

# Unit 2 :- Theory of Consumer Behaviour

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## 2.0 Nature of human Wants

Wants arise due to

- Physical factors
- Psychological factors
- Social factors

All wants of human beings exhibit some characteristic features:

- 1) Unlimited ✓ → X Completely satisfy
- 2) Differ in intensity
  - Some are urgent ✓
  - Feel less intensely ✓
- 3) Each want is satiabile → Capable of being satisfied
- 4) Wants
  - Competitive ✓
  - Complementary ✓ & Alternative ✓
- 5) Vary
  - Subjective + relative ✓
  - time ✓
  - place ✓
  - person ✓
- 6) Recurring + Non-Recurring
- 7) Wants
  - become → Habit + Customs
  - affected by income taste etc
  - aris from multiple cause

## 2.1 Classification of Wants

- 1) **Necessaries** → Essential for living ✓
  - Meet → Physiological needs ✓
  - Min. → For maintenance of life ✓
- 2) **Necessaries for efficiency** →
  - Maintain longevity + energy + efficiency of work
- 3) **Conventional Necessaries** → due to
  - Pressure of habit ✓
  - Competing social custom ✓
  - Conventions ✓

**Comforts**

- Necessaries have life → Possible comforts ✓
- Comforts have life → Comfortable + Satisfying ✓

 Comforts less urgent than necessities

**Luxuries**

- Superfluous + expensive
- X essential for living

## 2.2 What is Utility?

Concept of utility → Use → Neo classical Economics → Explain the operation law of demand ✓  
 Economists apply the term utility → Property in any object → Tends to
 

- Produce Benefits ✓
- Advantages ✓
- pleasure, goods or happiness ✓

• Utility  $\begin{cases} \rightarrow \text{Want satisfying power of commodity} \\ \rightarrow \text{Expected (Anticipated) Satisfaction by consumer} \end{cases}$   
 Subjective + Relative  $\rightarrow$  Satisfaction  $\rightarrow$  Actual (Tangible satisfaction derived)

Vary per. to per.  
 Utility  $\neq$  Usefulness  
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\* Concept of Utility  $\rightarrow$  Ethically Neutral

[2.1] Marginal Utility Analysis  $\rightarrow$  Quantitative measures (Cardinal Approach)  
 Quantitative  $\rightarrow$  No. of expressions of util.

• Formulated by  $\rightarrow$  Alfred Marshall, A British economist  
 Explain  $\rightarrow$  How a consumer spend his Income  $\rightarrow$  To attain max. satisfaction

• Utility measuring Unit  $\rightarrow$  Utils

(a) Total Utility  $\rightarrow$  Sum of all Utility derived  
 $TU \Rightarrow MU_1 + MU_2 + \dots + MU_N$   $\rightarrow$  also sum of marginal utilities derived

(b) Marginal Utility  $\rightarrow$  One additional unit consumed

$$MU_N \Rightarrow TU_N - TU_{N-1}$$

\* Assumption of Marginal Utility Analysis

(1) Rationality  $\rightarrow$  Consumer  $\begin{cases} \rightarrow \text{Rational} \\ \rightarrow \text{attempts to attain maximum satisfaction} \end{cases}$

(2) Cardinal Measurability of Utility  $\rightarrow$  Utility  $\begin{cases} \rightarrow \text{Measurable} \\ \rightarrow \text{quantifiable} \end{cases}$   $\rightarrow$  can easily compare  $\checkmark$

(3) Money is the measuring rod of Utility  $\rightarrow$  i.e. that a consumer is willing to pay

(4) Consumption  $\begin{cases} \rightarrow \text{continuously} \\ \rightarrow \text{No time gap or interval between consump}^n \text{ of diff. unit} \end{cases}$   $\checkmark$

... and the other factors Constant [C.P]

(6) Commodity consumed  $\rightarrow$  Homogeneous  $\checkmark$  or Identical nature  $\checkmark$   $\rightarrow$  Same

(7) Units Consumed  $\rightarrow$  Standard units  $\checkmark$

(8) Marginal utility of Money  $\rightarrow$  Constant  $\checkmark$   $\rightarrow$  When the individual is spending Money on Goods

(9) Ignore complementarity between Goods  $\checkmark$  OR Separate utilities of the Goods  $\checkmark$   
 $\rightarrow$  अगर हमें पता कि utility निकालने की है तो हमें sugar जो complementary good है उसे utility ignore करना

