B.K. BIRLA CENTRE FOR EDUCATION

SARALA BIRLA GROUP OF SCHOOLS
A CBSE DAY-CUM-BOYS' RESIDENTIAL SCHOOL

Class: XI	**MARKING KEY**	**Duration: 3 Hrs**
Date: 23/02/2026	**ECONOMICS**	**Max. Marks: 80**
Admission No:	**SET -II**	**Exam No.**

1. a) Aggregates of organised facts 1

2. c) ii, iii, iv, v, I 1

3. c) Statement 1 is true and Statement 2 is false 1

4. b) (a) – (ii), (b) – (iv), (c) – (iii), (d) – (i) 1

5. b) the upper limit is excluded 1

6. a) Both A and R are true and R is correct explanation 1

7. c) Any one out of ascending or descending 1

8. b) 1.5 times base period 1

9. a) 78 1

10. a) Ranks of series I and series II 1

11. **Statistical methods help analyse economic problems:** **3**
a) Statistical methods summarize economic data.

b) They help in understanding trends like price, production, and income changes.

c) They assist policymakers to make decisions based on reliable data.

12. $A + \frac{\sum fd' \times C}{\sum f}$ $25 + (-14)/28 \times 10 = 25 - 5 = 20$ Answer 3)

OR

Wage rate (₹)	Mid value $m = \frac{l_1 + l_2}{2}$	Frequency (f)	Deviation ($d = m - A$) ($A = 44.5$)	Step-deviation $d' = d / c$ ($C = 10$)	fd'
19.5-29.5	24.5	20	−20	−2	−40
29.5-39.5	34.5	10	−10	−1	−10
39.5-49.5	44.5A	6	0	0	0
49.5-59.5	54.5	4	10	1	4
59.5-69.5	64.5	5	20	2	10
		$\Sigma f = 45$			$\Sigma fd' = -36$

$$\bar{X} = A + \frac{\Sigma fd'}{\Sigma f} \times C = 44.5 + \left(\frac{-36}{45} \times 10\right) = 44.5 - 8 = 36.5$$

Thus, arithmetic mean = ₹ 36.5

13. 4)

Now, $\text{Mode}(Z) = L_1 + \dfrac{f_1 - f_0}{2f_1 - f_0 - f_2} \times i$

where $L_1 = 20,\ f_1 = 10,\ f_0 = 6,\ f_2 = 4,\ i = 10$

$$Z = 20 + \left(\frac{10-6}{2\times 10-6-4}\right)\times 10 = 20 + 4 = 24$$

So, Mode = **24**

14. 4)

Marks	No. of students
1– 5	6
6–10	9
11–15	15
16–20	11
21–25	9

Solution. Calculation of Median

Marks	Changed into Exclusive Series	No. of students f	c.f.
1–5	.5– 5.5	6	6
6–10	5.5–10.5	9	15c
11–15	$L_1$10.5–15.5	15f	30
16–20	15.5–20.5	11	41
21–25	20.5–25.5	9	50
		$N = 50$	

M = Size of $\left(\frac{N}{2}\right)$th item

= Size of $\left(\frac{50}{2}\right)$th item

= Size of 25th item

It lies in 10.5–15.5 group

$$M = L_1 + \frac{i}{f}(m-c)$$

$$= 10.5 + \frac{5}{15}(25-15)$$

= 10.5 + 3.33 = 13.33 Marks.

