Chapter-2

DOMS Page No. Date / /

Unit-1 Theory of Demand & Elasticity of Demand

1- **Demand :-** Desire (+) means to purchase (+) Willingness to use those means for that purchase.

(माँग)

इच्छा

खरीदने के साधन

पैसा खर्च

Price (₹)	Burger (Units)
₹10	50 units
₹100	5 Units
₹200	1 Unit

Given Price ←

→ Quantity Demanded

is a flow & is expressed at given price.

DEMAND

(2) factors affecting Demand (Determinants of Demand)

(i) Price of the good (P_x)

$P_x \uparrow \quad D_x \downarrow$

INVERSE

$P_x \downarrow \quad D_x \uparrow$

(ii) Price of Related Goods (P_R)

→ SUBSTITUDE GOODS
(Tea & Coffee)
(Coke & Pepsi)
:- $P_{Tea}(\uparrow)$ $D_{coffee}(\uparrow)$
DIRECT (positive)

→ COMPLEMENTARY GOODS
(Car & petrol)
(Bread & Butter)
(Pen & Ink)
:- $P_{petrol}(\uparrow)$ $D_{cars}(\downarrow)$
Inverse (negative)

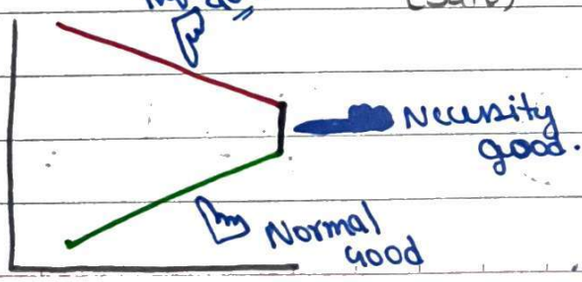
(iii) Income (Y)

Engel's Curve named after Lord Engel showing 3 different demand Curve.

→ Normal good (wheat) } (+)ve Income Effect
$Y\uparrow$ $D\uparrow$

→ Inferior good (Bajra) → low income group of people. } (-)ve Income Effect
$Y\uparrow$ $D\downarrow$

→ Necessity good. (Salt) → $Y\uparrow(\downarrow)$ $\bar{D}$ → No change



(iv) Taste & preference (T)

(a) Demonstration Effect :- padosi का T.V देखकर आपका भी वैसा purchase करने का

FOMO
(b) Bandwagon Effect :- SAB ले रहे है - fashion में है

(c) Snob Effect :- (D↓) product is too Common.

(d) Veblen Effect :- Conspicous Consumption.

↓

Very Expensive
(Diamonds, Expensive cars.)

(V) Others (O)

a) Population :- (P↑ D↑)

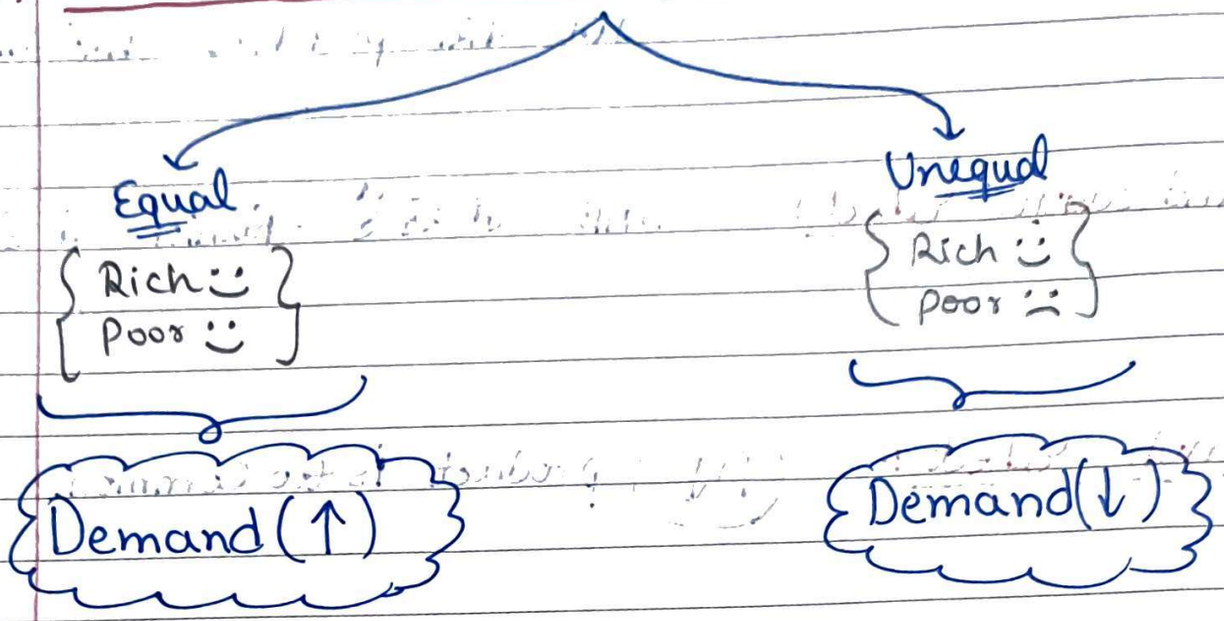
(b) Consumer (Expectation) about future prices.

future में price Rise

D↑

(c) Age distribution.

(d) National Income & distribution.

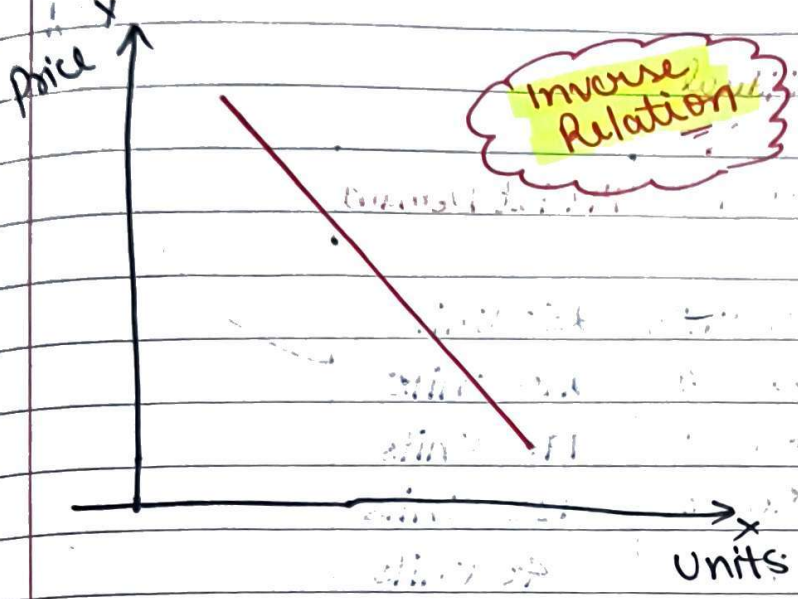


(3) $Q_x = f(P_x, P_R, Y, T, O)$

Dependent Variable — Independent Variable.

Demand function

④ Demand Curve & Demand Schedule.



Price (₹)	Quantity (unit)
₹1	100 units
₹2	80 units
₹3	70 units
₹4	60 units
₹5	50 units

GRAPHICAL TABULAR

⑤ LAW of Demand

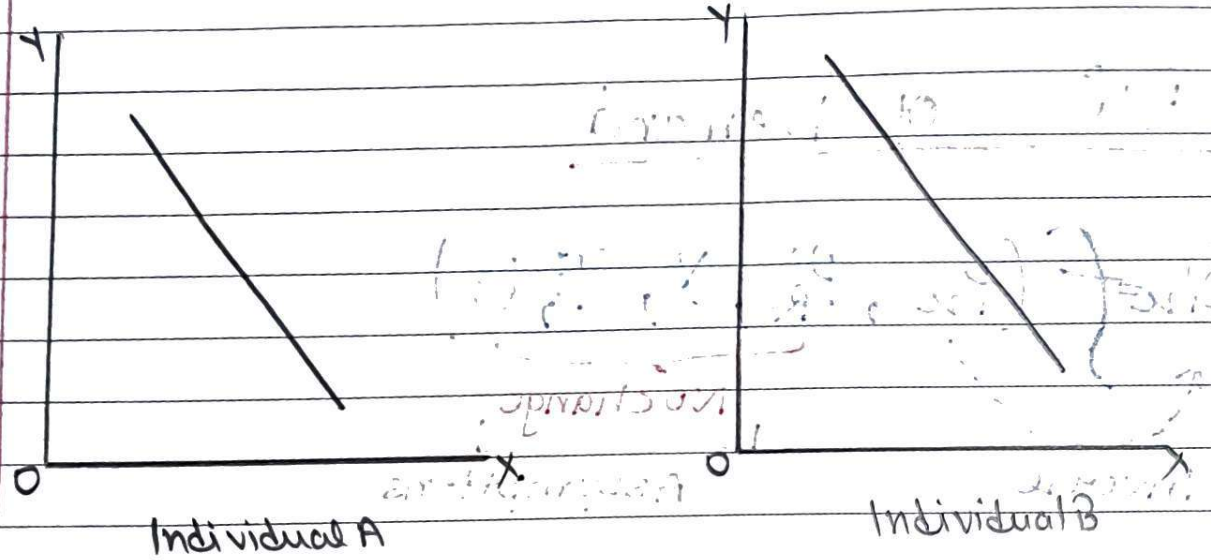
$$Q_x = f(P_x, P_R, Y, T, O)$$

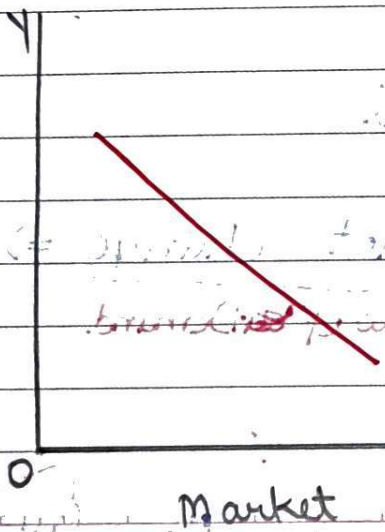
Inverse — No change — Assumptions

* Alfred Marshall
* P_R, Y, T, O do not change => CETERIS PARIBUS
  (Assumption of law of Demand.)
  ↓ Being other things constant.
* Qualitative statement or ~~Quantitative Statement.~~

(6) Market Demand Curve & Market Demand Schedule.

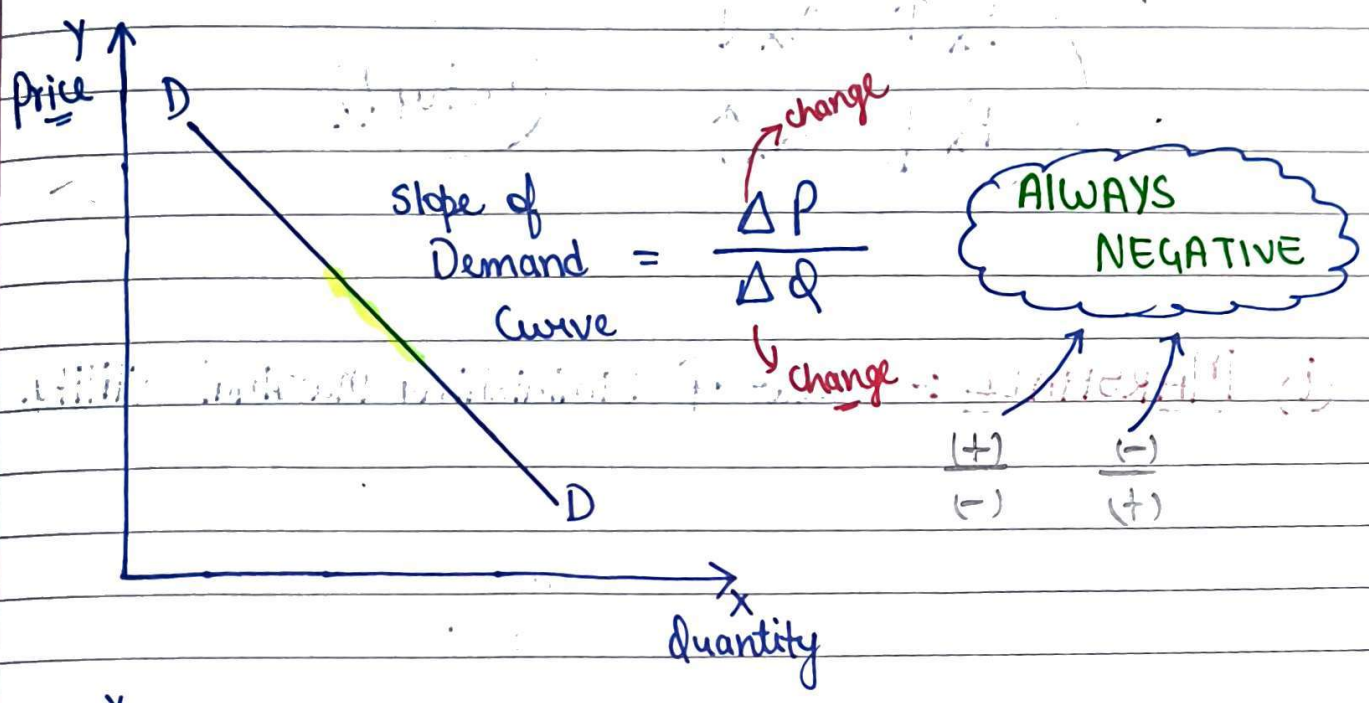
Price	Individual Qty (A)	Individual Qty (B)	Market Demand
₹1	100 units	150 units	250 units
₹2	90 "	120 "	210 units
₹3	70 "	100 "	170 units
₹4	50 "	80 "	130 units
₹5	10 "	30 "	40 units