### ★ The Law of Diminishing Marginal Utility

जैसे जैसे हम Additional Unit consume करते वैसे वैसे हमारी Utility कम होती जायगी

$\rightarrow$  Marginal Utility  $\checkmark$

### • Relation between Total utility & Marginal utility

1) Total utility rise as long as MU positive but MU is diminishing

2)  $[MU = 0 \& TU = \text{Max.}] \rightarrow$  Satiation Point

3)  $MU = -ve \& TU =$  Diminishing

4)  $MU \rightarrow$  Rate of DOB TU  
Slope of TU

5)  $MU = +ve, -ve, 0 \checkmark$

### ★ Consumer Equilibrium in Single Commodity Case

$\rightarrow$  MU curve  $\rightarrow$  Downward Sloping

$\rightarrow$  C.E  $\checkmark$  When  $\rightarrow MU_x = P_x \rightarrow$  Consumer  $\rightarrow$  Buying  $\rightarrow$  T.O  $\checkmark$

$\rightarrow MU_M = MU_x = 1$

### ★ When two or more commodity case

$\rightarrow$  Equi-Marginal Utility

$\rightarrow$  Equilibrium When -

$$MU_M = MU_My$$

$$\frac{MU_x}{P_x} = \frac{MU_y}{P_y}$$

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★ Consumer Surplus

→ Basic Point → Consumer gets more utility from a commodity

→ He would be willing to pay a higher price & v.v ✓

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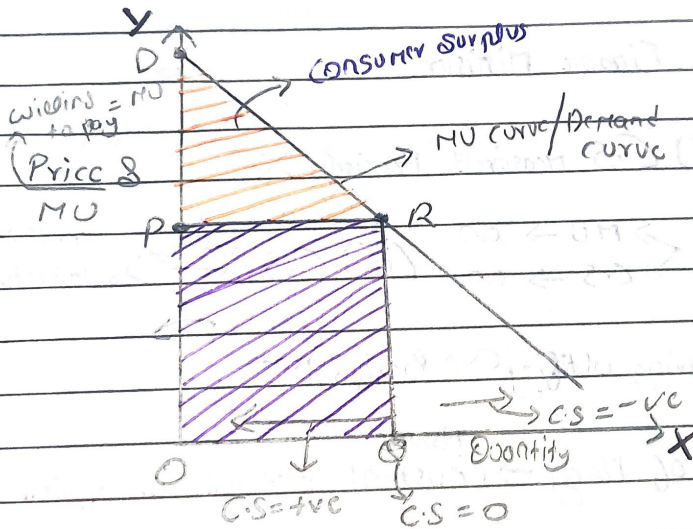
Assume → Perfect Competition ✓

→ Consumer Surplus =  $MU_x - P_x$   
 ↓  
 Equilibrium  
 ↓  
 Consumer Surplus = 0

What a consumer is ready to pay  
 What he actually pays

→ Concept of C.S → Derived from the law of diminishing MU

• Graphical Representation



ODRO ⇒ Willing to Pay

OPRO ⇒ Actually Pay

ODRO - OPRO ⇒ DPR

It is the triangular area below the demand curve & Above the price line.

Total CS ⇒ Area below the Market Demand curve & Above price line.

New Point ICAI

• P ↓ ⇒ CS ↑ of Existing Buyer ✓ ✓

→ New customer comes ✓

■ Applications :

- (1) Biz firms → Reflects → Job C.S enjoyed by diff. segments of other customers ✓ → Perceive large surplus ✓ → Repeat their purchase ✓
- Price Discrimination
- (2) Biz Manager ✓ → Make Better Decision → Selling price ✓
- (3) Large scale Invest. Involves Cost Benefit analysis ✓ → Consumer surplus ↑
- (4) When Firm raising its product prices ↑ → Know. of C.S ✓ Imp
- (5) C.S Guide → Finance Minister → Tax imposed

■ Limitations :