OR

Mean $= \frac{\Sigma fx}{\Sigma f} = 30 + \frac{820+35f1}{32+f1}$

= 960 + 30f1 + 820 35f1

= 5f1 = 140

= f1 = 28 Answer

15. (a) Laspeyre's Method: $P_{01} = \frac{\sum P_1 q_0 \text{ X } 100}{\sum P_0 q_0} = \frac{702 \text{ X } 100}{588} = 119.38$ 4)

Paasche's method: $P_{01} = \frac{\sum P_1 q_1 \text{ X } 100}{\sum P_0 q_1} = \frac{2150 \text{ x } 100}{1760} = 122.1$

16. (a) 3)

X	Rank (x) (R_1)	Y	Rank (y) (R_2)	$R_1 - R_2$ D	D^2
80	1	12	8	−7	49
78	2	13	7	−5	25
75	3.5	14	5	−1.5	2.25
75	3.5	14	5	−1.5	2.25
68	5	14	5	0	0
67	6	16	2	4	16
60	7	15	3	4	16
59	8	17	1	7	49
$N = 8$		$N = 8$		$\Sigma D = 0$	$\Sigma D^2 = 159.50$

$$rk = 1 - \frac{6\left[\Sigma D^2 + \frac{1}{12}(m^3 - m) + \frac{1}{12}(m^3 - m)\right]}{N(N^2 - 1)}$$

$$= 1 - \frac{6\left[159.5 + \frac{1}{12}(2^3 - 2) + \frac{1}{12}(3^3 - 3)\right]}{8(8^2 - 1)}$$

$$= 1 - \frac{6(159.5 + 0.5 + 2)}{504}$$

$$= 1 - \frac{6(162)}{504}$$

$$= 1 - \frac{972}{504}$$

$$= 1 - 1.93 = -0.93$$

It shows a high degree of negative correlation between X and Y series.

(b) 3)

Price (X)	$dx = X - A_x$, $A_x = 15$	$dx' = \frac{dx}{C_1}$, $C_1 = 5$	dx'^2	Demand (Y)	$dy = Y - A_y$, $A_y = 30$	$dy' = \frac{dy}{C_2}$, $C_2 = 5$	dy'^2	$dx'dy'$
5	− 10	− 2	4	40	10	2	4	− 4
10	− 5	− 1	1	35	5	1	1	− 1
15	0	0	0	30	0	0	0	0
20	5	1	1	25	−5	−1	1	− 1
25	10	2	4	20	−10	−2	4	− 4
N = 5		$\Sigma dx' = 0$	$\Sigma dx'^2 = 10$	N = 5		$\Sigma dy' = 0$	$\Sigma dy'^2 = 10$	$\Sigma dx'dy' = -10$

$$r = \frac{\Sigma dx'dy' - \frac{(\Sigma dx') \times (\Sigma dy')}{N}}{\sqrt{\Sigma dx'^2 - \frac{(\Sigma dx')^2}{N}} \times \sqrt{\Sigma dy'^2 - \frac{(\Sigma dy')^2}{N}}}$$

$$= \frac{-10 - \frac{0}{5}}{\sqrt{10 - \frac{0}{5}} \times \sqrt{10 - \frac{0}{5}}}$$

$$= \frac{-10}{\sqrt{10} \times \sqrt{10}} = \frac{-10}{10} = -1$$

Coefficient of Correlation (r) = − 1.

OR

Fishers method :

(a) 3)

$$\sqrt{\frac{\sum P_1 q_0}{\sum P_0 q_0} \times \frac{\sum P_1 q_1}{\sum P_0 q_1}} \times 100$$

330/241 X 405/295 = 1.36 X 1.37 = √ 1.86 = 1.36

1.36 X 100 = 136 Answer

(b) Difficulties faced in the Construction of Index Numbers 3)

- Difficulties in Choosing a Base Period: ...
- Problem in Commodity Selection: ...
- Problems in Price Compendium: ...
- Difficulty in Choosing a Statistical Approach: ...
- Difficulties Resulting from Changes Over Time: ...
- It is not possible to make a comparison:

17.(A) (a) The time available for respondents while answering questions is limited in the Schedule method when compared to the Questionnaire method. 1)

In Questionnaires, responses are filled by the respondents. In Schedule, method responses are filled by the enumerators themselves.

Questionnaire technique is quantitative. Schedule technique is qualitative.

