

**Subject:** Microeconomics (Class 11)

**Max Marks:** 30

**Worksheet:** Advanced Problem Solving (Consumer's Equilibrium)

**Time Allowed:** 1 Hour

## SECTION A: APPLICATION-BASED OBJECTIVES (1 MARK EACH)

**Q1. If a consumer's preferences are non-monotonic, then a bundle with more of both goods could give:** [1]

- (a) Always higher satisfaction
- (b) The same or lower satisfaction
- (c) Infinitely high satisfaction
- (d) None of the above

**Q2. If  $MRS_{xy} > P_x / P_y$ , what will a strategic consumer do to reach equilibrium?** [1]

- (a) Consume more of Good Y
- (b) Consume more of Good X
- (c) Reduce consumption of both goods
- (d) Increase price of Good X

**Q3. If both income of the consumer and prices of both goods double, the budget line will:** [1]

- (a) Shift outward to the right
- (b) Shift inward to the left
- (c) Remain entirely unchanged
- (d) Rotate toward the dominant good

**Q4. At the point of satiety, the marginal utility derived from a commodity is:** [1]

- (a) Positive and rising
- (b) Maximum
- (c) Exactly zero
- (d) Negative

## SECTION B: CRITICAL & ANALYTIC SHORT ANSWERS (3 MARKS EACH)

**Q5. "A consumer can reach equilibrium at a point where the indifference curve intersects the budget line." Critically evaluate this statement.** [3]

**Q6. Differentiate between an \*\*outward shift\*\* and an \*\*outward rotation\*\* of a budget line. Use examples involving changes in income and price variables.** [3]

**Q7. Explain why two Indifference Curves can **\*\*never intersect\*\*** each other. Support your logical proof using the principles of transitivity and monotonic preferences.** [3]

### SECTION C: CONCEPTUAL & DIAGRAMMATIC LONG ANSWERS (4 MARKS EACH)

**Q8. Diagrammatically analyze what happens to a consumer's equilibrium state when  $MRS_{xy} < P_x / P_y$ . Explain the adjustment mechanism that forces the consumer back to the optimal choice point.** [4]

**Q9. A consumer's total monetary budget is ₹60. They are choosing between chocolate bars (Good X) costing ₹10 each and juice boxes (Good Y) costing ₹5 each.** [4]

1. Derive the equation of the budget line.
2. Determine the slope of this budget line.
3. Calculate the maximum number of juice boxes the consumer can buy if they choose to consume zero chocolate bars.

### SECTION D: CASE-BASED / HIGHER ORDER THINKING (4 MARKS)

**Q10. Evaluate the structural economic shift in the case study below:** [4]

**Case Scenario:** Imagine a microeconomic market scenario where government subsidies suddenly drop the price of essential green food items (Good X) by 50%. Simultaneously, an inflationary surge increases the consumer's monthly stipend by exactly 20%. The consumer maintains strict monotonic preferences across their food options.

**Based on the details above, answer the following:**

1. How will the drop in the price of Good X affect the budget line's slope and position on the horizontal axis?
2. Will the final equilibrium settle on a higher or lower indifference curve? State the precise behavioral economic justification.

~ End of Worksheet ~

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