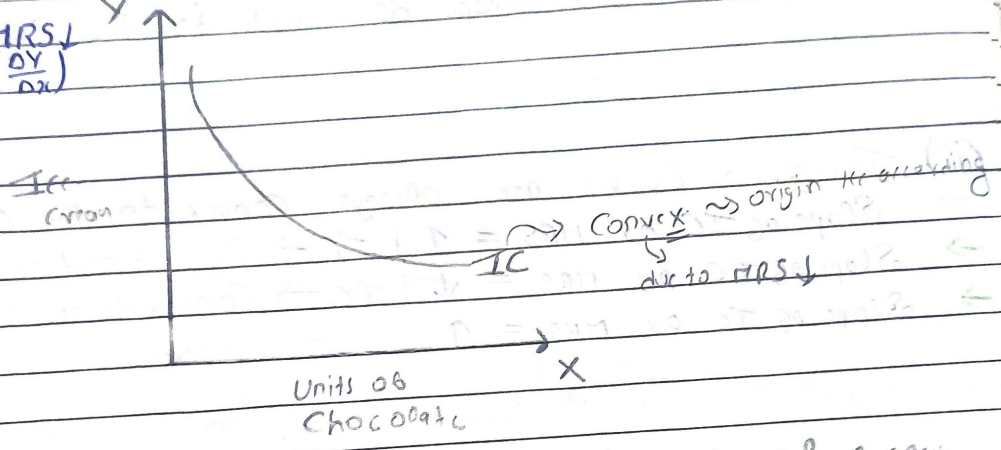
- (i) C.S measured Precisely X → Bcz MU is difficult to measure
- (ii) Necessaries case → MU → ∞ C.S → ∞ (iii) C.S affected by availability of substitutes ✓
- (iv) X Rule → Deriving utility → Prestige goods (Diamond etc)
- (v) Marginal Utility of Money → Assumed Constant But this assumption is unrealistic
- (vi) Concept accepted only → Utility can be measured in terms of Money → Many modern economists believe X

25 Indifference Curve Analysis → More realistic method

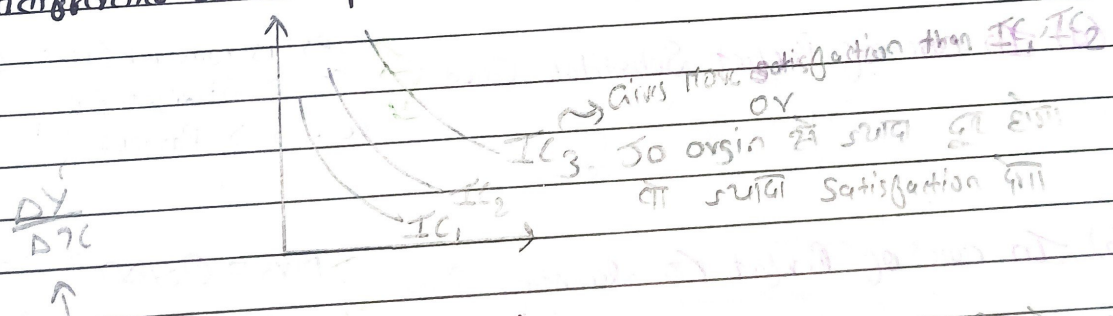
● Assumption Underlying ICA :-

- (i) Consumer → Knows his own taste & preferences (Rational) ✓  
Possesses full info. ✓ → Relevant economic enviro.
- (ii) ICA → Utility is only Ordinally expressible ✓
- (iii) Consumer's Choices → Transitive ✓  
A > B, B > C → A > C
- (iv) Combination preferred → Which has more commodities ✓

★ Indifference Curve → Given by → Hicks & Allen  
 → Represent all those combinations of 2 goods which give the same level of satisfaction ✓  
 → Also known as Iso-utility curve ✓ or equal utility curve ✓  
 → Slope →  $MRS = \frac{\Delta Y}{\Delta X}$



→ Depicts Complete Picture of consumer's tastes & preferences  
 ■ Indifference Curve Map → Set of indifference curves



★ Marginal Rate of Substitution  
 → 25th unit of gain in one good is equal to the loss in utility of another good in first unit loss of 25th unit  
 →  $MRS = \text{Slope of Indifference curve (absolute value)}$  → Positive value

→ Loss in utility of one good = Gain in utility of another good  
 Formula derivation:  $-\Delta Q_y \times MU_y = \Delta Q_x \times MU_x$

Slope of indifference curve  

$$\frac{\Delta Q_y}{\Delta Q_x} = -\frac{MU_x}{MU_y}$$

MRS of X for Y =  $\frac{MU_x}{MU_y}$   
 Good Write

\* IC Convex for two goods imperfect substitute goods change

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**★ Properties of Indifference Curves**