In questionnaire grouping made on different categories. In schedule grouping may or may not exist.

(b) Qualities of a good Questionnaire: 3)

A good questionnaire should be valid, reliable, clear, succinct and interesting. It is important to design the questionnaire based on a conceptual framework, scrutinise each question for relevance and clarity, and think of the analysis you are going to perform at the end of the day.

(B) TABLE NO. 1 2)

Monthly Expenditure of a Family

Particulars	January	February	March
Food			
Clothing			
House Rent			
Source: Self-survey			

Parts of a Statistical Table

1. **Table Number** – Helps in identification of the table
   (Example: Table No. 1)
2. **Title** – Explains the subject matter of the table
   (Example: Monthly Expenditure of a Family)
3. **Captions** – Headings of columns
   (Example: January, February, March)
4. **Stubs** – Headings of rows
   (Example: Food, Clothing, House Rent)
5. **Body** – Main data of the table
   (Blank cells in the table)
6. **Source** – Indicates the origin of data
   (Example: Source: Self-survey)

18.c) When MRT is constant 1)

19. b) MUx/Px = MUy/Py 1)

20. b) Nature of commodity 1)

21. a) 4 1)

22**.** (a)Poor quality good. 1)

23. a) Implicit cost 1)

24. c) 24 units 1)

25. c) MR curve will be a horizontal straight-line 1)

26. a) Increase in supply 1)

27. a) Both A and R true, R correct explanation 1)

28. PPC is concave-shaped because more and more units of one commodity are sacrificed to gain an additional unit of another commodity. However, if there is unemployment or inefficiency in resource utilisation, then we can produce at any point inside the PPC. 3)
Increasing MOC justifies concavity of PPC.

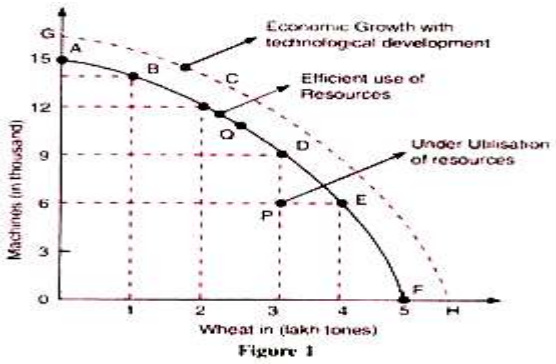
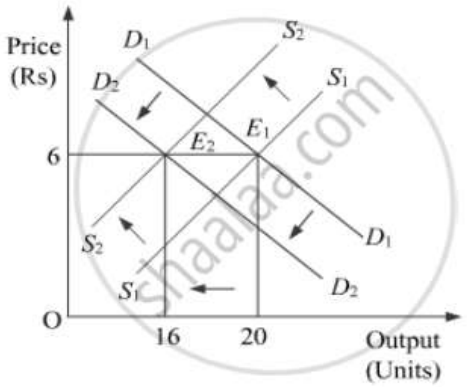


Figure 1

29. 3)



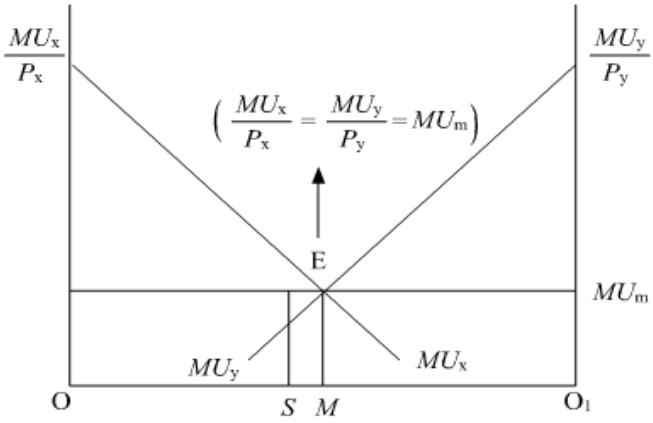
OR

A "price ceiling" is a government-imposed maximum price that sellers are allowed to charge for a good or service, essentially setting a limit on how high a price can go; when a price ceiling is set below the equilibrium market price, it can lead to "black marketing," which is the illegal trading of goods and services at prices higher than the set ceiling, often occurring due to shortages created by the price control measure. 3)

