficult Entry.

⑦ Heavy Selling & advertising COST.

→ Types of Oligopoly:

① Pure (or perfect)

- deals in homogeneous products.

② Differentiated (or imperfect)

- deals in heterogeneous products.

③ Open

- new firm can enter.

④ closed

Entry is restricted.

⑤ Collusive

- commonly decide price & output.

⑥ Non-collusive

- (Competitive) Compete with each other.

⑦ Partial

Industry is dominated by one large firm.

⑧ full

No leadership.

⑨ Syndicated -

Small group control it i.e.

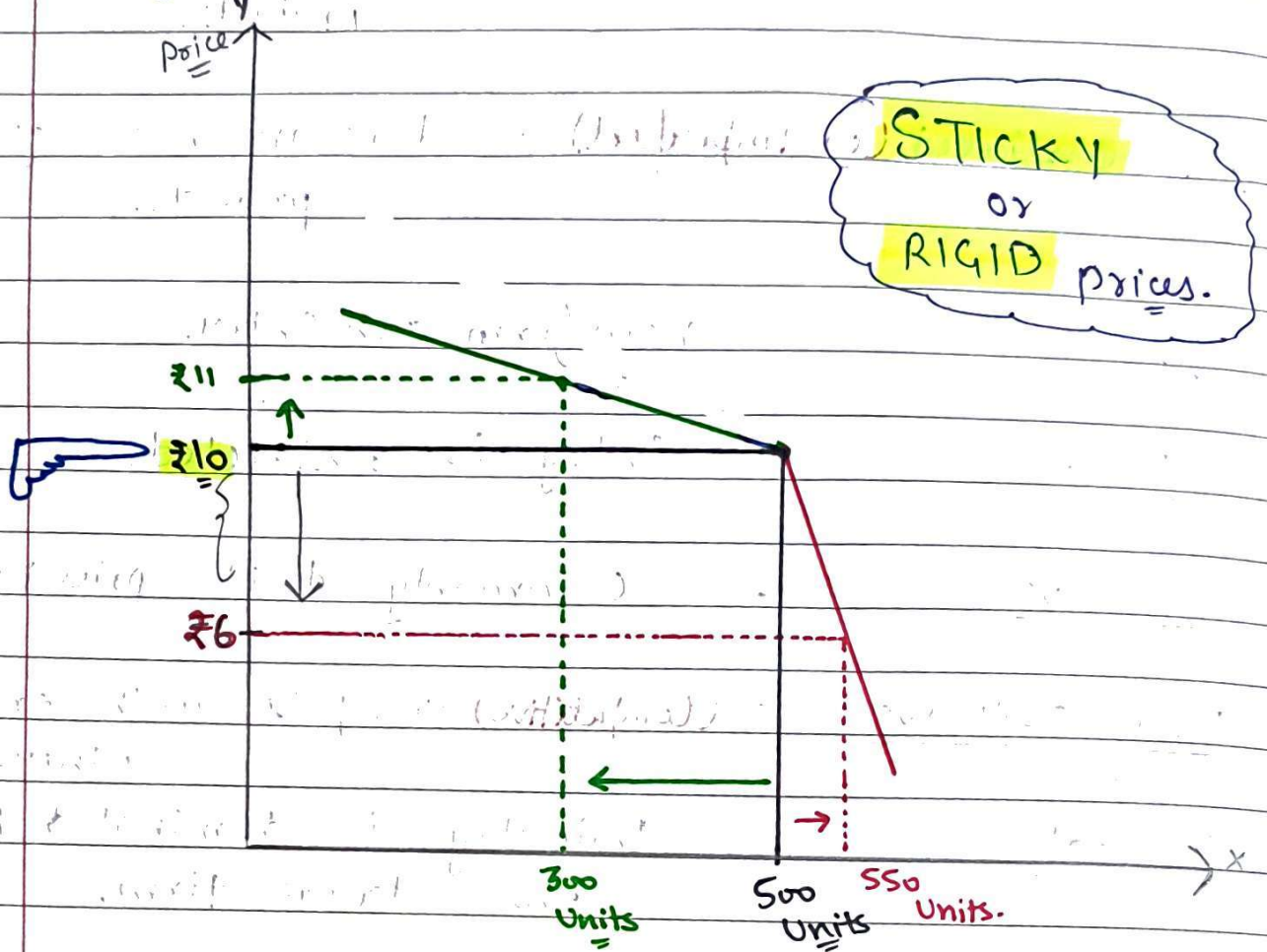
⑩ organised -

Centralised body *
all firms decide their output (Centrally Organised)

* DEMAND CURVE

- because of price rigidity, demand curve is **KINKED** - given by **SWEETZ**.

• Diagram



→ Response to price increase is **more than** response to price decrease.

* Price & Output decision.

- (i) **Interdependence is ignored** then output is determined by **MC = MR.**
- (ii) Oligopolist tries to **predict the reaction** of his competitors.

COURNOT model

Each firm decides its **Output.**

Stackelberg's model

Leader decides **Output.**

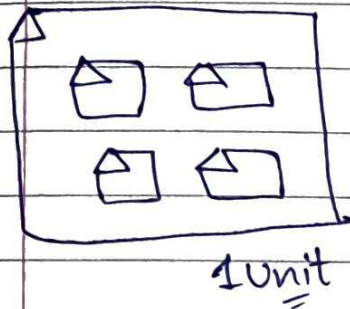
Bertrand model.

Each firm decides its **price**

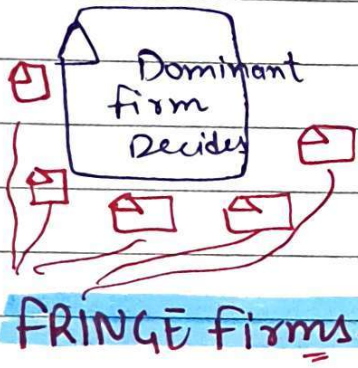
(iii) Oligopoly firms acts as monopoly organisation and fix their prices to enjoy maximum profits.



* Price Leadership.



price Leadership



Barometric price leadership.

↓
 Old, Experienced, most respected firm becomes price leader.

Other market firms.

- ① Duopoly Two Sellers (firms)
- ② Monopsony Single Buyer
- ③ Oligopsony few large Buyers
- ④ Bilateral Monopoly - Single Buyer & single Seller.