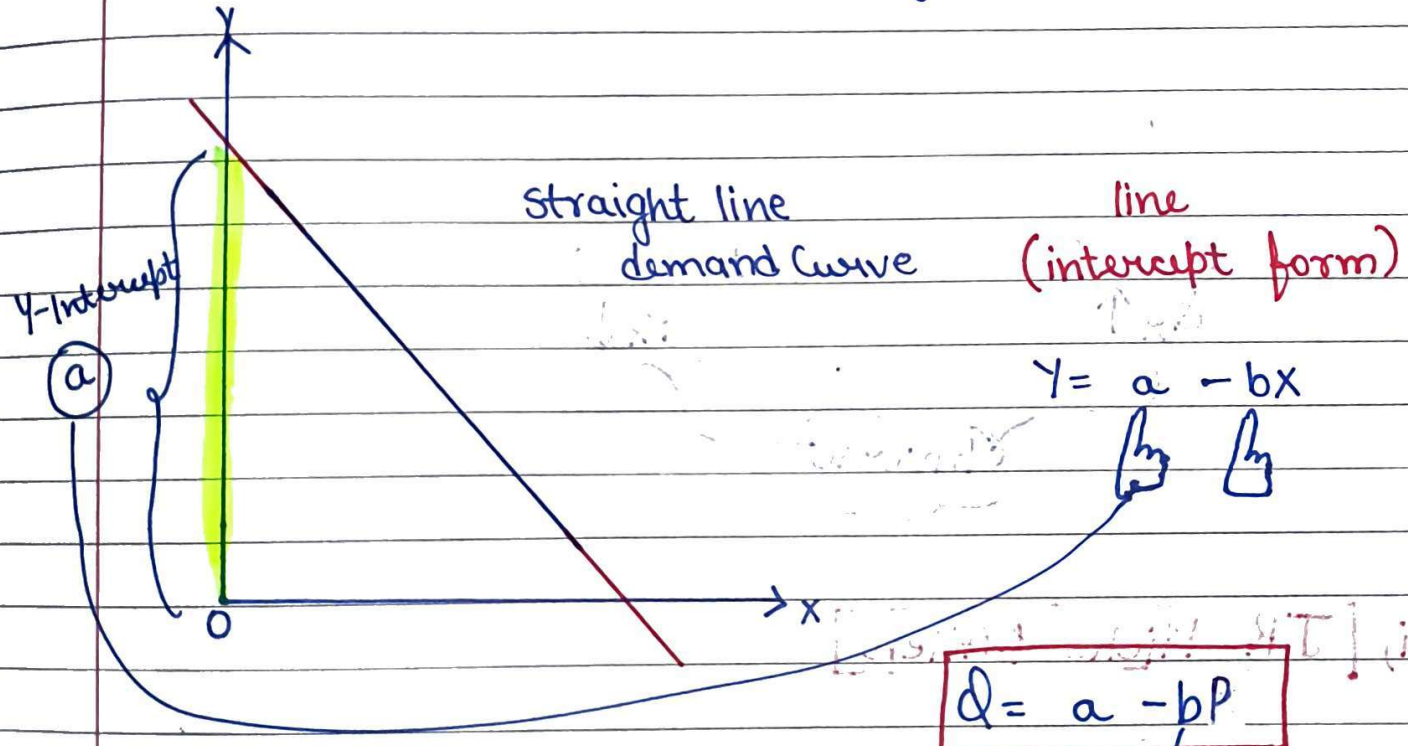




* Market demand curve is always flatter as compared to Individual demand curves.

(7) Straight line demand Curve





⑧ Why does Law of Demand operate??

(Rationale behind law of demand)

$P_x \uparrow \; Q_x \downarrow$

$P_x \downarrow \; Q_x \uparrow$

Why??

(i) MARSHALL :- Law of Diminishing Marginal Utility.

घटता होता — Satisfaction.

Units	MU	Price
1	10	₹ 100
2	8	₹ 90
3	6	₹ 50
4	4	₹ 20
5	2	₹ 10

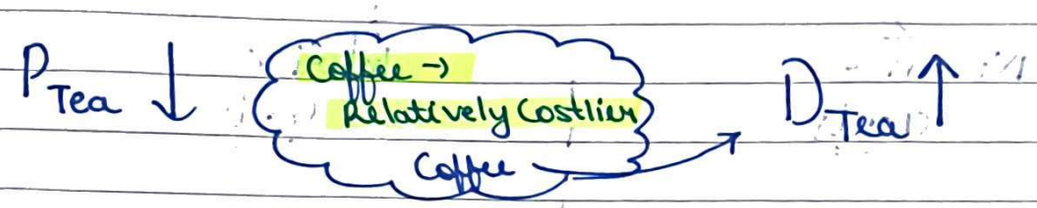
$Q_x \uparrow$ $P_x \downarrow$

Inverse

(ii) JR Hicks & Allen

Price Effect (PE) = Substitution Effect (SE) (+) Income Effect (IE)

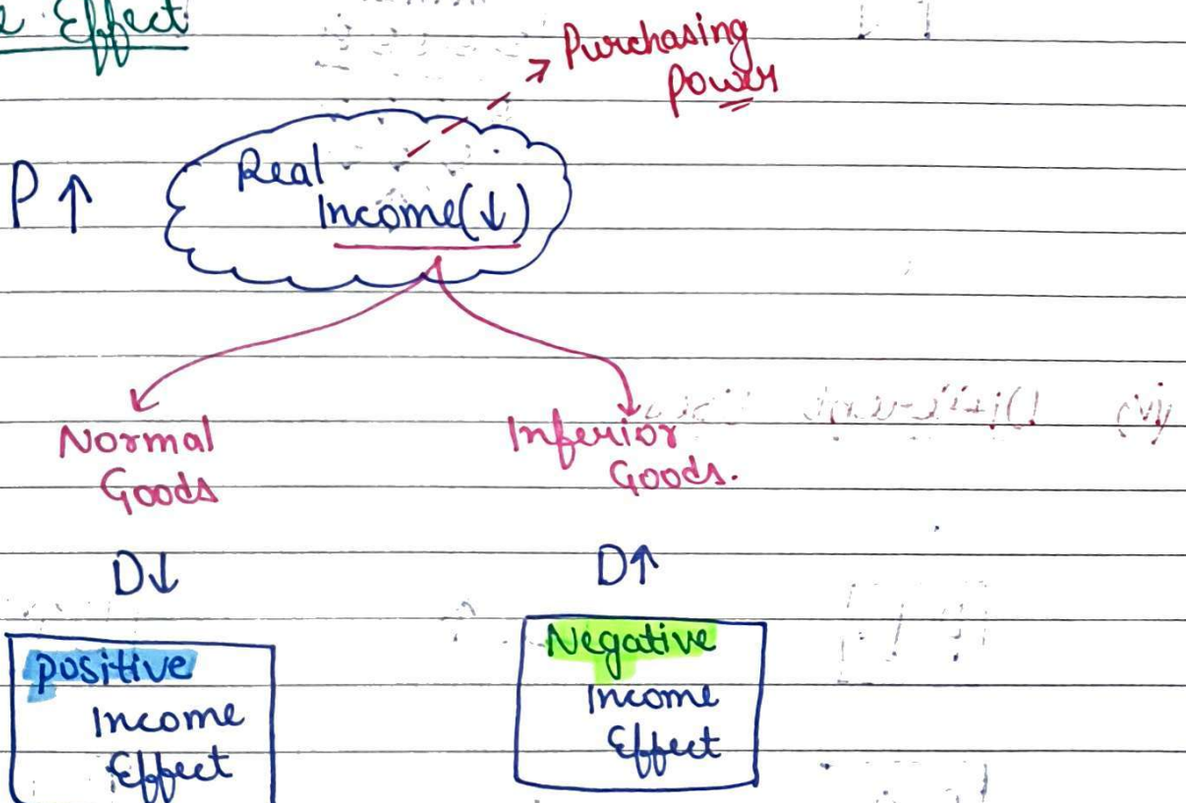
(a) Substitution Effect :-

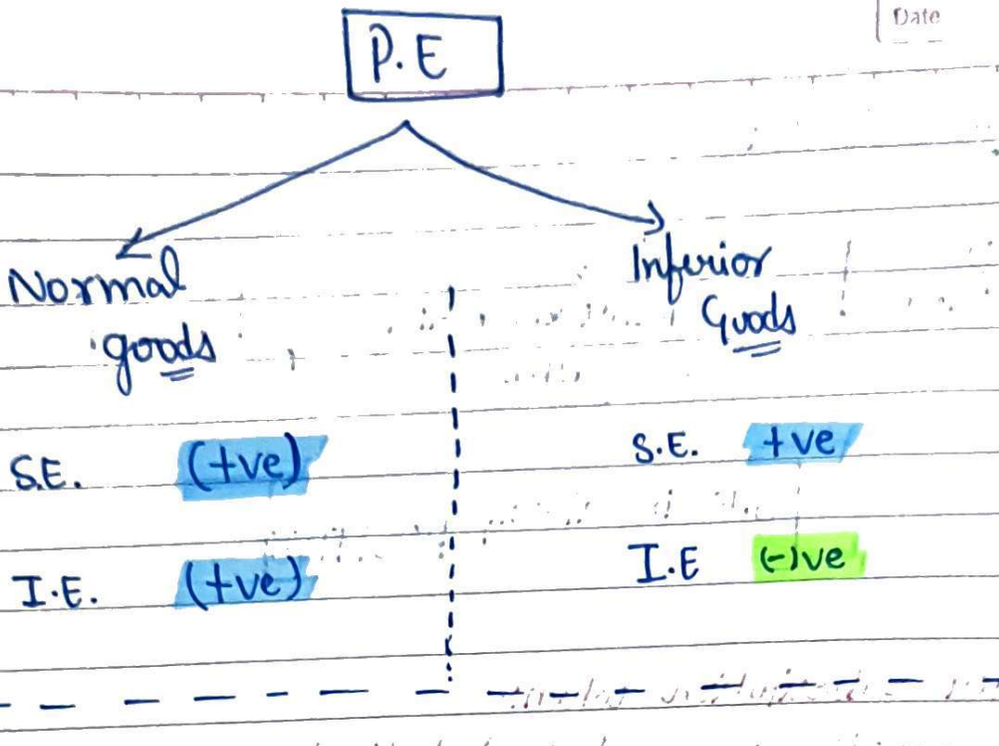


S.E is always POSITIVE

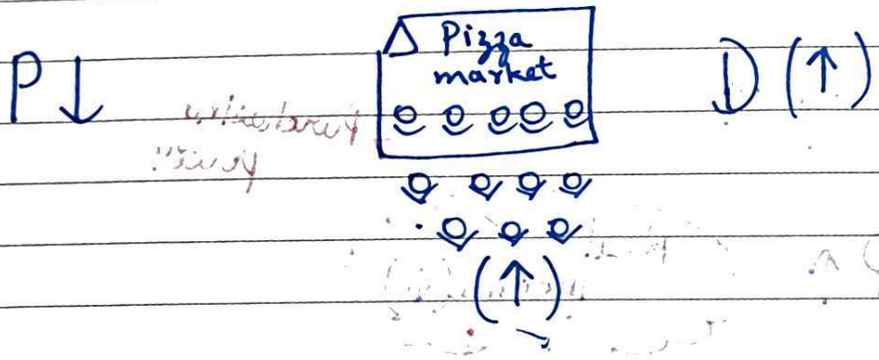
* Stronger Substitution when:-
  - goods are close substitute.
  - low cost of switching.
  - lower inconvenience while switching.

(b) Income Effect



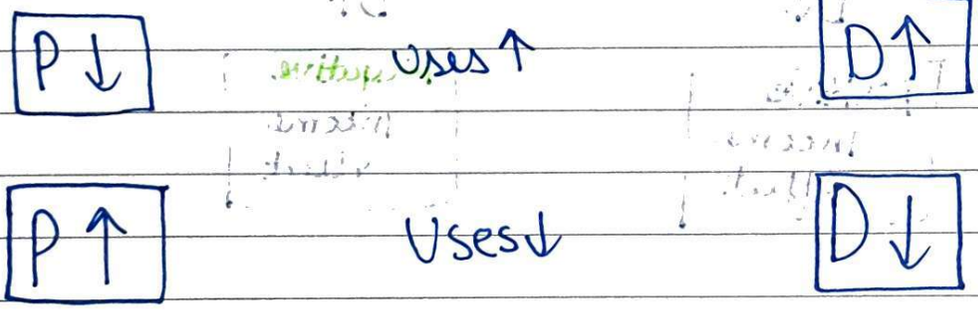


(iii) Arrival of new Consumers.



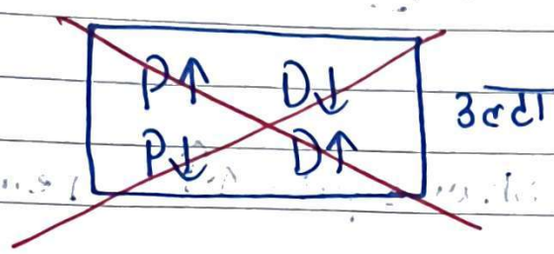
(iv) Different Uses. (Milk, Electricity)

Sweet cheese and Butter



DOMS | Page No.
Date / /

⑨ EXCEPTIONS of law of Demand



3 ची ट

(1) Conspicous goods (Snob goods or Veblen goods)

- Very Expensive goods / prestigious goods.
- → Diamonds.
- → P↑ D↑

② Giffen goods

- Sir Robert Giffen (Scottish Economist)
- Meat & Bread
- P↑ D↑

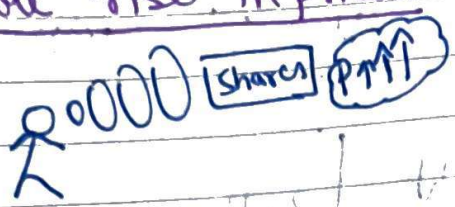
(*) All Giffen goods are Inferior goods but all Inferior goods are not Giffen goods.

③ Conspicous necessities.

Eg. TV, AC

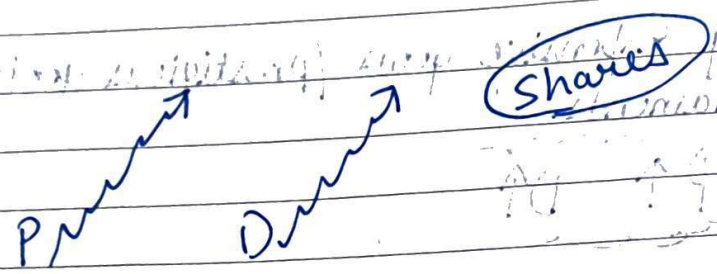
P↑ "Demand no change"

④ future rise in prices.