Black market emergence:

Since the legal market cannot fulfill the demand at the fixed price, individuals may resort to buying and selling goods on the "black market" where sellers can charge higher prices than the legal limit, exploiting the high demand and limited supply.

30. The consumer buys 3 units of commodity A and 3 units of commodity B and he spend 6 rupees on the purchase of both the goods and his Total Utility is maximised. 4)



OR

Inferior Goods

- When **income increases**, consumers shift to better substitutes.
- Hence, **demand for inferior goods falls**.
- When **income decreases**, demand for inferior goods increases.

Example:

When income rises, people prefer **rice or wheat** instead of **coarse grains** like jowar

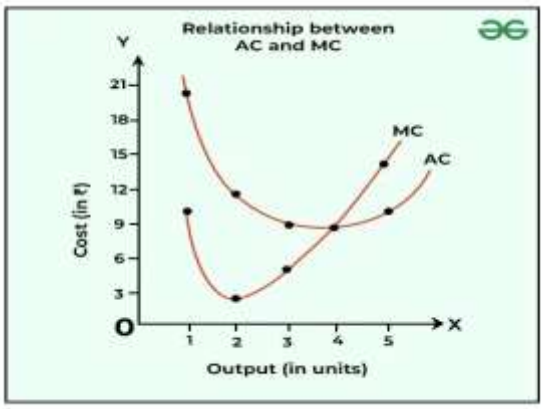
Normal Goods

- When **income increases**, purchasing power increases.
- Hence, **demand for normal goods rises**.
- When **income decreases**, demand for normal goods falls.

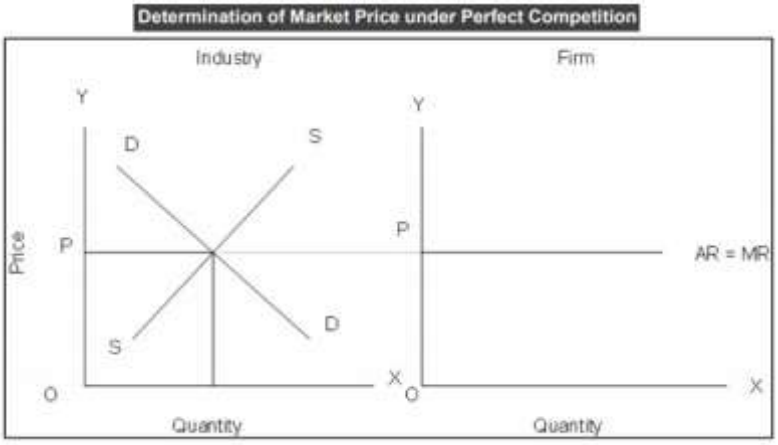
- **Example:**
  With an increase in income, demand for **branded clothes, smartphones, or cars** increases.

31.(a) False MP after reaching the maximum level starts declining but AP continues to increase 2)

