Consumer Behaviour

1. Draw indifference curves that represents the following individuals' preferences for hamburgers(h) and soft drinks (s). Indicate the direction in which the individuals' satisfaction (or utility) is increasing.

   (a) Raman has convex indifference curves and dislikes both hamburgers and soft drinks.

   (b) Rita loves hamburgers and dislikes soft drink, but insists on consuming exactly one soft drink for every two hamburgers that she eats.

   (c) Sarika like hamburgers, but neither likes nor dislikes soft drinks.

2. Consumers in Chandigarh pay twice as much for grapes as they do for mangoes. However, grapes and magoes are the same price in Kolhapur. Consumers buy both the goods in both the cities. If consumers in both cities maximize utility, will the marginal rate of substitution of mangoes for grapes be the same for consumers in both cities? If not, which will be higher? Why?

3. Explain why MRS between two goods must equal the ratio of the price of the goods for the consumer to achieve maximum satisfaction.

4. Tara has monthly income of Rs 100 that she allocates among two goods: meat (M) and potatoes (P).

   (a) Suppose meat costs Rs 50 per kilogram and potatoes Rs 25 per kg. Draw her budget constraint.

   (b) Suppose that her utility function is given by the equation $U(M, P) = 2M + P$. What combination of meat and potatoes should she buy to maximize her utility?

   (c) Tara's supermarket has a special promotion. if she buys 20 kilogram of potatoes (at rs 25 kg), she gets the next 10 kilogram for free. This offer applies only to the first 20 kilogram pounds she buys. All potatoes in excess of the first 20 kilogram (excluding bonus potatoes) are still Rs 25 per kg. draw her budget constraint.

   (d) An outbreak of potato rot raises the price of potatoes to Rs 40per kg. The supermarket ends its promotion. what does her budget constraint look like now? what combination of meat and potatoes maximizes her utility?

5. Explain whether the following statements are true or false.

   (a) The marginal rate of substitution diminishes as an individual moves downward along the demand curve.

   (b) Engels curves always slope upward.(Engels curve is locus of the utility maximization points when the income is increased keeping the price constant).

6. Suppose utility function is $U(x, y) = \sqrt{x} + \sqrt{y}$, where X is consumption of candy bars with price $P_x = Rs\ 1$ and y is consumption of espressos with $P_y = Rs\ 3$.

   (a) Derive demand function for candy bar and espresso.

   (b) Assume that income is Rs 100. How many candy bars and how many espressos will she consume?

   (c) What is the marginal utility of income?

7. Suppose you are in charge of a toll bridge that costs essentially nothing to operate. The demand for bridge crossing Q is given by $P = 15 - (\frac{1}{2})Q$.

   (a) Draw the demand curve for bridge crossing.

   (b) How many people would cross the bridge if there is no toll?

   (c) What is the loss of consumer associated with the bridge toll of Rs 5?

   (d) The toll bridge operator is considering an increase in the toll to Rs 7. At this higher price, how many people would cross the bridge? Would the toll bridge revenue increase or decrease? What does your answer tell you about the elasticity of demand?

   (e) Find the lost consumer surplus associated with the increase in the price of the toll from rs 5 to Rs 7.