Shares price ↑↑ Demand ↑↑

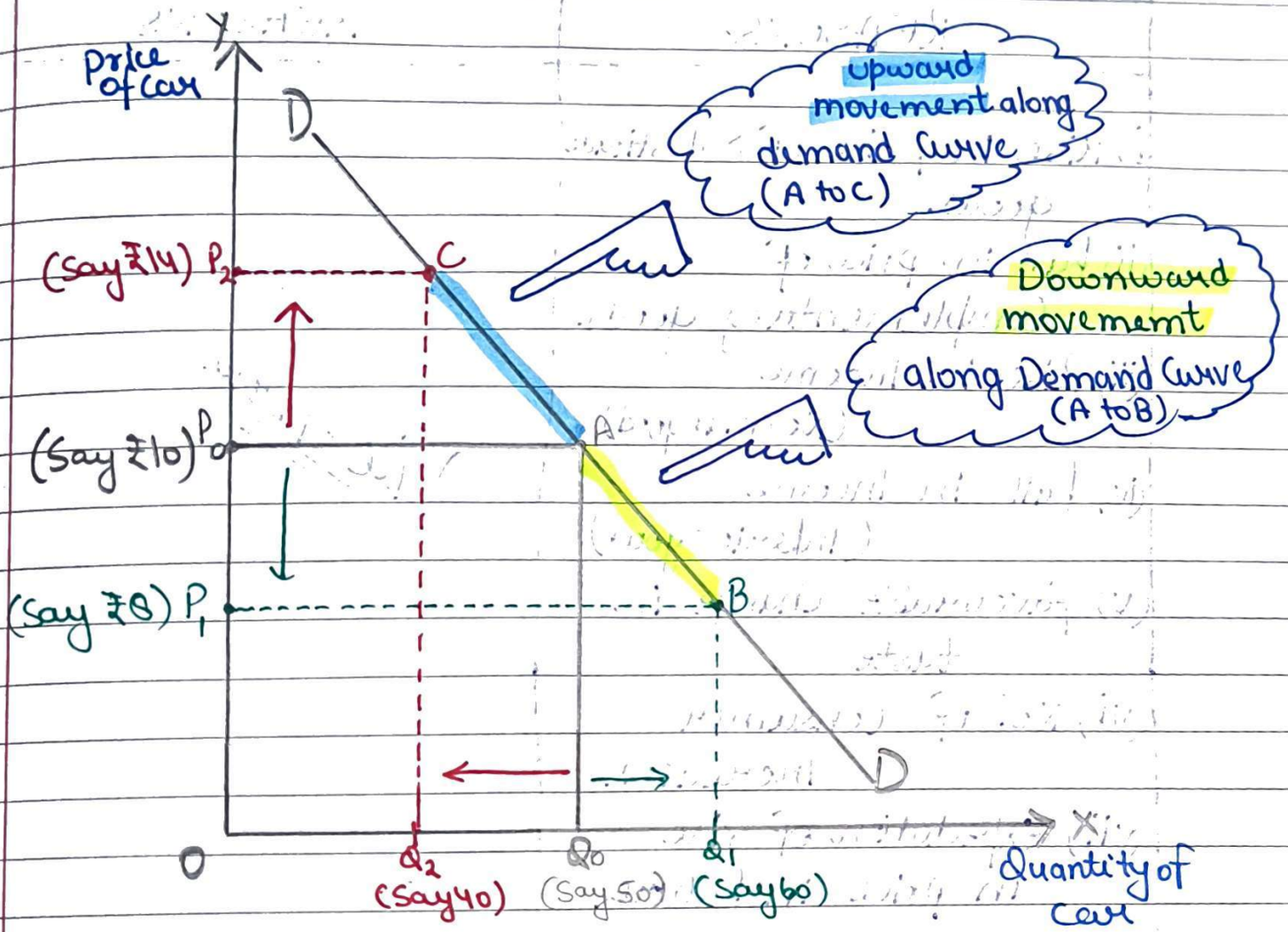
⑤ Irrational Behaviour, Speculative goods Etc



$$* \quad D_x = f(P_x, P_R, Y, T, O)$$

Change in Quantity Demanded	Change in Demand
→ Quantity is affected due to change in price of good. (P_x)	→ Quantity is affected due to change in factors other than price (P_R, Y, T, O)
→ Types :-	→ Types
a) Expansion. b) Contraction	a) Increase b) Decrease

① Expansion in Demand & Contraction in Demand

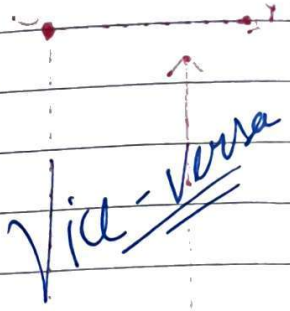


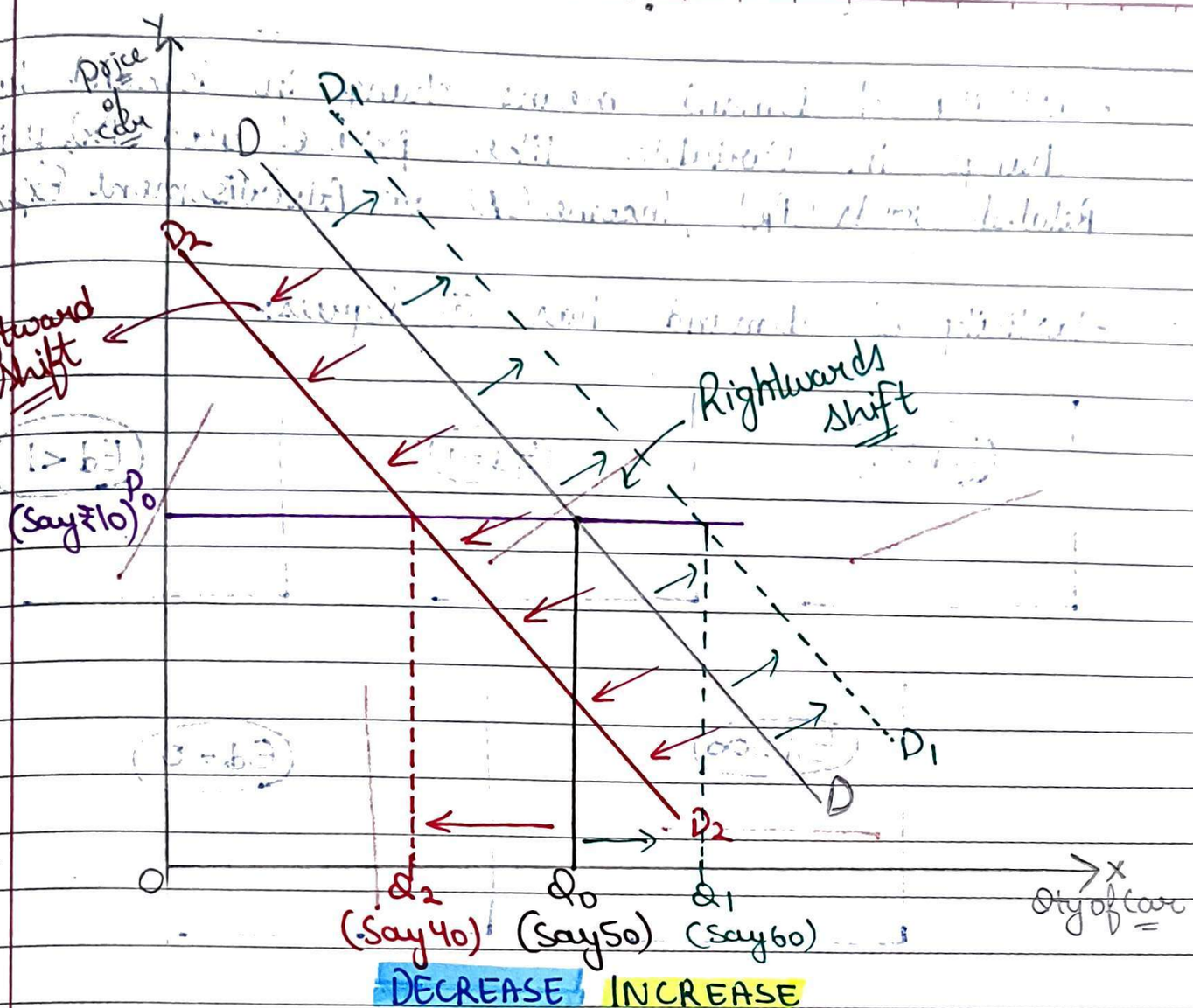
Contraction. due to **Rise in price** → Decrease in Quantity Demanded.

Expansion. due to **fall in price.** → Increase in Quantity Demanded

(2) Increase in Demand & Decrease in Demand

REASONS	REASONS
(i) Rise in price of Substitude goods.	
(ii) fall in price of Complementary goods.	
(iii) Rise in Income (Normal good)	
(iv) fall In Income (Inferior good)	
(v) favourable change in taste	
(vi) No. of Consumer Increases.	
(vii) Expectation of rise in price in future.	

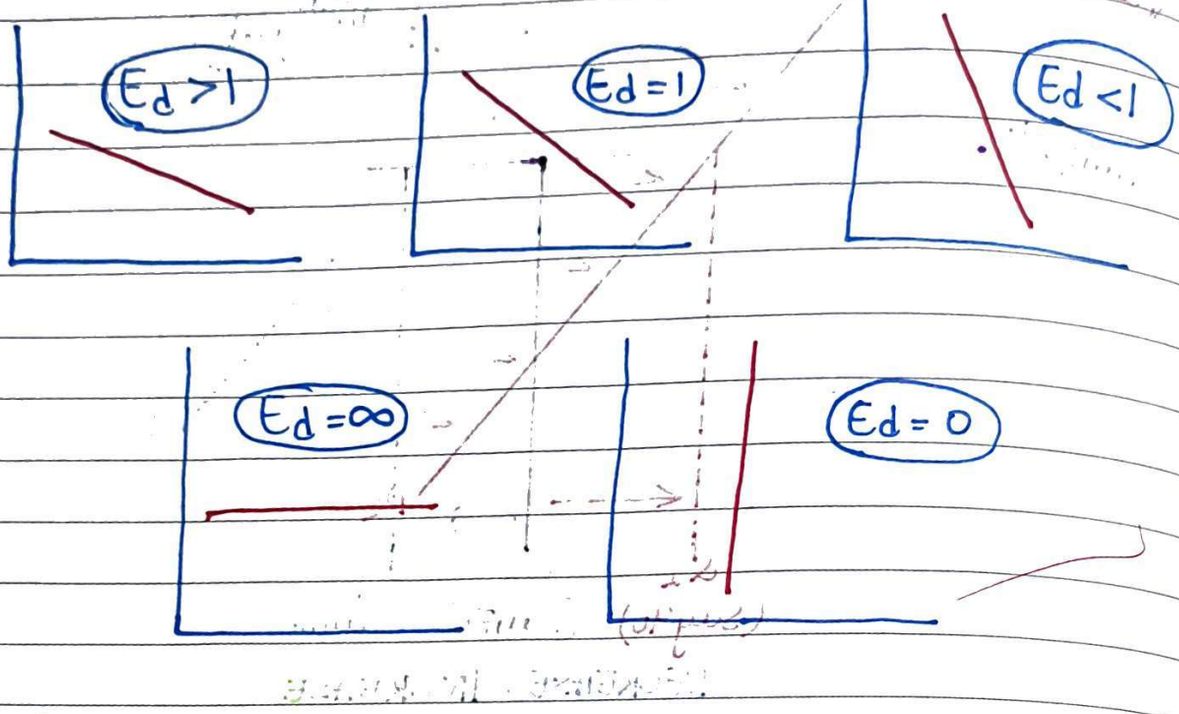



Price of car
Y
D1
D
D2
Leftward shift
Rightwards shift
P0
(Say ₹10)
D1
D
D2
O
Q2
(Say 40)
Q0
(Say 50)
Q1
(Say 60)
X
Qty of car
DECREASE
INCREASE

* Elasticity of Demand *

→ Elasticity of demand means change in demand due to change in variable like price of good (P_x), Price of Related goods (P_R), Income (Y) or Advertisement Expenditure

→ Elasticity of demand has (5) degrees:-



(i) $E_d > 1$:- % change in Qty > % change in variable

(ii) $E_d = 1$:- % change in Qty = % change in variable

(iii) $E_d < 1$:- % change in Qty < % change in variable.

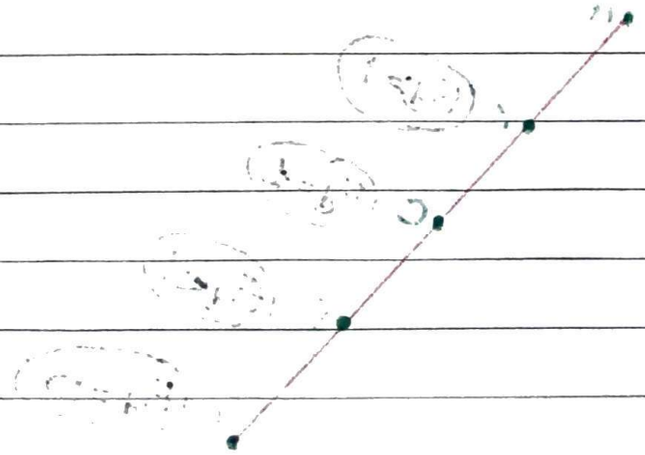
(iv) $E_d = 0$:- % change in Qty = 0

(v) $E_d = \infty$:- % change in Variable (P_x, P_R, Y) = 0

$$E_d = \frac{\%\ \text{change in Quantity}}{\%\ \text{change in Variable } (P_x, P_y, Y, A)}$$

$$\%\ \text{change} = \frac{\text{New} - \text{Old}}{\text{Old}} \times 100$$

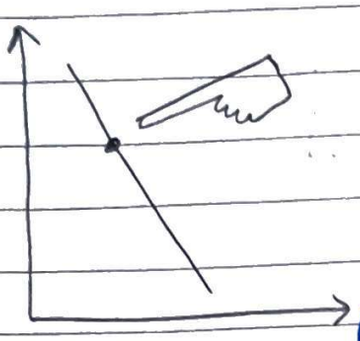
Price Elasticity of demand	$\frac{\%\ \text{Change of Quantity}}{\%\ \text{change of price}}$
Cross Elasticity of demand	$\frac{\%\ \text{change of Quantity}}{\%\ \text{change of price of Related Good.}}$
Income Elasticity of demand	$\frac{\%\ \text{change of Quantity}}{\%\ \text{change of Income}}$
Advertisement Elasticity of demand.	$\frac{\%\ \text{change of Quantity}}{\%\ \text{change of Advertisement Expense}}$



* Methods *

① Point Elasticity :-

Use this method when change is Minimal (negligible)



Eg :- Rolls Royce

₹ 100,00,00,000 ↓

₹ 100,00,00,001

$$E_d = \frac{Q_1 - Q_0}{P_1 - P_0} \times \frac{P_0}{Q_0}$$

OR

$$\frac{\Delta Q}{\Delta P} \times \frac{P_0}{Q_0}$$

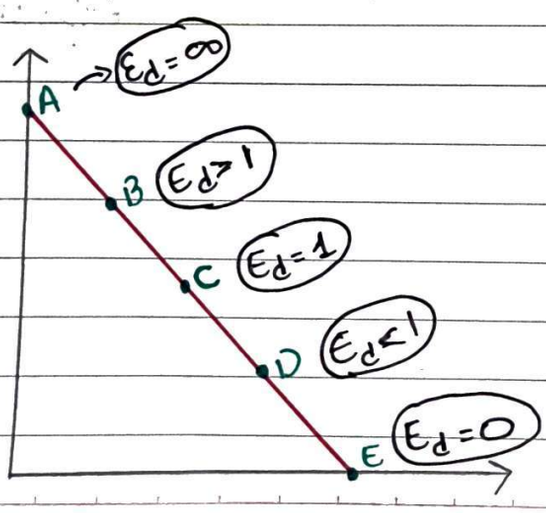
OR

$$\frac{1}{\text{slope of DC}} \times \frac{P_0}{Q_0}$$

Q_1 = New Quantity Q_0 = old Quantity

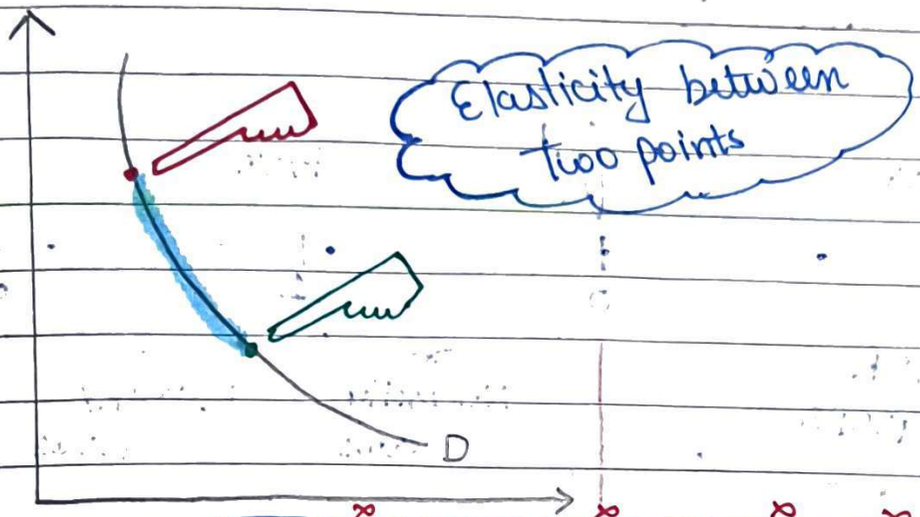
P_1 = New price P_0 = old price.