(i) Indifference Curves slope downward to the Right

But still Negative Relation होता है और दो Goods के amount में ↑ करने से दूसरे substitute Goods में decrease में ↓ करते हैं।

(ii) Indifference Curves are always convex to the Origin

- Slope of IC or MRS = 1 [ IC → Straight or linear line ]
- Slope of IC or MRS = ↓ [ IC → Convex to the origin ]
- Slope of IC or MRS = ↑ [ IC → Concave to the origin ]

- MRS = ↓ की मदद से जहाँ Y-axis में change कम होता है और X-axis में slope
- MRS = ↑ की मदद से जहाँ Y-axis में change ज्यादा हो रही और X-axis में कम
- MRS = Δ की मदद से जहाँ Y or X axis में same change हो रहा है।

(a) In case of Perfect Substitute Goods

MRS is constant (MRS = 1)  
IC → Straight line

\* No of loss in unit of one Goods = No of gain in unit of another Goods

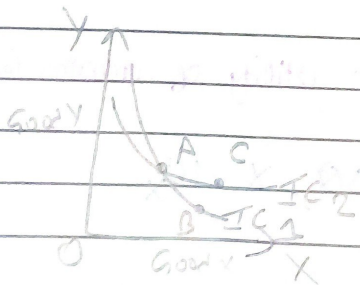
IC map → Parallel →

(b) In case of Perfect Complementary Goods

MRS = 0 or ∞ (undefined)  
L-Shape IC →

Goods are consumed in fixed proportion

(iii) Indifference Curves can never intersect each other



IC<sub>1</sub> Combination [A = B] ✓

IC<sub>2</sub> = [A = C] ✓

But [B = C] ✗ 'Baz IC<sub>2</sub> has more Satisfaction than the IC<sub>3</sub>

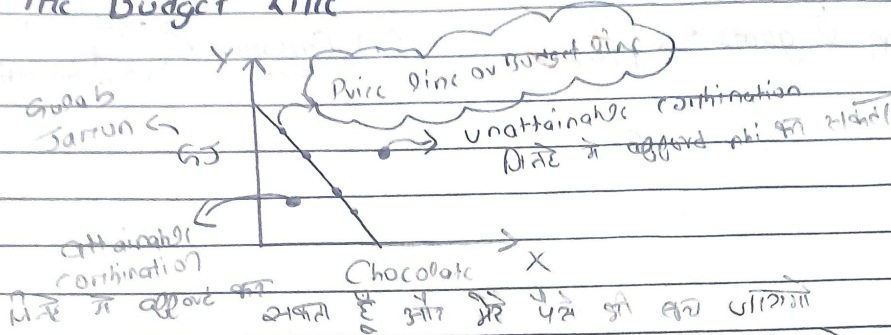
So [B < C] ✓

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(iv) A higher IC represents a higher level of satisfaction than the lower IC.

(v) Indifference curve will not touch either AX) DATE: / /  
 ↳ Boz IC Curve ke do do goods ki change ETC

### ★ The Budget Line



→ Equation ⇒  $Q_c \times P_c + Q_g \times P_g \leq \text{Budget}$

→ Slope ⇒  $\frac{\Delta Y}{\Delta X} \rightarrow \text{Same as above}$   
 $\Rightarrow Q = P_y \times Q_y = \text{Budget} \Rightarrow Q_y = \frac{\text{Budget}}{P_y}$

⇒  $\frac{\text{Budget}_y}{P_y} \Rightarrow \frac{P_x}{P_y}$  Features → Rate at which the consumer can trade one goods for the other

\* TC → willing to give up of goods  
 BC → Actual of goods

→ Shifts in BL :-

- (a)  $\Delta$  in Price of One product or Both Product + Nominal Income (Remains the Same)
- (b)  $\Delta$  in Nominal Income + Prices of Goods (Remains the Same)
- (c)  $\Delta$  in Both Nominal Income and relative prices

Q Price of Both Goods Fall → The new Budget line will have the same slope as the original