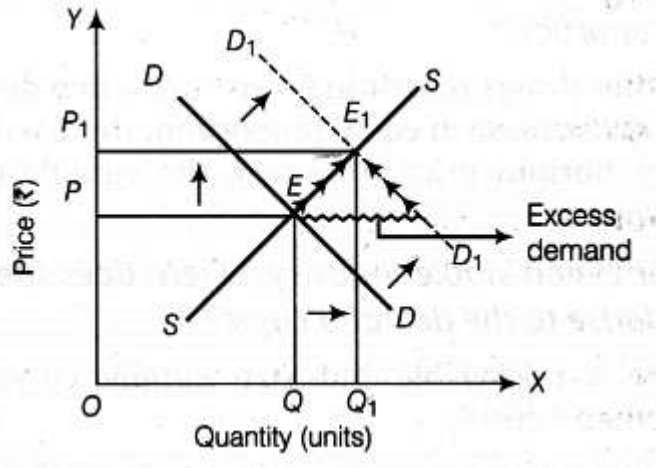
(b) 1. When average cost falls with an increase in output, marginal cost is less than the average cost (before point P). 2)
2. When average cost rises, marginal cost is greater than the average cost (after point P).
3. Marginal cost curve cuts the average cost curve at its minimum point (minimum point on the average cost curve is also the point of optimum capacity) i.e., at the point of optimum capacity, MC = AC (at point P).
With increase in average cost, marginal cost rises at a faster rate. This relationship between AC and MC is illustrated in the adjacent Fig. 8.8.



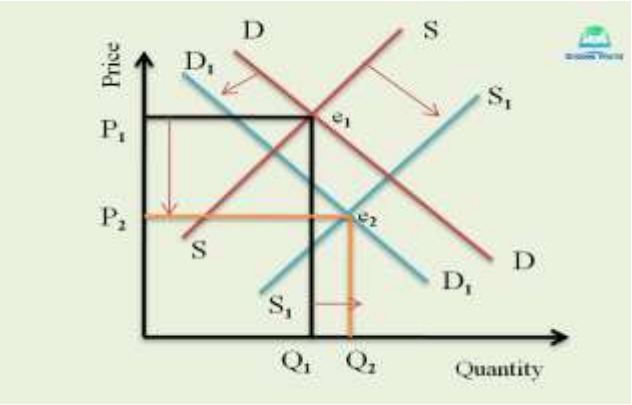
32. (a) Prices are determined in the industry by the free market forces of demand and supply. 2)



(b) (i) When income of the consumer increases. 2)

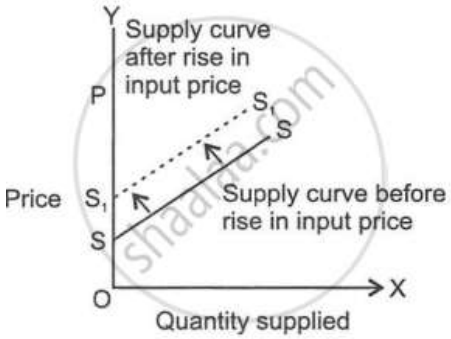


(ii) Decrease in the price of substitute good.

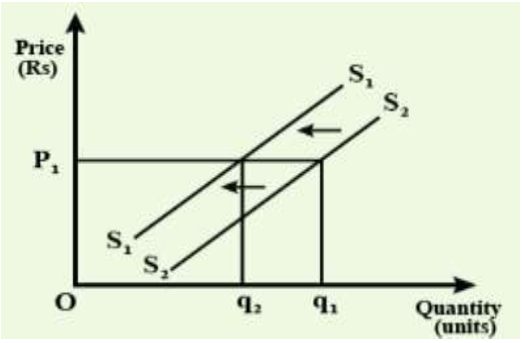


33. **Read the following news article and answer the questions that follow.**

(a) When input prices increase the cost of production increases and hence supply declines. 2)



(b) Other things remaining constant, imposition of the tax on a good negatively affects its supply. 2)
This is because tax increases the cost of production of the good. The high cost of production will Discourage the producer, thereby supply will decrease.