② Geometric Method (Linear Demand Curve)



$E_d = \frac{\text{Lower Segment}}{\text{Upper Segment}}$

③ ARC Method (NON-linear demand Curve)



$$E_d = \frac{Q_0 - Q_1}{Q_0 + Q_1} \times \frac{P_0 + P_1}{P_0 - P_1}$$

④ Total Outlay / Total Expenditure / Total Revenue method.

T·E = P × Q

Case 1

Price	Qty	T·E
₹1	6	₹6
₹2	5	₹10

P↑ TE↑ — SAME DIRECTION

$E_d < 1$

Case 2

Price	Qty	T·E
₹3	4	12
₹4	3	12

P↑ TE No Change

$E_d = 1$

Case 3

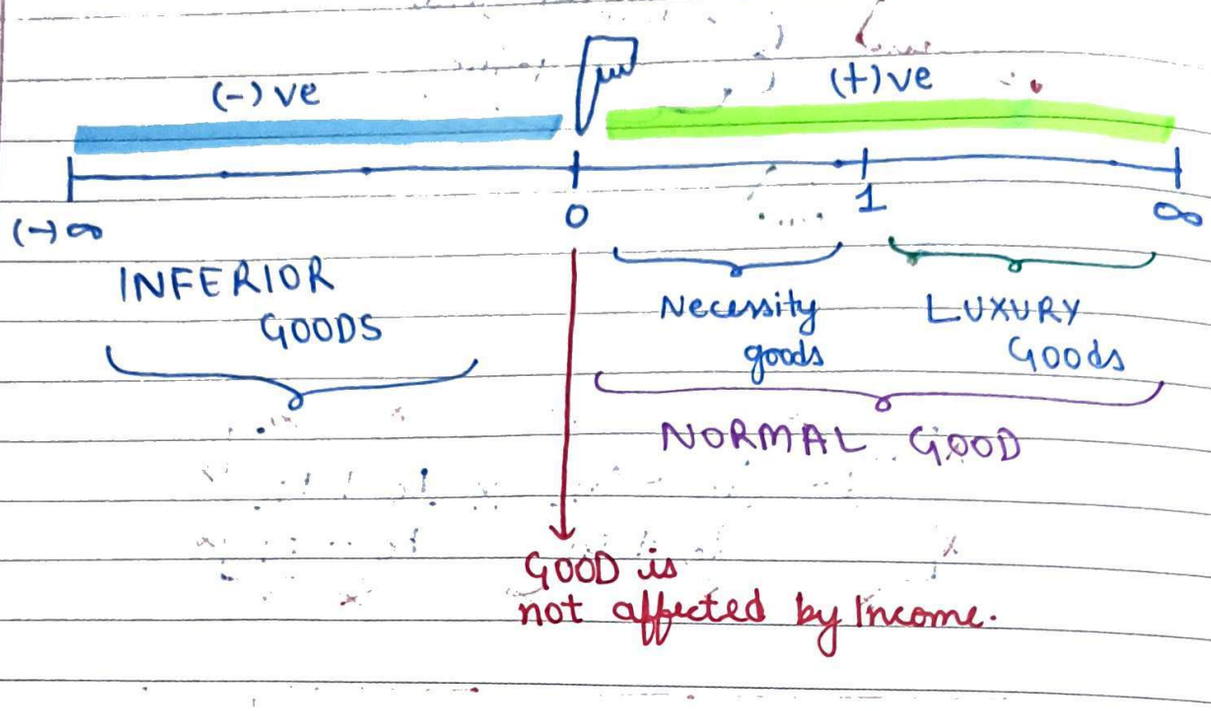
Price	Qty	TE
₹5	2	10
₹6	1	6

P↑ T·E↓ — opposite Direction

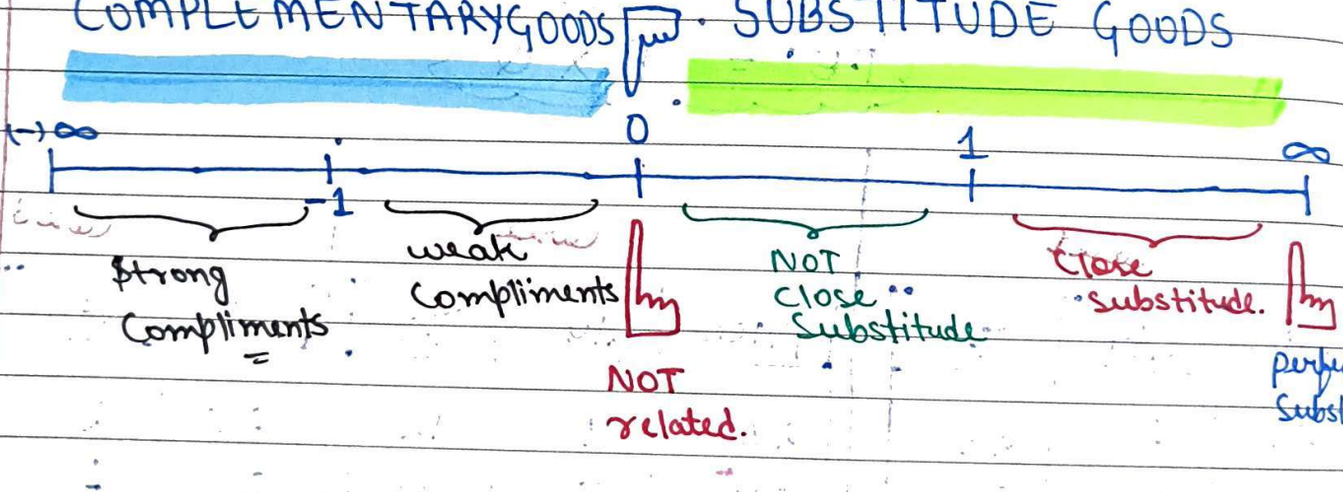
$E_d > 1$

* Important Elasticity Analysis *

① Income Elasticity.



② CROSS Elasticity.



DOMS | Page No.
Date / /

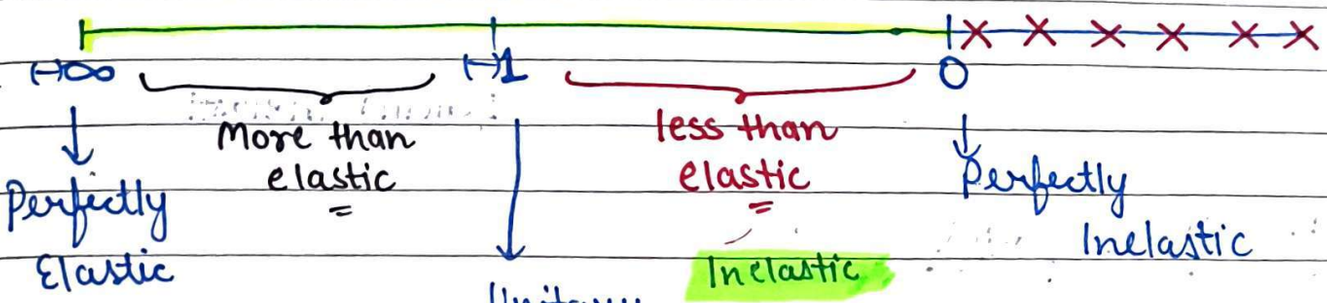
(3) PRICE ELASTICITY

P↑ D↓

P↓ D↑

Inverse always

ALWAYS NEGATIVE



While writing the values it is an old custom

* factors affecting Price elasticity of Demand *

Elastic :- $E_d > 1$

Inelastic :- $E_d < 1$

(1) Availability of Substitutes

Goods having close Substitutes ($E_d > 1$)

(ii) Number of Uses (Eg Milk)

More Uses :- $E_d > 1$

(iii) Share in Consumer Budget

₹9900 ↑ ₹200 Demand elastic

₹10 ↑ ₹20 Demand Inelastic

(iv) Time period

long - $E_d > 1$ elastic

Short - $E_d < 1$ Inelastic

(v) Nature of Good

luxury Good :- $E_d > 1$ elastic

Necessity Good :- $E_d < 1$ Inelastic

(vi) Other factors

a) Consumer habits - Inelastic

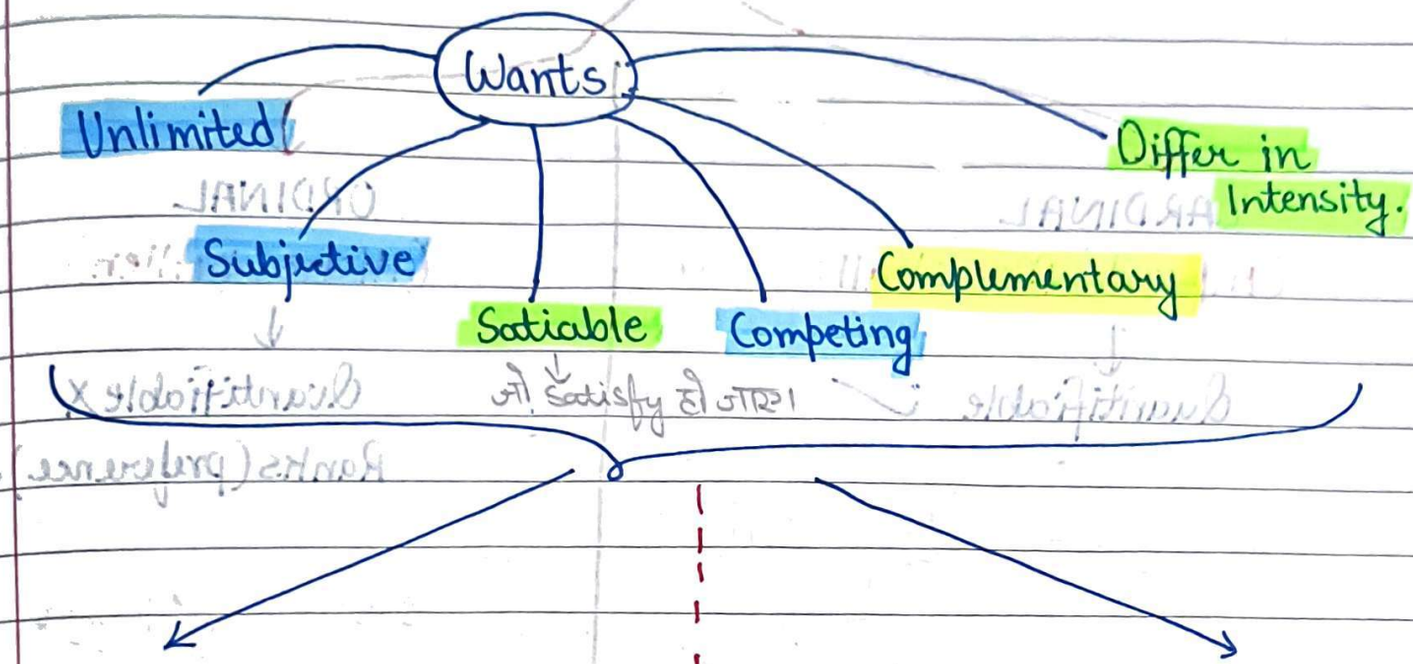
b) Tied Demand - Inelastic
(printer cartridge)

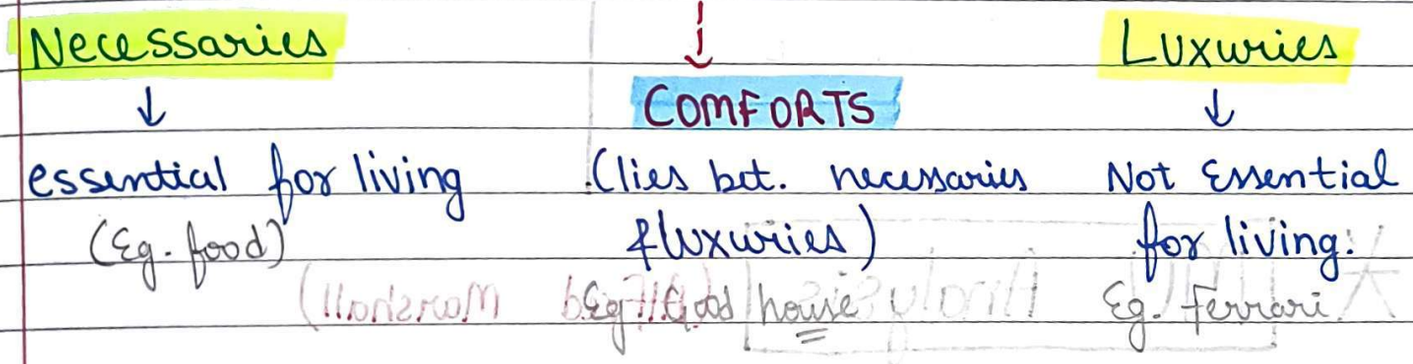
c) Minor Complementary items - Inelastic

d) Price Range - → Exteremes

Very high :- Diamond } Inelastic
Very low :- Salt

Unit-2 Consumer Behaviour





→ Utility

→ Satisfaction
→ Satiety
→ ~~Usefulness~~

Eg. Alcohol, Cigar
Utility (✓)
usefulness (✗)

Utility is "Ethically NEUTRAL"

→ Theory of Consumer Behaviour.