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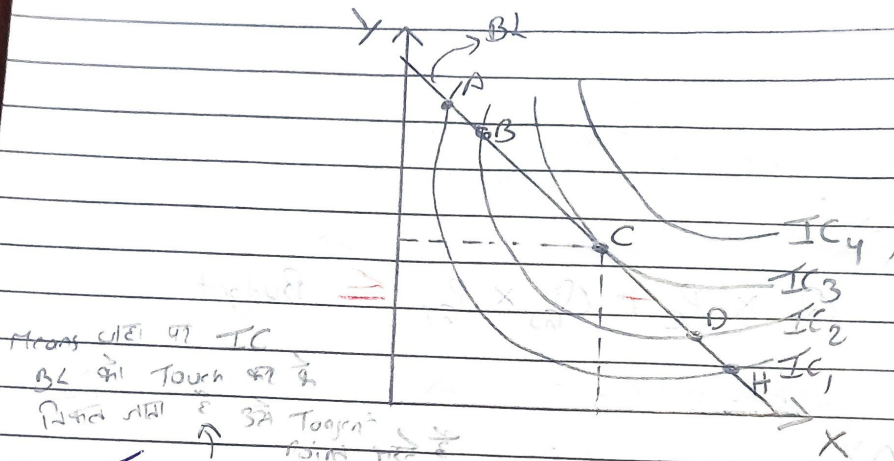


# ★ Consumer's Equilibrium

→ Assumption :-

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- |   |   |
|---|---|
| (i) Consumer $\xrightarrow{\text{Give}}$ Indifference Map ✓ | (iv) All Goods $\xrightarrow{\text{Homogeneous + Divisible}}$               |
| (ii) Fixed Money Income $\xrightarrow{\text{Given}}$ ✓      | (v) Consumer $\xrightarrow{\text{Rationally + Max. his satisfaction}}$ Acts |
| (iii) Price of 2 goods $\xrightarrow{\text{Fixed}}$ ✓       |   |



- Tangent point  $\rightarrow C$
- $\rightarrow$  Equilibrium point hote hai.

→ At the Equilibrium point or Tangent Point  $\rightarrow C$

- IC Slope  $\rightarrow MRS = \frac{MU_x}{MU_y}$
- BL Slope =  $\frac{P_x}{P_y}$  (Price Ratio)

When,  $\left[ \text{IC Slope} = \text{BL Slope} \right] \rightarrow$  Equilibrium point

$$\frac{MU_x}{MU_y} = \frac{P_x}{P_y}$$

∴ A Consumer's Optimal Choice should satisfy 2 criteria:-

- (i) Point on his BL ✓
- (ii) lie on highest IC possible ✓

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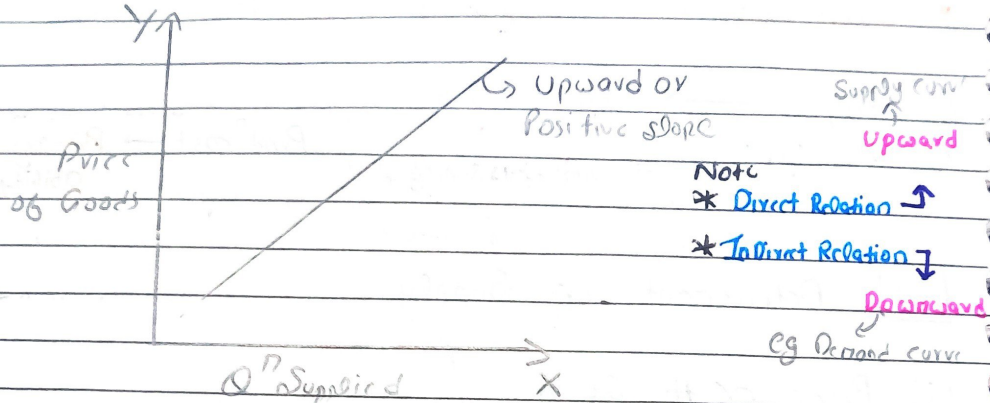
(vii) Expectations  $\left\{ \begin{array}{l} \text{Future Price } \uparrow \rightarrow \text{Current Supply } \downarrow \\ \text{Future Price } \downarrow \rightarrow \text{Current Supply } \uparrow \end{array} \right.$

(viii) No. of Sellers  $\left\{ \begin{array}{l} \text{No. of Firm } \uparrow \rightarrow \text{Supply } \uparrow \\ \text{v.v} \end{array} \right.$

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### 3.2 Law of Supply

$\rightarrow P \uparrow \text{ Supply } \uparrow$  & V. Versa  $\checkmark$  [Positive/Direct Relation]



$\rightarrow$  Behaviour of Supply  $\rightarrow$  Affected by the time taken into consideration.