(c) Elasticity of supply is 18.7, which means greater than 1. ES > 1 2)

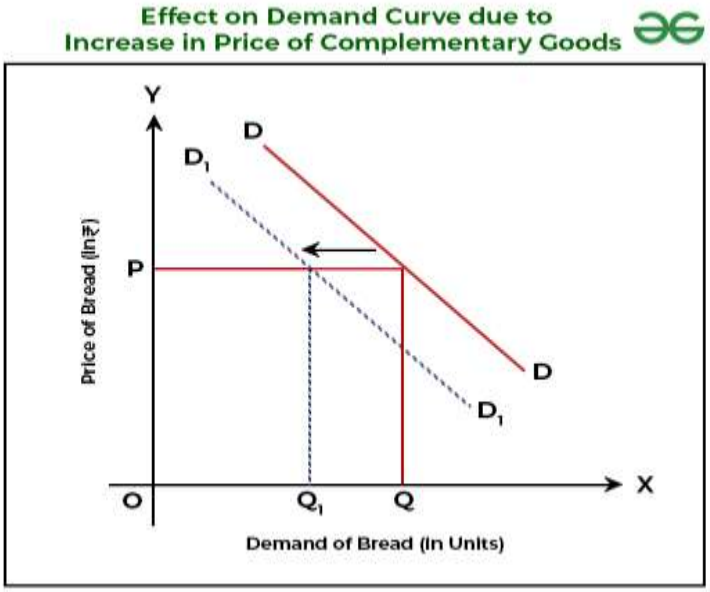
$$E_s = \frac{\frac{\text{Change in Quantity Supplied}}{\text{Average Quantity Supplied}}}{\frac{\text{Change in Price}}{\text{Average Price}}}$$

$$= \frac{\frac{\Delta Q}{(Q1+Q2)/2}}{\frac{\Delta P}{(P1+P2)/2}}$$

$$= \frac{\Delta Q}{\Delta P} \times \frac{P1+P2}{Q1+Q2}$$

$$= \left(\frac{(Q2-Q1)}{(P2-P1)}\right) \times \left(\frac{P1+P2}{Q1+Q2}\right)$$

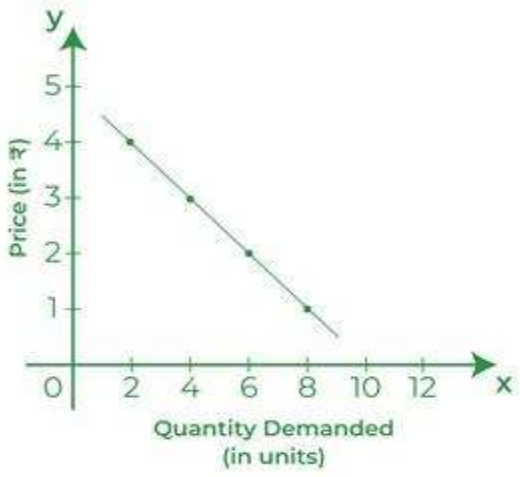
34. (i) **Increase in Price of Complementary Goods:** When there is an increase in the price of complementary goods (say, butter), the demand for the given commodity (say, bread) will decrease from OQ to OQ1, with the same price OP. It results in a leftward shift in the demand curve of the given commodity (bread) from DD to D1D1. 3)



(ii) The Law of Demand is based on the following assumption. There should not be any change in the size and composition of the population. Because a change in population will bring about a change in demand even if the price remains the same. The income of consumer should remain constant. 3)

The assumptions on which the Law of Demand is based are as follows:

1. The price of substitute goods does not change.
2. The price of complementary goods also remains constant.
3. The income of the consumer does not change.
4. Tastes and preferences of the consumers remain the same.
5. People do not expect the future price of the commodity to change.



Exceptions to Law of Demand

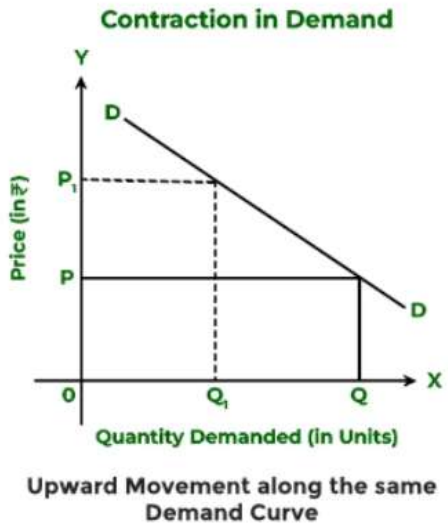
1. Giffen Goods: The special kind of inferior goods on which the consumers spend a big part of their income are known as Giffen Goods. The demand for these goods increases with an increase in price and falls with a decrease in price. This phenomenon was initially observed by **Sir Robert Giffen** and is popularly known as **Giffen's Paradox**.