CARDINAL
(Alfred Marshall)
↓
Quantifiable ✓

Eg 1 Burger ⇒ Satisfaction
↓
Measure ✓
Numeric ✓

ORDINAL
(Hicks & Allen)
↓
Quantifiable ✗
Ranks (preference) ✓

Eg Burger > Pizza

* MU Analysis (Alfred Marshall)

① Assumptions :-

a) Consumer is Rational - who seek Maximum Satisfaction.

b) Utility is Cardinal

c) Money is measuring rod of Utility.

d) Continuity in Consumption i.e, no time gap between Consumption.

e) Homogeneous product

f) Good should be divisible in nature i.e, Quantifiable.

(2) Total Utility & Marginal Utility.

Burger (Units)	Marginal Utility (MU)	Total Utility (TU)
1	10 Utils	10 Utils
2	8 Utils	18 Utils
3	5 Utils	23 Utils
4	0 Utils	23 Utils
5	(-)3 Utils	20 Utils

Satisfaction

Satiety (Saturation)

Dissatisfaction

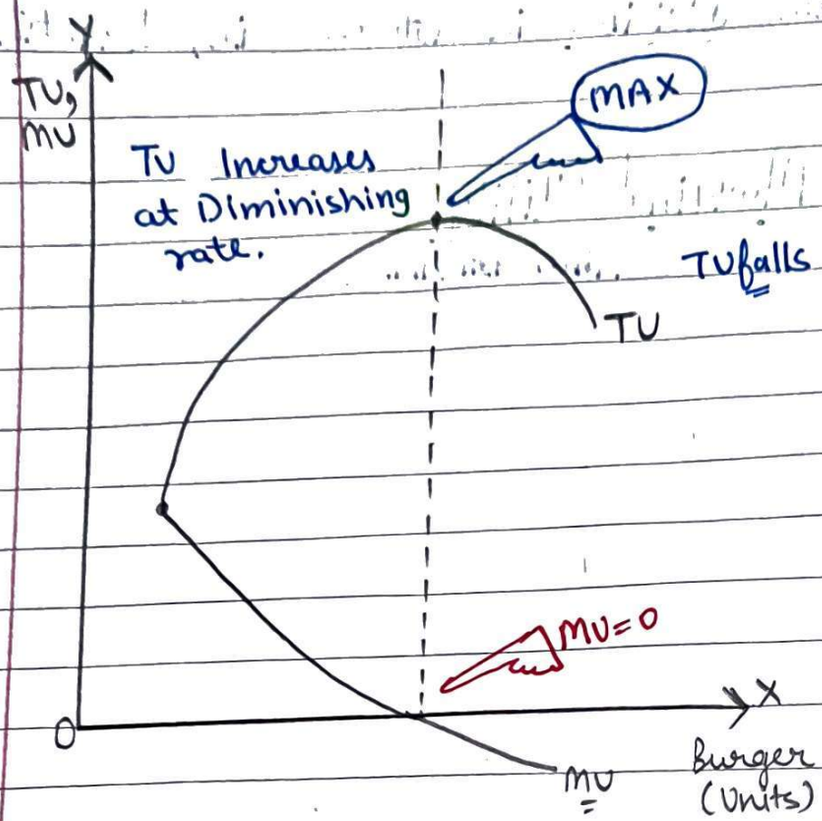
- **Law of Diminishing Marginal Utility.**
  - ↳ Units ↑ MU ↓

- $TU = MU_1 + MU_2 + MU_3 + \dots + MU_N$
  $= \Sigma MU$

- $MU_N = TU_N - TU_{N-1}$

$$MU = \frac{\Delta TU}{\Delta \text{Units}}$$

∴ MU is SLOPE of TU.



(i) when MU > 0 (+ve), then TU Increase at diminishing rate.

(ii) when MU = 0, then TU is MAX

(iii) when MU < 0 (-ve), then TU falls.

- **Limitations / Exceptions of Law of DMU.**

→ prestigious goods
→ Hobbies
→ Habits

} Units ↑ MU ↑

Q1

Units	TU	MU
1	8	8
2	13	5
3	16	3
4	16	0
5	15	-1
6	12	-3

Q2

Units	TU	MU
1	10	10
4	40	10

$\frac{\Delta TU}{\Delta units} = \frac{30}{3} = 10$

Q3

Units	MU	TU
1	5	5
5	4	21
8	3	30
15	2	44
25	1	54

$MU = \frac{\Delta TU}{\Delta units}$

$4 = \frac{x - 5}{4}$

$16 + 5 = x$

Q.4

Units	MU	TU
3	10	43
7	22	109
x		

$$MU = \frac{\Delta TU}{\Delta Units}$$

$$22 = \frac{x - 43}{4}$$

$$66 + 43 = x$$

$$\boxed{x = 131}$$

* Consumer's Equillibrium *

↓

Consumer gets maximum satisfaction by spending his Entire Income.

Single Commodity.

(Eg. Burger)

$$MU = P_x$$

It can be MU_x → Marginal Utility of good X.

or MU_m → Marginal Utility in terms of money.

Two Commodities

(Eg. Burger, Pizza)

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

Law of Equi. Marginal Utility.

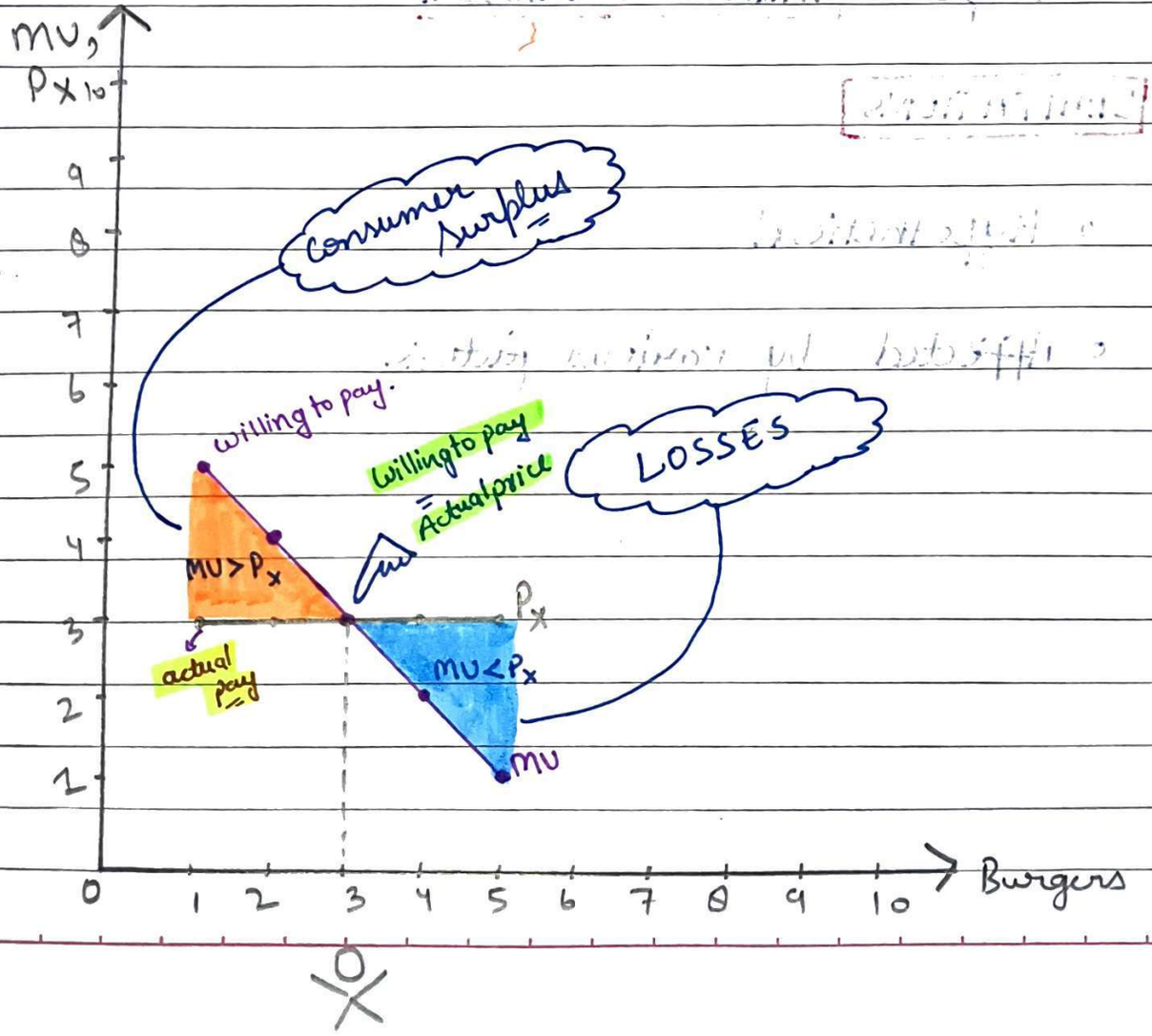
No Diagram	No Schedule.

Single Commodity

Burgers (Units)	P_x price of Burger	MU willing to pay	Consumer Surplus
1	₹3	₹5	2
2	₹3	₹4	1
3 (E)	₹3	₹3	0
4	₹3	₹2	(-)1
5	₹3	₹1	(-)2

$MU > P_x$

$MU < P_x$



DOMS Page No. Date / /

* Consumer Surplus

= MU (-) Px

= willing to pay (-) Actual price.

→ This Concept is based on law of Diminishing marginal Utility.

→ At Consumers Equilibrium, Consumer Surplus is Zero.

→ **Application.**

- helps business managers.
- helps finance minister.

→ **LIMITATIONS**

- Hypothetical
- Affected by various factors.

Two Commodities

Let us assume.

Price of Burger (P_x) = ₹1

Price of Pizza (P_y) = ₹2

Money Income (M) = ₹13

Burgers	MU_x	$\frac{MU_x}{P_x}$	Pizza	MU_y	$\frac{MU_y}{P_y}$
1	10	10	1	40	20
2	9	9	2	36	18
3	8	8	3	32	16
4	7	7	4	28	14
5	6	6	5	24	12
6	5	5	6	20	10

$$\frac{MU_x}{P_x} = \frac{MU_y}{P_y} = 10$$

$$\frac{10}{1} = \frac{20}{2} = 10$$

1 Burger and 6 Pizza

Total Exp. = ₹1 (+) ₹12 = ₹13 = Money Income.

* Consumers Equilibrium

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

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

DOMS | Page No.
Date / /

Q1 If $\frac{MU_x}{P_x} > \frac{MU_y}{P_y}$ then

Consumer will **INCREASE** the Consumption of Good X.

Sol.

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

16 over 2 $>$ 10 over 2

$$8 > 5$$

Q2 If $\frac{MU_x}{MU_y} < \frac{P_x}{P_y}$ then Consumer will **DECRESE** the Consumption of Good X.

Sol.

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

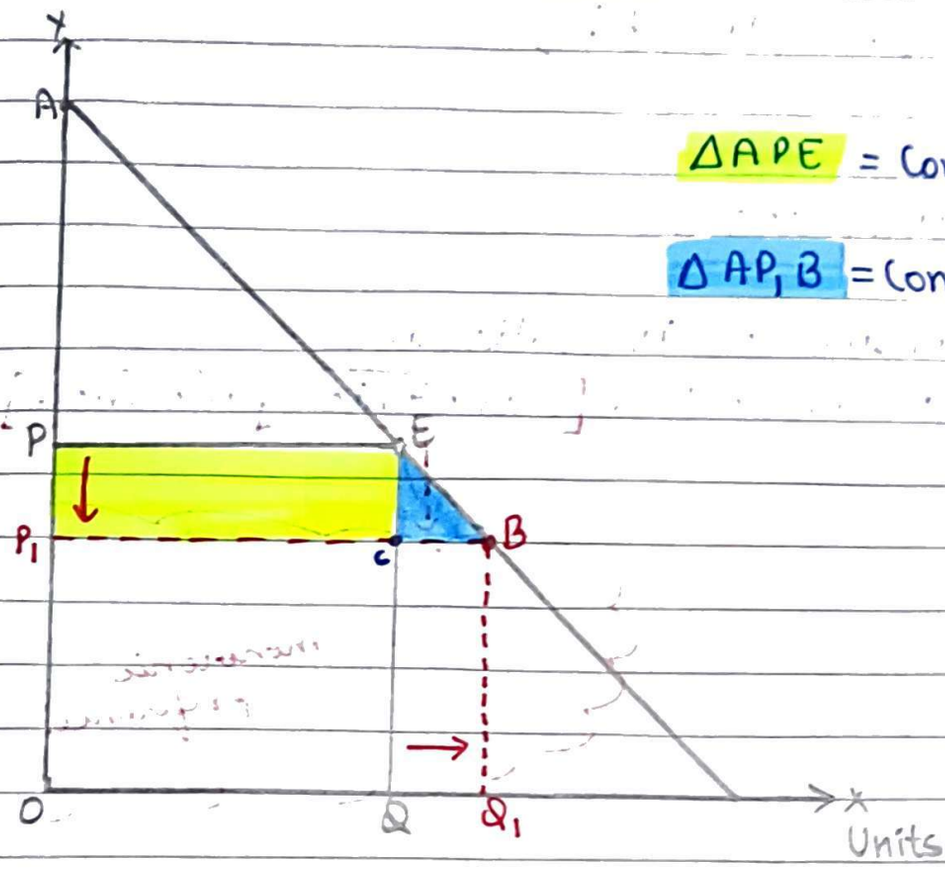
$$\frac{MU_x}{P_x} < \frac{MU_y}{P_y}$$

$$\frac{10}{2} < \frac{16}{2}$$

$$5 < 8$$

DOMS
Date / /

* Application Based on Consumer Surplus.



ΔAPE = Consumer Surplus (CS)

ΔAP_1B = Consumer Surplus (CS_1)

$$CS_1 (-) CS_0 = PP_1BE$$

Increase in Consumer Surplus = PP_1CE + ECB

→ when price falls

PP_1CE → Existing Buyers वो ज्यादा खरीदते हैं

ECB → New Buyers

Q1 MU Curve is also **Demand** Curve.

Q2 Area under MU Curve is **TU**.

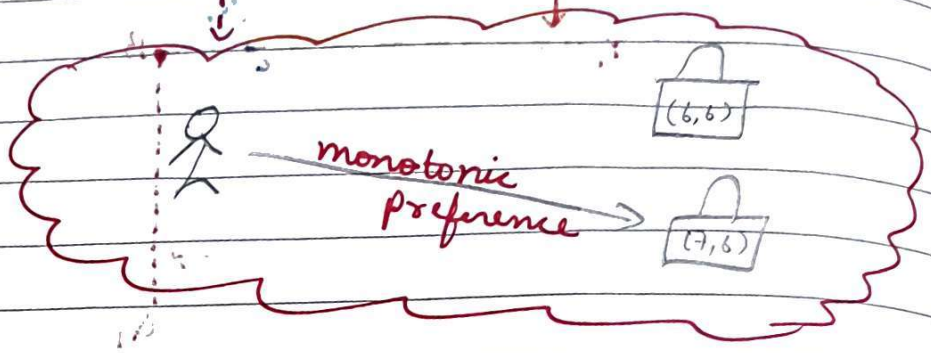
* HICKS and ALLEN *

(Ic analysis)

① Assumptions

(i) Consumer is rational

(ii) Consumer has **monotonic preference.**



(iii) choices are Transitive.