- Short Run  $\rightarrow$   $\times$  easy to Supply  $\uparrow$
- Long Run  $\rightarrow$   $\checkmark$  easy to Supply  $\uparrow$

+ easily adjust in response of Disturbance.

$\rightarrow$  Supply Curve Shows Simultaneously :-

(i) Highest  $q^n$  at Each Prices  $\rightarrow$  Willingly Supplied by the Supplier  $\checkmark$

(ii) Min. Price  $\rightarrow$  Induce Supplier to offer  $\rightarrow$  various  $q^n$  for sale

$\star$  Market Supply  $\rightarrow$  Sum of all supplies by the all Producers

$\bullet$   $Q^n$  Supply  $\rightarrow$  Relation between Own Price & Supply

$\rightarrow$  Represented by a point on the supply curve

$\bullet$  Supply  $\rightarrow$  Relation between factors other than Price & Supply

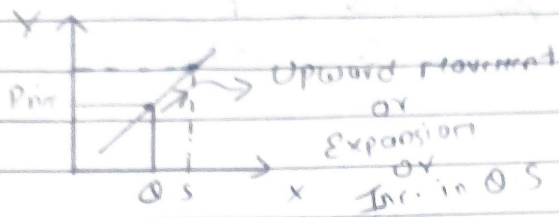
$\rightarrow$  Represented by entire supply Schedules & Curve

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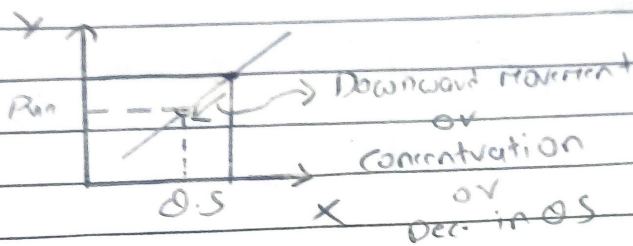
★ **Movement** On the Supply Curve

When  $\Delta$  in Quantity Supply

→ Increase in the Q.S →  $P \uparrow$   $Q^s \uparrow$



→ Decrease in the Q.S →  $P \downarrow$   $Q^s \downarrow$



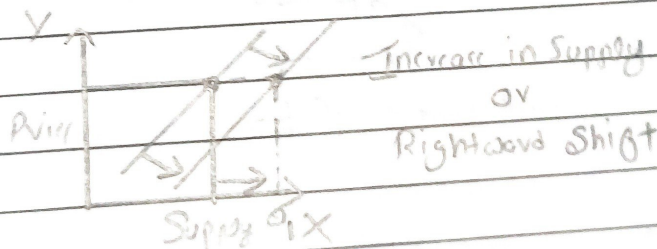
<b>Quick Recap</b>	
Shift	→ Supply $\uparrow$ $\Delta$ $\rightarrow$
Movement	→ $Q^s$ Supply $\uparrow$ $\Delta$ $\rightarrow$

★ **Shifts** In Supply Curve

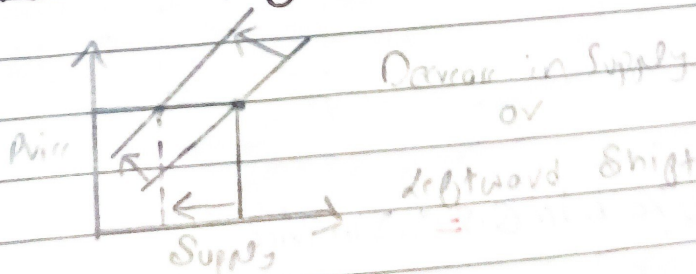
When  $\Delta$  in Supply

→ Due to  $\Delta$  in other factors other than its own price  
 Iske price constant note hai

→ Increase in Supply



→ Decrease in Supply



★ Elasticity of Supply → Degree of Responsiveness of Q<sup>n</sup> Supplied due to change in price  
 Only Price Elasticity  
 Quantitative to price change