For example, rice is an inferior good and wheat is a normal good. Hence, if the price of rice falls, the consumer will spend less on rice and will start buying more wheat.

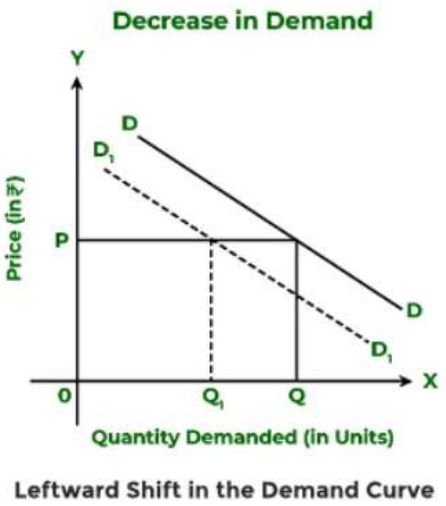
2.. Status Symbol or Goods of Ostentation: Another exception to the law of demand is the goods that are used as status symbols by the people.
For example, people buy goods like antique paintings because of the status symbol they want to maintain. They demand antique paintings only because their price is high. It means that if the price of antique paintings reduces, then the consumers will no longer see it as a status symbol and will reduce its demand.

OR

(i) 3)



Upward Movement along the same Demand Curve



Leftward Shift in the Demand Curve

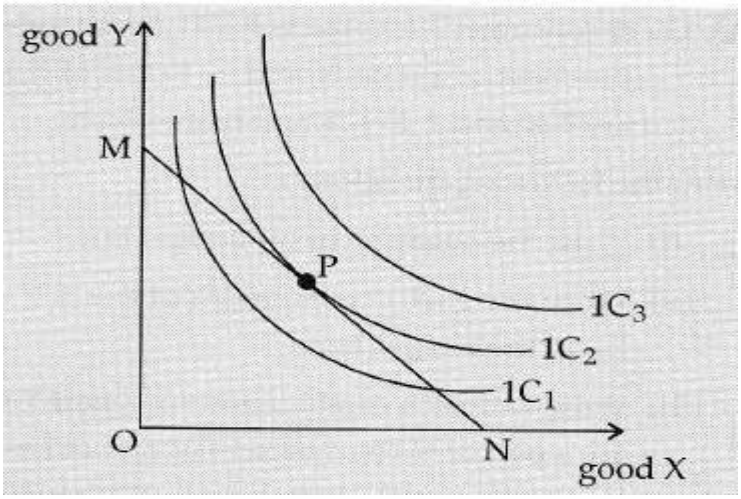
(ii) In the Hickiian /Indifference Curve analysis, a consumer attains equilibrium when : 3)

(i) The budget line is tangential to the Indifference Curve at a unique combination of two goods. i.e., Slope of Indifference Curve = Slope of Budget Line or MRSxy = (-) Px/Py.

(ii) Indifference Curve is strictly convex to the origin at the point of tangency. i,e., MRSxy must be diminishing.

Explanation:

In the diagram, below MN is the budget line, IC1, IC2 and IC3 are indifference Curves. A consumer can't get any Combination on IC3 as it away from price Iine MN. The consumer will be in equilibrium at point 'P' because at this point budget line MN is tangent to the Indifference curve. IC2 and A point 'P' slope of IC2=Slope of Budget line.



**********ALL THE BEST**********