Time: 2.5 hours   **Marks: 75**

Instructions: Attempt any 5 out of 8 questions. Each question carries 15 marks.

1. Use a diagram to distinguish between the income and substitution effects of a change in the price of muffins when the price of coffee stays constant. Assume both goods are normal goods.
2. If you have Rs.105 to spend on apples and oranges, and an apple costs Rs.10 and an orange costs Rs.20, determine how many apples and oranges you should buy as a rational consumer and the total utility that you will derive out of your consumption. Also explain the law of equi-marginal utility in the context of this example.

Units	Total Utility from apples	Total Utility from oranges
1	100	240
2	180	440
3	250	620
4	310	780
5	360	900
6	400	960
7	430	1000

3. Define managerial economics. How can it be applied to take better business decisions?
4. In each of the following situations consider that the market is in equilibrium originally. What will be the effect of each of the following events on the equilibrium price and quantity in the market? (Use diagrams in your explanation)
    i.   The market is for new housing and building costs in the economy fall.
    ii.   The market is for motor insurance and the price of cars fall
    iii.   The market is for public transport which is an inferior good and incomes increase
    iv.   The market is for X-ray machines and a technological innovation decreases the cost of producing X-ray machines
5. Explain the concepts of diminishing marginal returns and returns to scale. How are diminishing marginal returns different from decreasing return to scale. Why do decreasing returns to scale arise and how can decreasing returns to scale be represented on an isoquant map?
6. Define consumer surplus, producer surplus, market efficiency and deadweight loss. Explain the change in welfare for consumers and producers and deadweight loss created when a binding price floor is imposed in the market for sugarcane.
7. Explain the following terms briefly (each part carries 3 marks).
    i.   Problem of what to produce
    ii.   Indifference curve for substitute goods
    iii.   Marginal rate of substitution
    iv.   Properties of Isoquants
    v.   Negative externality
8. Write a note on the following (each part carries 5 marks).
    i.   Law of supply and factors affecting supply curve
    ii.   Income Consumption Curve (explain with a graph)
    iii.   Public goods and common resources with examples

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