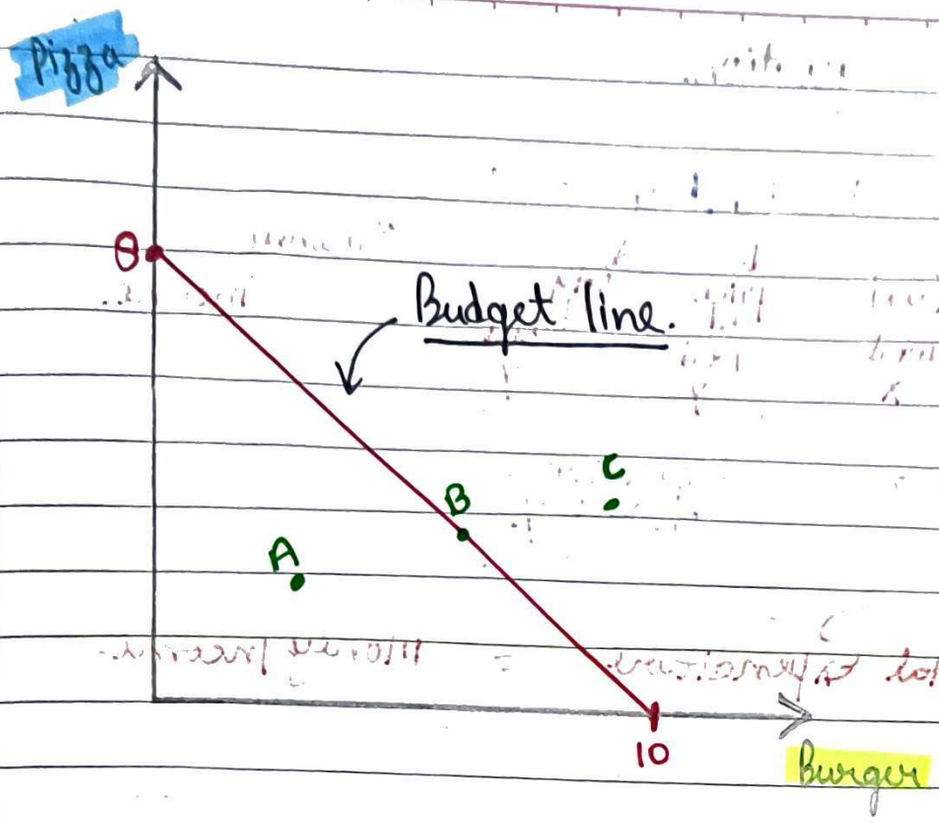
1) Burger > Pizza

2) Pizza > Momos

Burger > Momos.

② Budget line

Shows all combinations of two goods which the Consumer can buy spending his Entire given Income.



- A — not spending the Entire Income.
- B — Spending the Entire Income.
- C — Unattainable.

Q1 Money Income = ₹80

P_x = ₹5

P_y = ₹4

Write (i) 4 Bundles which are Unattainable.

(ii) 5 Bundles which are at below Budget line level

(iii) 3 Bundles Exactly on Budget line.

Sol.

(i) (16, 1 .) (25, 5) (30, 10) (35, 40)

(ii) (10, 1) (5, 4) (6, 5) (2, 1) (1, 1)

(iii) (12, 5) (4, 15) (8, 10)

→ Budget line Equation.

$P_x \cdot Q_x$ (+) $P_y \cdot Q_y = M$

- P_x: Price of good X
- Q_x: Qty of good X
- P_y: Price of good Y
- Q_y: Qty of good Y
- M: money Income.

$P_x \cdot Q_x$: Expenditure on Good X.

$P_y \cdot Q_y$: Expenditure on good Y.

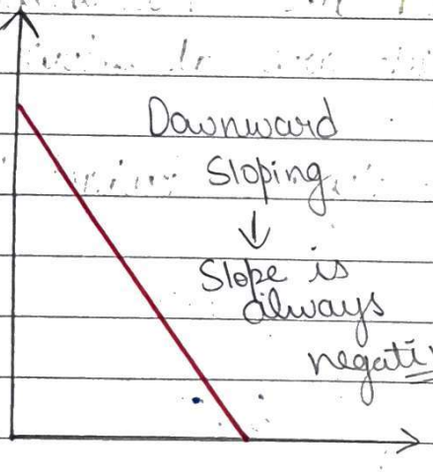
Total Expenditure = Money Income.

→ Budget Constraint

$P_x \cdot Q_x$ (+) $P_y \cdot Q_y \leq M$

(Total Expenditure cannot Exceed money Income)

→ Slope of Budget line.

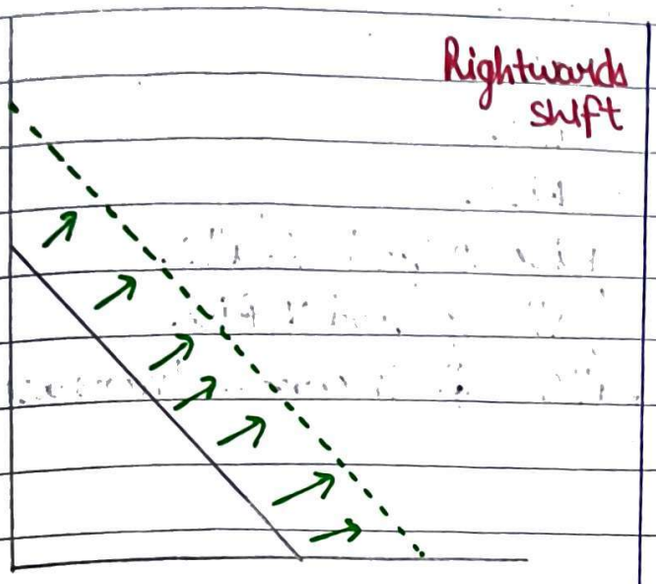


Downward Sloping → Slope is always negative

$= \frac{P_x}{P_y}$ (Ratio of prices of two goods)

→ Market Rate of Exchange.

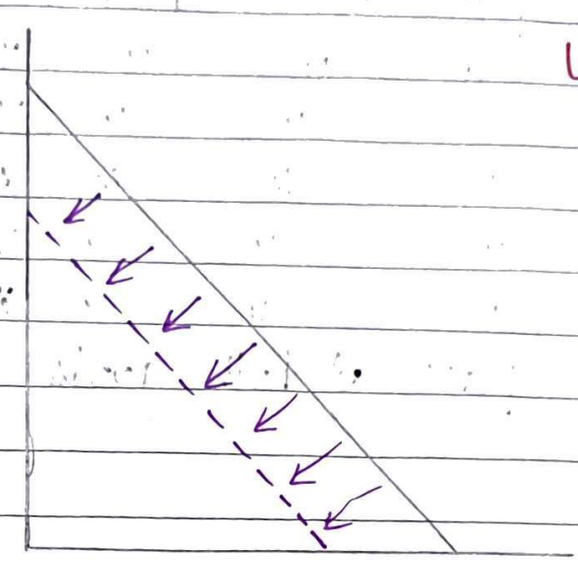
→ **Shift in Budget line.**



It means that Consumption of Both goods can be Increased.

Reasons

1. Increase in Income.
2. Decrease in price of goods.



It means that Consumption of both goods decreased.

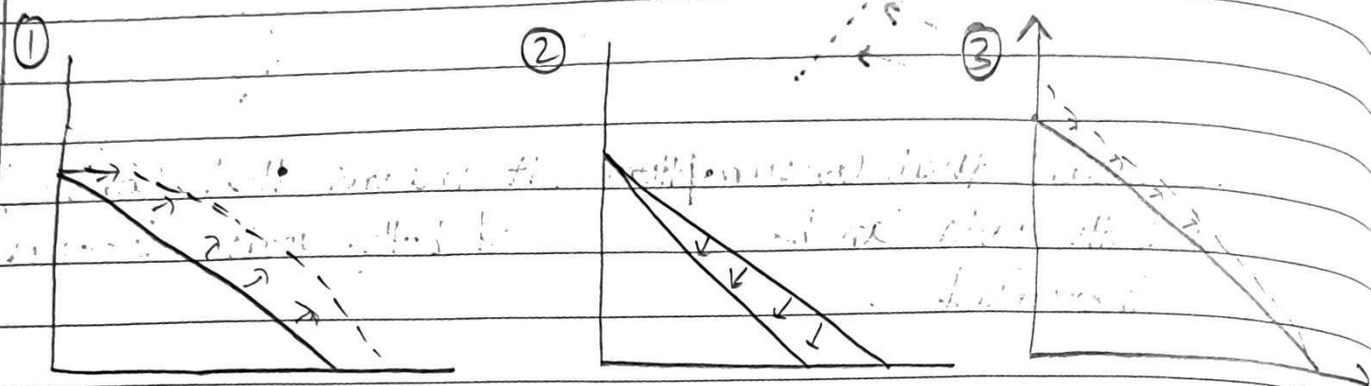
Reasons

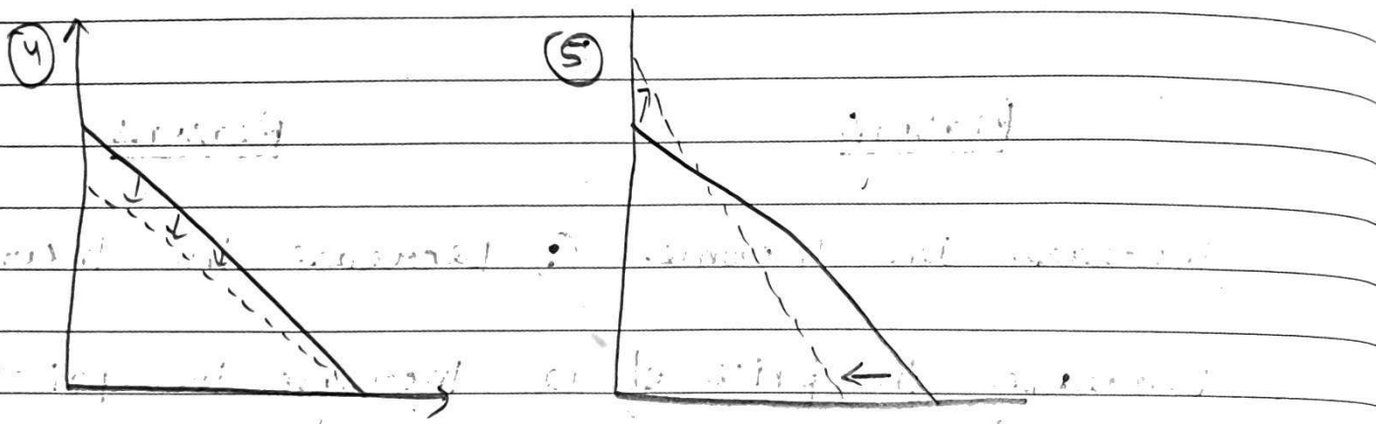
1. Decrease in Income.
2. Increase in prices of goods.

