

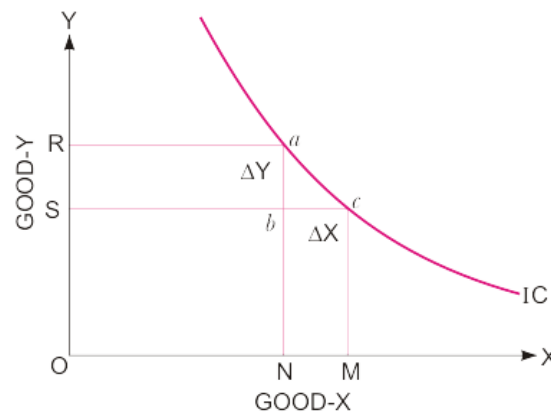
P E O D - HOTS & Applications

Q.1. Draw an IC and show MRS (Marginal Rate of Substitution) on any point on IC.

Ans.

$$MRS = \frac{\Delta Y}{\Delta X} = \frac{ab}{bc} = \text{Slope of IC at point } a.$$

FIGURE 7



Q.2. If demand curve is found to be positively sloped, what it could be due to? Give your answer in terms of nature of the commodity, income effect and substitution effect.

Ans. Positively sloped demand curve violates the law of demand. It is found in case of giffen goods. These are those inferior goods in case of which income effect is negative and greater than substitution effect, so that net effect (or price effect) points to a positive relation between price and quantity demanded of the commodity.

Q.3. Do you agree with the view that law of demand need not necessarily fail in case of inferior goods?

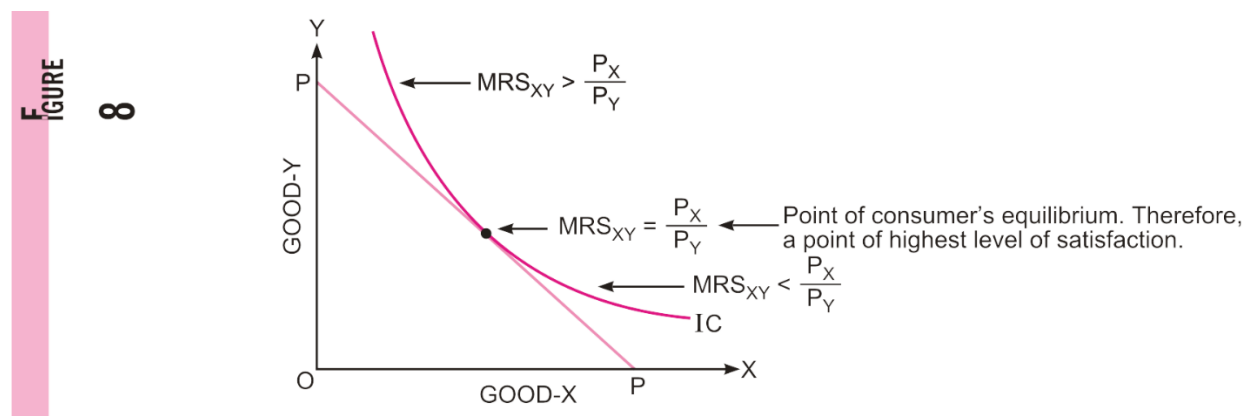
Ans. Yes, it is true that law of demand need not necessarily fail in case of inferior goods. Inferior goods are those goods in case of which we find inverse relation between income and quantity demanded. Even when inverse relation between income and quantity demanded is established (implying a situation of negative income effect) law of demand will not fail in case negative income effect is less than the substitution effect. Law of demand fail only when negative income effect is found to be greater than the substitution effect.

Q.4. Draw a diagram indicating the following situations:

(i) $MRS_{XY} > \frac{P_X}{P_Y}$ (ii) $MRS_{XY} = \frac{P_X}{P_Y}$, (iii) $MRS_{XY} < \frac{P_X}{P_Y}$.

Which of the three indicates highest level of consumer's satisfaction and why?

Ans.



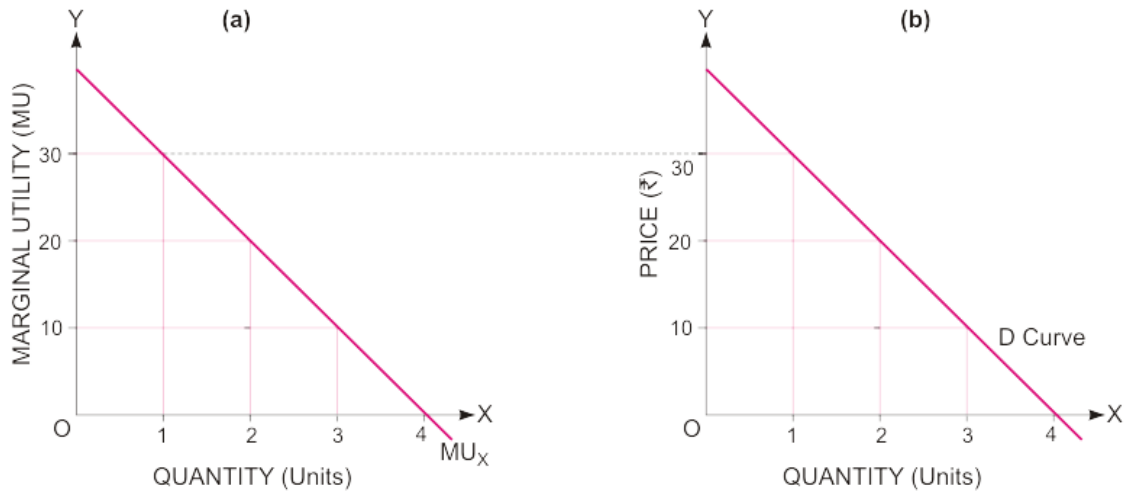
Q.5. Derive the law of demand from the single commodity equilibrium condition 'marginal utility = price'.

Or

Derive the inverse relation between price of a good and its demand from the single commodity equilibrium condition 'marginal utility = price'.

Note: It is important to note that in the equation $MU = \text{Price}$ We must consider MU not in terms of units of satisfaction, but in terms of money value of satisfaction. (We just can't compare units of satisfaction with price of the commodity.) Thus, when we say that $MU = 30 = PX$, we must mean the money value of MU which is worth rupees thirty.

Ans. Consider **Fig. 9**. Part (a) shows the law of diminishing marginal utility. MU_x curve shows that marginal utility diminishes with the consumption of every additional unit of the commodity-X. First unit offers the consumer satisfaction worth ₹ 30. Accordingly, for the first unit purchased, the consumer is willing to pay ₹ 30. The second unit offers utility worth ₹ 20. Accordingly, the consumer is willing to pay ₹ 20 as the price for it. Likewise, third unit offers utility worth ₹ 10, and the price offered is ₹ 10. The fourth unit offers zero satisfaction. Accordingly, the consumer is not willing to pay any price for it.

FIGURE 9

Thus, the consumer, while buying commodity-X sees to it that corresponding to every additional unit purchased, $P_X = MU_X$. As he buys more of X, MU_X falls. Accordingly, as he buys more of X, price of X must fall. Because P_X must be equal to MU_X . Thus, law of demand is derived from the equation $MU_X = P_X$. Part (b) of the diagram shows that demand curve is just a reflection of MU curve for a commodity.