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→  $E_s = \frac{\% \Delta \text{ in } Q \cdot S}{\% \Delta \text{ in Price}}$  OR  $\frac{\Delta Q}{Q} \times \frac{P}{\Delta P}$  OR  $\frac{1}{\text{Slope}} \times \frac{P}{Q}$

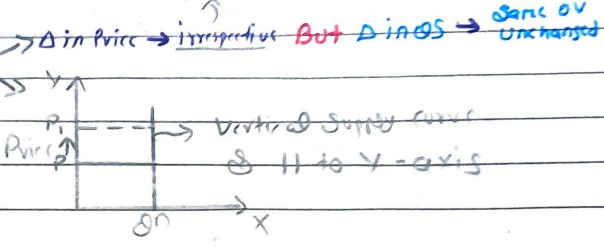
Always Positive

∴ Type of Supply Elastic

(i) Perfectly Inelastic Supply

$E_s = 0$

↳ Perishable Goods



Concept of Flatter Curve

→ X-axis → Greater Δ in Q or Y-axis → Lesser Δ in P  
 → Flatter curve has greater elasticity

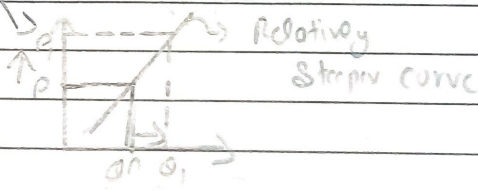
Concept of Steeper Curve

→ Y-axis → Greater Δ in P or X-axis → Lesser Δ in Q  
 → Steeper curve has lesser elasticity

(ii) Relatively less-Elastic Supply

$E_s < 1$

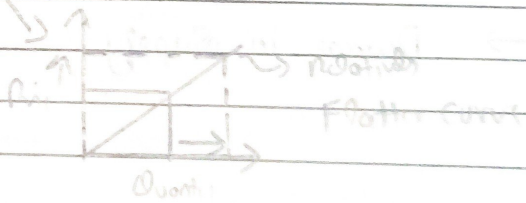
$\% \Delta \text{ in } Q \cdot S < \% \Delta \text{ in Price}$



(iii) Relatively Greater-Elastic Supply

$E_s > 1$

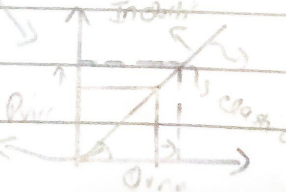
$\% \Delta \text{ in } Q \cdot S > \% \Delta \text{ in Price}$



(iv) Unit-Elastic

$E_s = 1$

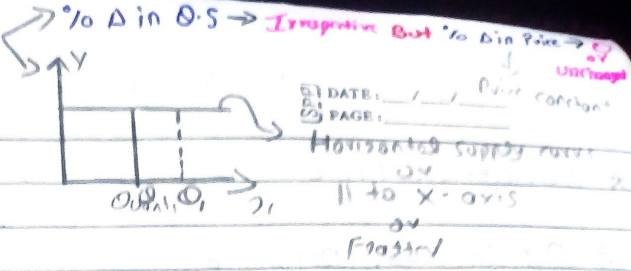
$\% \Delta \text{ in } Q \cdot S = \% \Delta \text{ in Price}$



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(v) Perfectly Elastic Supply  
 $[E_s = \infty]$

\* ICAI New Point  
 → Idle capacity = Elastic supply  
 → Full capacity = Inelastic supply



★ Point Elasticity

Elasticity measured at a given point → Supply curve ✓  

$$E_s = \frac{dq}{dp} \times \frac{p}{q}$$

★ Arc Elasticity

Elasticity of supply between 2 prices  

$$E_s = \frac{q_1 - q_2}{q_1 + q_2} \times \frac{p_1 + p_2}{p_1 - p_2}$$

★ Determinants of Elasticity of Supply

1. • Inc. in Prod<sup>n</sup> → Cost  
 ↑ → Q.S ↓ → Less Price elasticity of supply (Inelastic)  
 Constant → Q.S ↑ → Elastic Supply

• Product involves  
 More complex process of prod<sup>n</sup> or Require relatively longer time to produce } → Less elasticity of supply

2. Long Run → Greater Elastic Supply & Short Run → Inelastic Supply

3. More Elasticity Supply  
 Large no of producers ✓  
 High degree of competition ✓  
 Low Barrier of entry into the market ✓  
 means firms are not working to find capacity