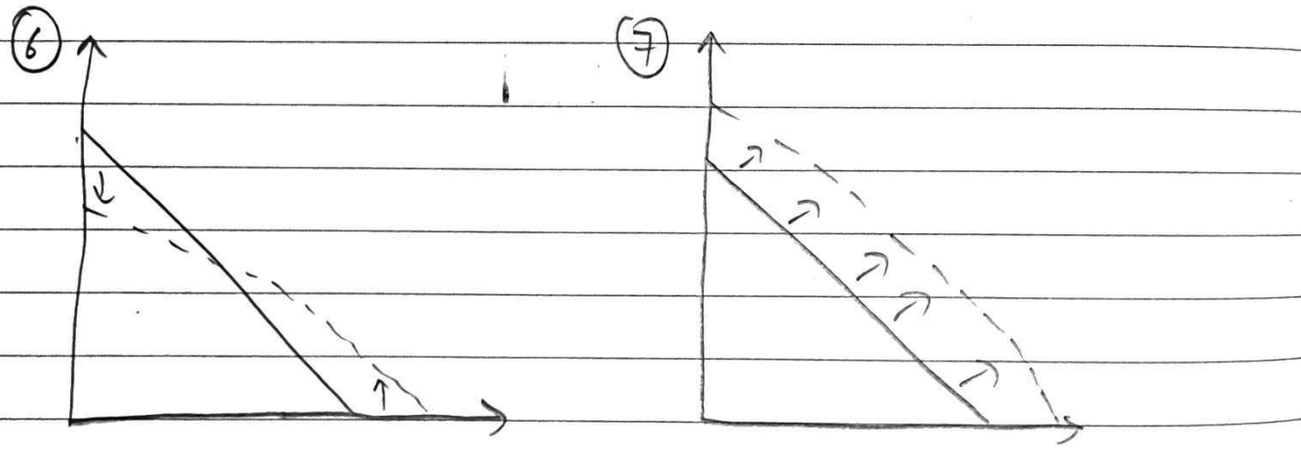
DOMS | Page No.
Date / /

Q Show the Effect of following on budget line:-

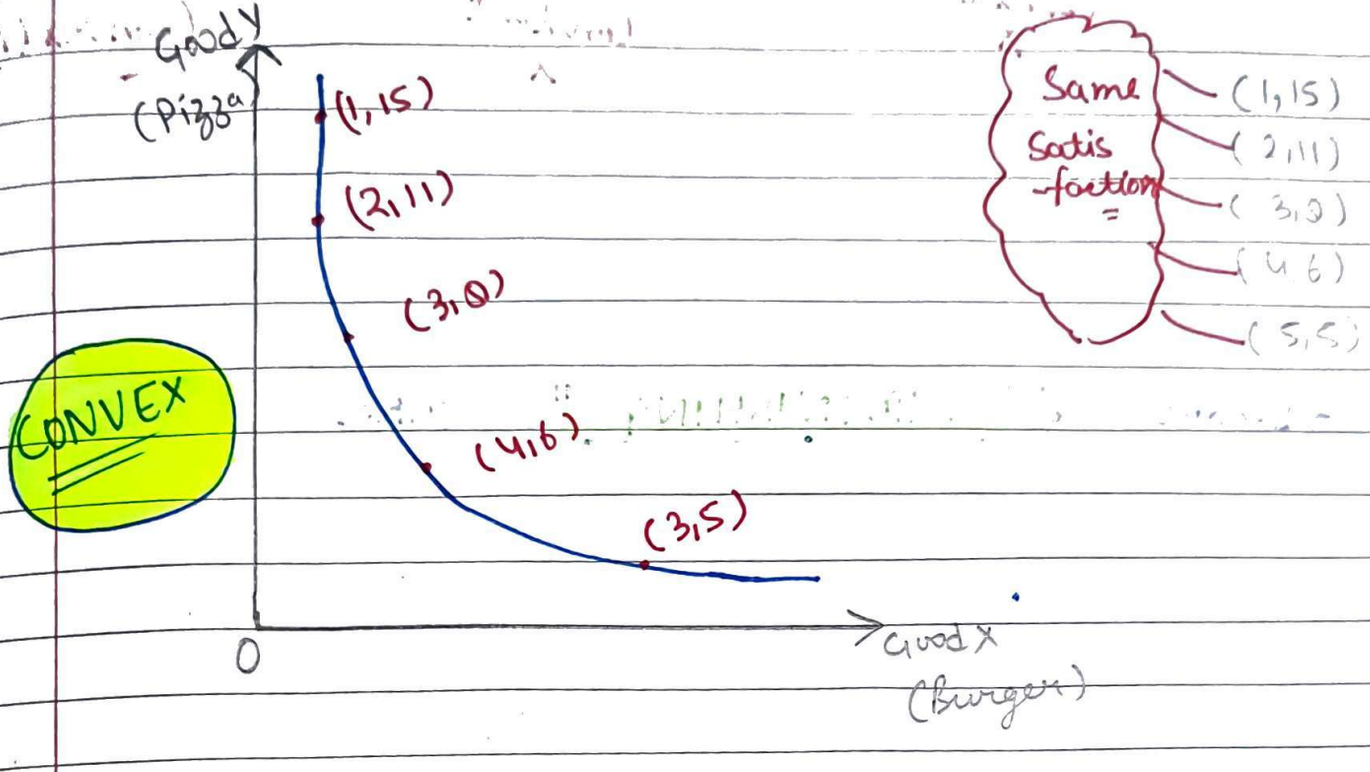
① Price of Good X falls.
② " " " X Rise.
③ " " " Y falls.
④ " " " Y Rise.
⑤ " " " X Rise & Good Y falls.
⑥ " " " X falls & Good Y Rise.
⑦ Price of both goods falls & Income Increases.



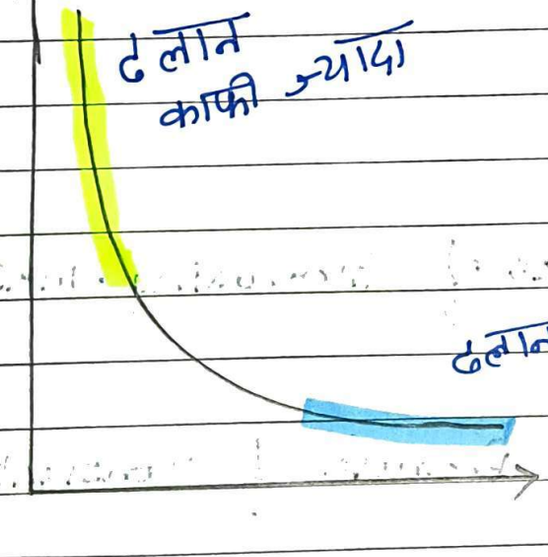




③ Indifference Curve — Iso-Utility Curve - IC



** → Slope of IC. = Marginal Rate of Substitution. (MRS_{xy})

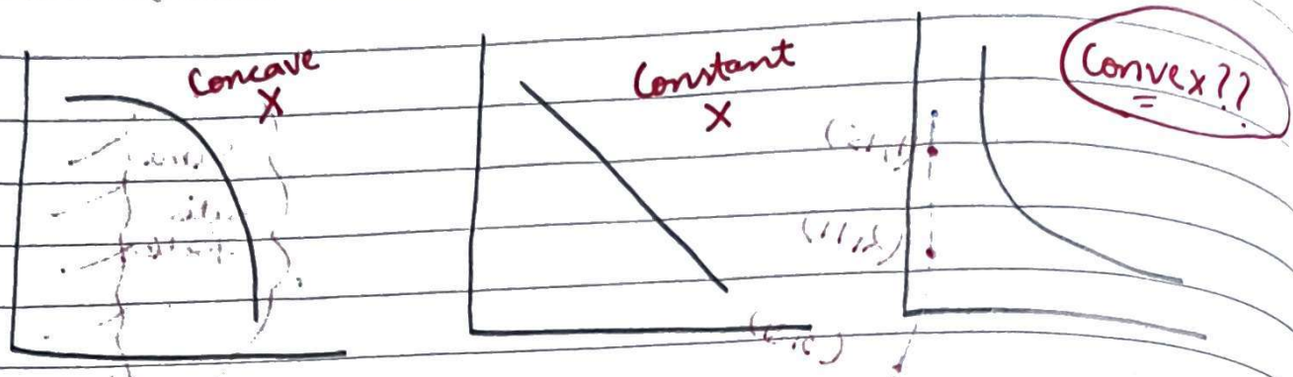


$$\Rightarrow MRS_{xy} = \frac{\Delta \text{ Goods Y}}{\Delta \text{ Goods X}}$$

$$= \frac{\Delta \text{ Good Sacrificed}}{\Delta \text{ Good Gained}}$$

Or $$MRS_{xy} = \frac{MU_x}{MU_y}$$

-> Why IC is Convex??



- Because of "DIMINISHING" MRS.

Good X	Good Y	MRS
1	15	—
2 (+1)	11	4 ÷ 1 = 4
3 (+1)	8	3 ÷ 1 = 3
4 (+1)	6	2 ÷ 1 = 2
5 (+1)	5	1 ÷ 1 = 1

दलातु कम हो रही है।

Q1 IC is Concave Because of Increasing MRS

Q2 IC is straight line Because of Constant MRS

DOMS | Page No.
Date / /

→ Properties of Indifference Curve.

① IC is downward sloping and Convex to the Origin.

- Because to gain one Unit of good X, we have to Sacrifice Some Units of Good Y.
- Because of Diminishing MRS.

② Two Indifference Curves never Intersect Each other.

③ Higher the IC, higher the Satisfaction.

④ IC do not touch either of the axis.

Two goods must be there.

→ Consumer's Equilibrium by Hicks & ALLen.

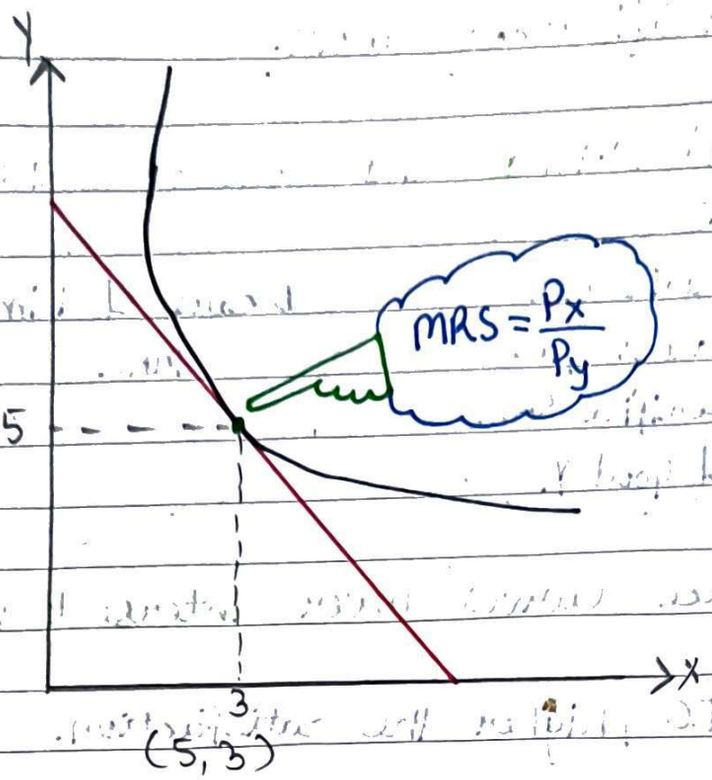
Condition 1

Slope of IC = Slope of Budget line.

$$MRS = \frac{P_x}{P_y}$$

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

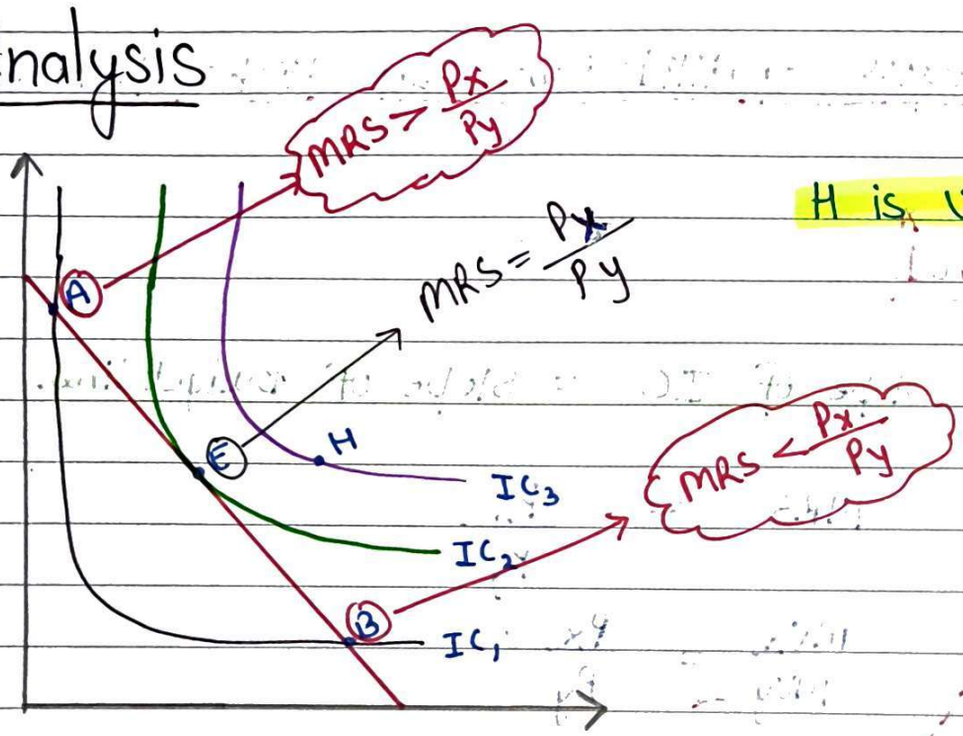
When Budget line is TANGENT to IC.



Condition 2

MRS should be diminishing i.e
"IC should be Convex."

✳ Analysis



H is Unattainable.

Q1 If two goods are perfect substitutes then IC is Straight line.

Q2 If two goods are perfect complementary goods then IC is L shaped / Right angled.

Q3 If MRS > $\frac{P_x}{P_y}$ then Consumer will Increase the consumption of Good X.

Q4 If MRS < $\frac{P_x}{P_y}$ then Consumer will Decrease the Consumption of Good X.

Unit-3 Supply {5th Producer ☺}

① SUPPLY → FLOW

Amount of goods or services that a producer is willing and able to offer to the market at Various prices during a given period of time.

② factors affecting Supply (Determinants of Supply)

(i) Price of the Good (P_x)

$P_x \uparrow \quad S_x \uparrow$ — DIRECT Relation

or $P_x \downarrow \quad S_x \downarrow$

(ii) Price of Related (Competitive) good

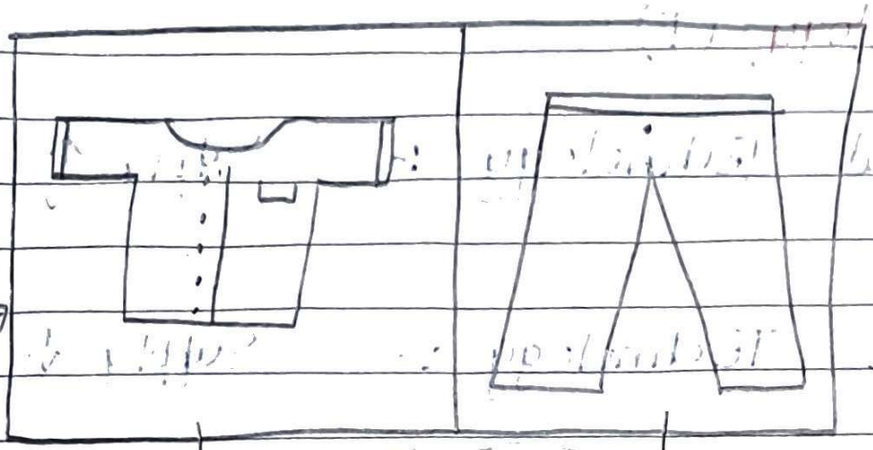
~~• Substitute good~~
~~• Complimentary good~~

BLUNDER

Price of Related Good ↑ → Supply of Good concerned ↓

INVERSE

Eg #



Land (Resources)

Good concerned → Related good (Competitive good)

Price Jeans ↑ → Supply Jeans ↑ → Supply Tshirt ↓

(iii) **COST of factors of production.** (F)

(Eg. Labour, Raw materials, Inputs Etc)

Labour ₹100 ——— Supply Price ₹120

Now

₹125 ——— Supply ↓

F ↑ S_x ↓ → INVERSE

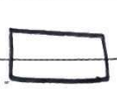
(iv) Technology (T)

- Advanced Technology :- Supply ↑
- Obsolete Technology :- Supply ↓

Quantitative

(v) Other factors (O)

(a) Excise duty :- Tax on Manufacture



Cost 100 } Supply 120
Tax 20 }

Now

Cost 100 } Supply 140
Tax 40 }

Tax ↑ S_x ↓

Inverse Relation

(b) Subsidy

Subsidy ↑ S_x ↑

DIRECT Relation

(c) Nature of Competition.

→ perfect — $S_x \uparrow$

→ Monopoly — $S_x \downarrow$

(d) No. of firms

large- $S_x \uparrow$

Small- $S_x \downarrow$

(3) $S_x = f(P_x, P_R, F, T, O)$

Supply function

Assumption.

DIRECT Relation.

