



'সমানো মন্ত্র: সমিতি: সমানী'

UNIVERSITY OF NORTH BENGAL
B.A./B.Sc. Major 1st Semester Examination, 2023

UECOMAJ11001-ECONOMICS

INTRODUCTORY MICROECONOMICS

Time Allotted: 2 Hours 30 Minutes

Full Marks: 60

The figures in the margin indicate full marks.

GROUP-A

1. Answer any **four** questions: 3×4 = 12
- (a) Define Producer Surplus. 3
- (b) What do you mean by Returns to Scale? 3
- (c) Distinguish between Fixed Cost and Variable Cost. 3
- (d) The price elasticity of demand is usually negative. Why? 3
- (e) What are Real Numbers? 3
- (f) State the properties of Indifference Curve. 3

GROUP-B

Answer any four questions 6×4 = 24

2. Distinguish between the following: 3+3
- (a) Perfectly elastic demand and perfectly inelastic demand.
- (b) Point and Arc elasticity of demand.
3. Explain graphically the Law of Diminishing Marginal Utility. 6
4. Distinguish between short run and long run production function. 6
5. Average Cost (AC) curve is U-shaped. Explain. 6
6. (a) Suppose the AR is given as $AR = 2Q^2$. Then derive TR and MR. $1\frac{1}{2} + 1\frac{1}{2}$
- (b) Given the TC function $C = Q^3 - 5Q^2 + 12Q + 75$, write the variable cost function. 1+1+1
Find the derivative of the variable cost function, and interpret the economic meaning of that derivative.
7. (a) If the domain of the function $y = 5 + 3x$ is the set $\{x | 1 \leq x \leq 9\}$, find the range of the function and express it as a set. 3
- (b) For the function $y = -x^2$, if the domain is the set of all non negative real numbers, what will its range be? 3

GROUP-C

Answer any two questions

12×2 = 24

8. (a) Use supply and demand curves to illustrate how each of the following events would affect the price of butter and the quantity of butter bought and sold: 2+2+2
- (i) an increase in the price of cheese
 - (ii) an increase in the price of milk
 - (iii) a decrease in average income levels.
- (b) If the demand curve is a rectangular hyperbola, then what is the value of the price elasticity of demand? 6
9. Derive and explain consumer's equilibrium using ordinal utility theory. 12
- 10.(a) Explain mathematically a homogeneous production function. 6
- (b) Explain graphically the relationship between TR, AR and MR in production function. 6
11. Suppose a chair manufacturer is producing in the short run (with its existing plant and equipment). The manufacturer has observed the following levels of production corresponding to different numbers of workers:

No. of Workers	Number of Chairs
1	10
2	18
3	24
4	28
5	30
6	28
7	25

- (a) Calculate the marginal and average product of labour for this production function. 4
- (b) Does this production function exhibit diminishing returns to labour? Explain. 3
- (c) Explain intuitively what might cause the marginal product of labour to become negative. 5

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