4. Spare Capacity ↑ → Elasticity Supply ↑ v.v

5. Resources & Inputs  
 Easily Available ✓  
 Cheaper ✓  
 Stored ✓ } → Elastic Supply v.v

6. Factor Substitute Available ✓ → Elastic Supply v.v

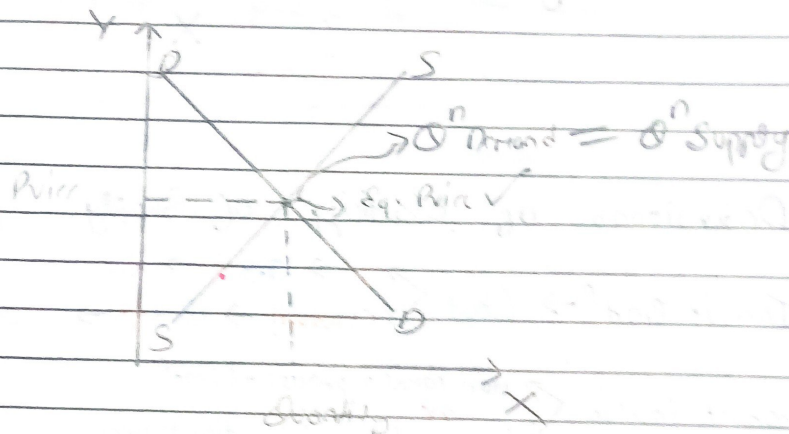
Memorize it  
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## ★ Equilibrium Price

→ E.P in a market → Determined by Intersection of Demand or Supply } Market Equilibrium

→  $Q^D$  Buyers want to Buy =  $Q^S$  Sellers want to Sell } E.P / Price called Market clearing price

→ Micro-economic theory is called Price theory  
 ↓  
 Central theory



• Price is more than the Equilibrium level → Excess Supply →  $Q^S$  Supplied >  $Q^D$  Demanded  
 → Impact on Price → Downward

• Price is less than the Equilibrium level → Excess Demand →  $Q^D$  Demand >  $Q^S$  Supplied  
 → Impact on Price → Upward

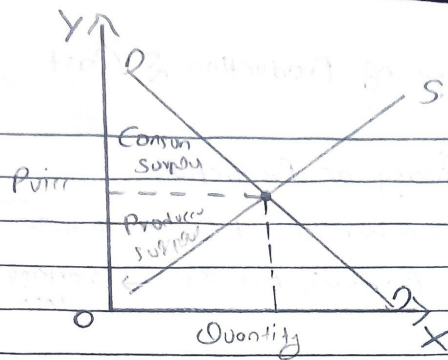
★ Producer Surplus → Benefits derived by producers from the Sale of a unit

→ P.S ⇒ Price they receive in the market > Min. price at which they would be prepared to supply

→ P.S in Graph ⇒ Supply curve & up, Price line ke neeche

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→ **Equilibrium Price**  $\left\{ \begin{array}{l} \text{Consumer surplus} = 0 \\ \text{Producer surplus} = 0 \end{array} \right\}$  → Both enjoying max. possible surplus & Social efficiency is achieved

# Imp MCQs →

- Q Supply Curve for Perishable Commodities  $\Rightarrow$  Perfectly inelastic
- Q Slope of Consumer's Budget line  $\Rightarrow$  -ve and constant
- Q Lowest price elasticity of supply  $\Rightarrow$  Perishable goods
- Q Relation between  $\left\{ \begin{array}{l} \text{Price} \\ \text{Q}^d \text{ supplied} \end{array} \right\}$  in law  $\Rightarrow$  Proportionate of supply
- Q Relative price  $\rightarrow$  the ratio of one money price to another
- Q Supply schedule in Purely competitive Firm in Short run is determined by  $\Rightarrow$  MC curve
- Q "Supply creates its own demand"  $\rightarrow$  Statement Given  $\Rightarrow$  Jb Say
- Q Supply and Stock  $\rightarrow$  Different
- Q Loss of demand  $\Rightarrow$  Irreversible in Nature
- Q The cross elasticity between 2 goods  $\Rightarrow$  -ve
- Q Budget line also known  $\Rightarrow$  Cons<sup>n</sup> Possibility curve
- Q Subst. effect is explained  $\rightarrow$  F<sup>n</sup> of Cons<sup>n</sup> of other