"CETERIS PARIBUS"

LAW OF SUPPLY

$P_x \uparrow$ $S_x \uparrow$ DIRECT Relative

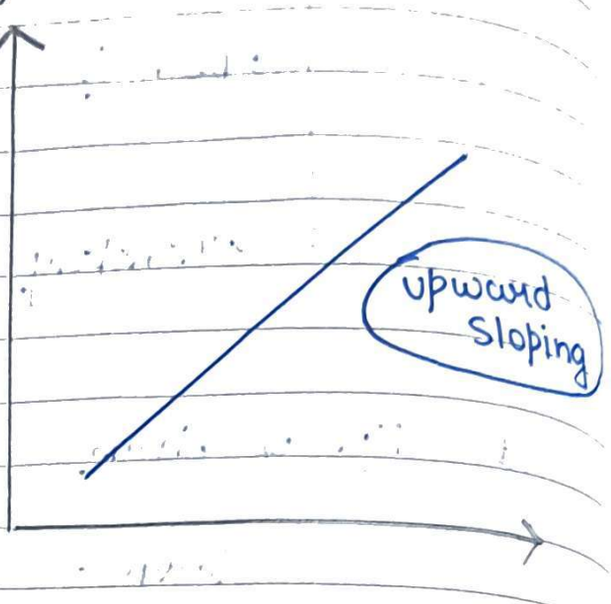
or $P_x \downarrow$ $S_x \downarrow$

QUANTITATIVE STATEMENT

QUALITATIVE Statement

④ Supply Schedule & Supply Curve

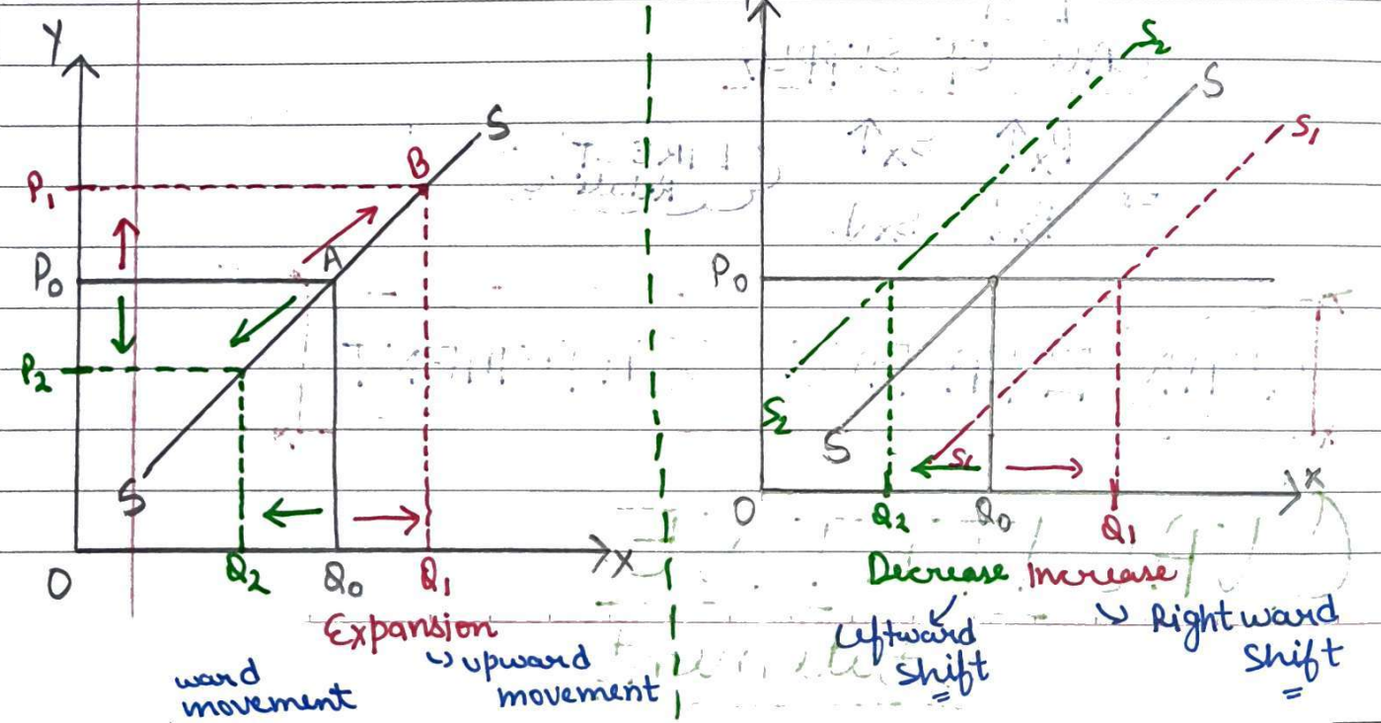
Price (₹)	Qty (Units)
₹ 10	105
₹ 15	170
₹ 20	280



⑤ Change in Quantity Supplied V/S Change in Supply

$$S_X = f(P_X, P_R, F, T, O)$$

Expansion | Contraction | Increase | Decrease



Q How does the following affect Supply Curve :-

(i) F ↓ — ~~Increase~~ ~~Decrease~~ in Supply (~~leftward~~ Rightward Shift)

(ii) P_R ↑ — Decrease in Supply (Leftward shift)

(iii) Advanced technology — Increase in Supply (Rightward Shift)

(iv) Tax ↓ — Increase in Supply (Rightward Shift)

(v) Subsidy ↑ — Increase in Supply (Rightward Shift)

(vi) No. of firms ↓ — Decrease in Supply (Leftward Shift)

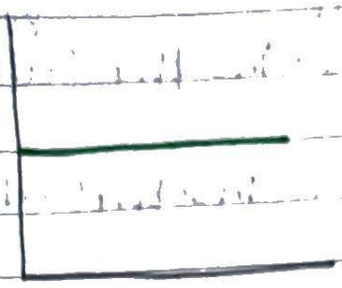
(vii) P_x ↑ — — upward movement (Expansion.)

6) Price Elasticity of Supply. (E_s)

E_s is Always Positive

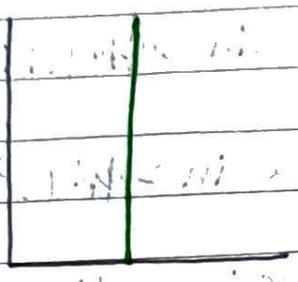
All formulas & all degrees are same.

Degrees

(i) 

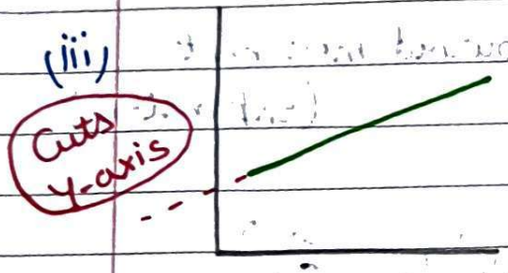
$E_s = \infty$ (perfectly elastic)

(Horizontal)

(ii) 

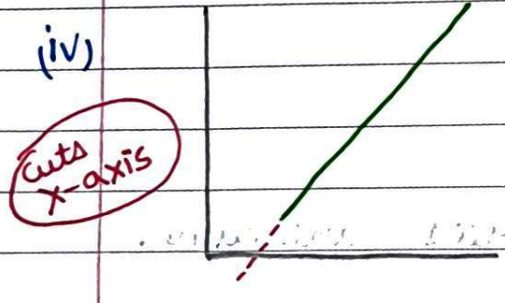
$E_s = 0$ (perfectly Inelastic)

(vertical)

(iii) 

$E_s \geq 1$ (More than elastic)

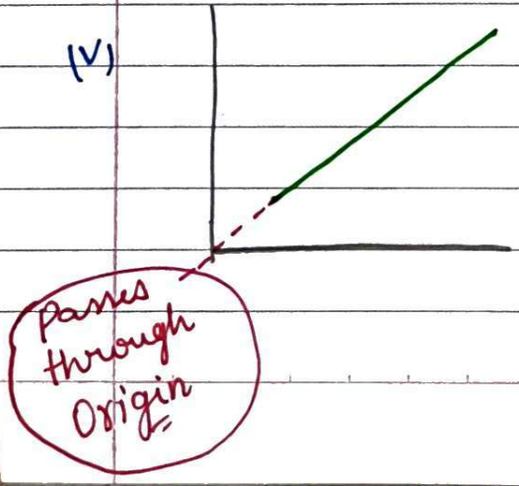
"FLATTER"

(iv) 

$E_s < 1$ (Less than Elastic)

Inelastic

"STEEPER"

(v) 

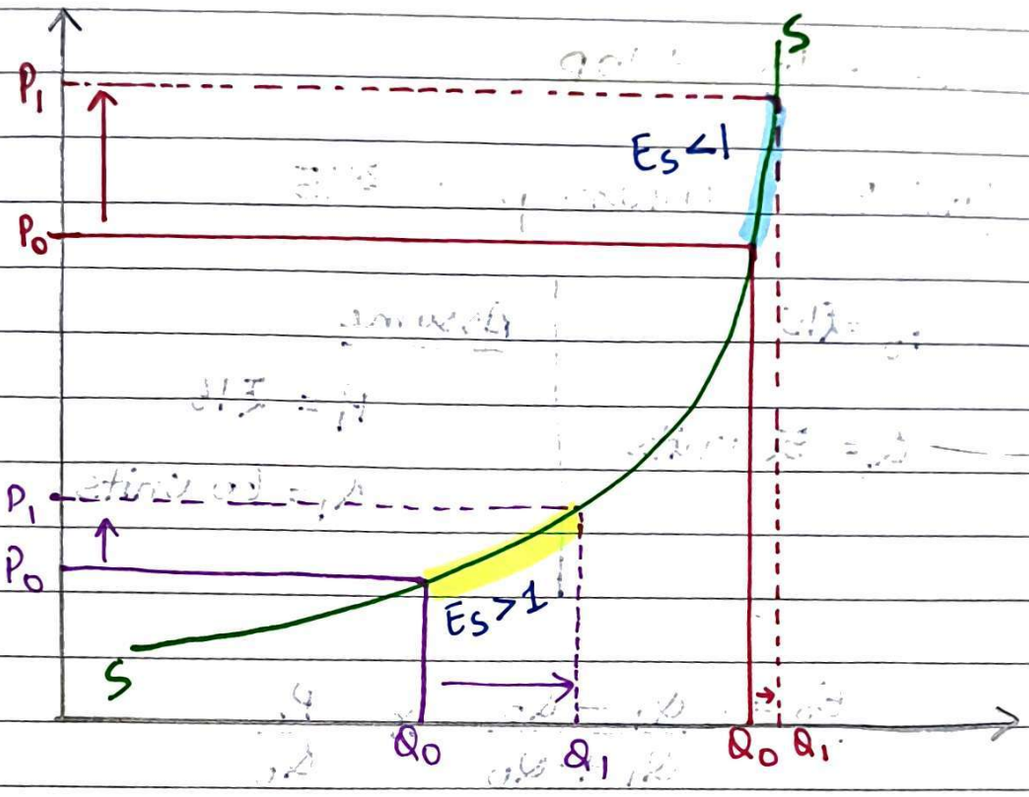
$E_s = 1$ (Unit Elastic)

Unitary Elastic

Q1 Es of Supply Curve passing through Origin & making 75° angle is = 1.

Q2 Is it possible that Elasticity on Same Supply Curve is not Constant (i.e, varies)??

Sol. Yes



FORMULAES

(i) Point Elasticity.

$$E_s = \frac{\Delta Q}{\Delta P} \times \frac{P_0}{Q_0}$$

$$E_s = \frac{\%\text{ change in Quantity.}}{\%\text{ change in price.}}$$

(2) Arc Elasticity.

$$E_s = \frac{Q_1 - Q_0}{Q_1 + Q_0} \times \frac{P_1 + P_0}{P_1 - P_0}$$

Q $Q = -100 + 10P$

find E_s when $P = ₹15$

Sol. $P_0 = ₹15$

$Q_0 = 50$ units

Assume

$P_1 = ₹16$

$Q_1 = 60$ units.

$$E_s = \frac{Q_1 - Q_0}{P_1 - P_0} \times \frac{P_0}{Q_0}$$

$$= \frac{60 - 50}{16 - 15} \times \frac{15}{50}$$

$$= \frac{10}{1} \times \frac{15}{50}$$

$$= 3$$

DOMS | Page No.
Date / /

* Factors affecting Elasticity of Supply.

$E_s > 1$ (Elastic)
$E_s < 1$ (Inelastic)

(i) Cost of production (Expected)

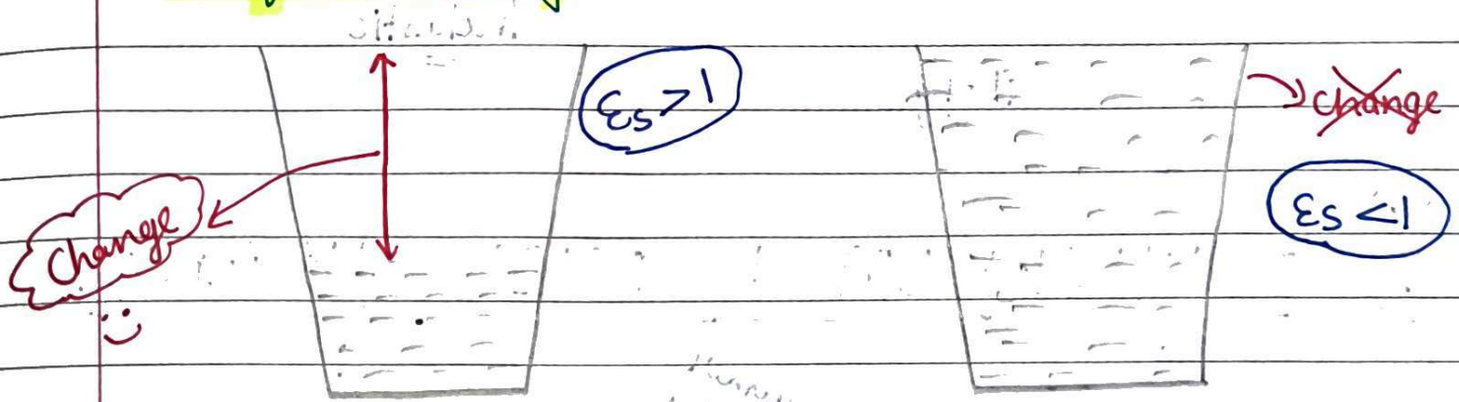
production ↑ → (Cost ↑) → "Supply Inelastic"

(ii) Time period

long time period → $E_s > 1$

Short time period → $E_s < 1$

(iii) Supply is more Elastic if firms are not working to full Capacity.



(iv) Availability of raw materials.

→ Easily available - $E_s > 1$

→ not easily available - $E_s < 1$

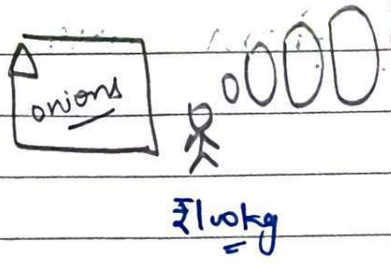
⑤ Ease of factor Substitution.

- Easy :- $(E_s > 1)$
- Hard :- $(E_s < 1)$

⑥ Mobility of factors

- Easily mobile - $(E_s > 1)$
- not mobile - $(E_s < 1)$

⑦ future Expectations



Inelastic

⑦ EQUILIBRIUM & SOCIAL Efficiency.