$\pi = TR - TC$
$AR = \frac{TR}{q}$

OLABISI ONABANJO UNIVERSITY, AGO-IWOYE, NIGERIA
FACULTY OF SOCIAL AND MANAGEMENT SCIENCES
DEPARTMENT OF ECONOMICS
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Course Code and Title: ECO 301- INTERMEDIATE MICROECONOMICS

Instruction: Attempt all questions in Sections A and B and follow instruction given in Section C.

Time Allowed: 2 Hrs.

Section A: Fill in the blanks

(i) The slope of the budget line measures the rate at which the market is willing to ..substitute.... good 1 for good 2.

(ii) The axiom of .... applies if any bundle is certainly as good as identical bundle. .

(iii) When two indifference curves meet, the axiom of .... is violated.

(iv) When a commodity is a bad, it is said to be monotonically ....

(v) Given that $Y = 2K^2 + 3L^2 + 4KL$, the type of production function specified above is ..linear production function..........

(vi) The Average ~~Variable~~ Fixed Cost (AFC) is .... in nature, because it falls as output increases, but never touches the horizontal axis.

(vii) The AP_L will remain positive as long as TP_L is ....

(viii) If the utility function is the primal, the expenditure function will be the ....

(ix) The returns to scale operates when all factors are ....

(x) The area under the marginal cost curve measures the .... cost.

Section B: Answer True (T), False (F) or Ambiguous (A). Do not answer Yes or No.

Support your answers with appropriate explanation graphically, mathematically or otherwise.

(i) The ordinary demand curve is always downward sloping.

(ii) The degree of homogeneity of ordinary demand function is one in both prices and income.

(iii) Increasing returns to scale implies decreasing average cost.

(iv) In the short run analysis, the variable cost curve starts from the origin.

(v) When the MP_L and AP_L meet, the TP_L is at the maximum.

(vi) A giffen good is different from an inferior good.

(vii) The ratio of the Average Product to Total Product of an input defines the output elasticity of an input.

(viii) The price elasticity of demand for a necessary good is always inelastic.

Total profit
$P_1q_1 + P_2q_2 - C$
Total output
$q = q_1 + q_2$

(ix) The indifference curve in the theory of consumer behaviour is analogous to isoquant in the production theory.

(x) There is no clear-cut difference between monopoly and monopolistic competition forms of market structure.

SECTION C: Answer question 1 or 2 AND question 3 or 4.

1(a) Highlight the basic assumptions of the perfect competition.

(b) Are these assumptions realistic in the real world situation? Justify

2. Write short notes on the following, paying particular attention to their significance in economics.

(i) Technical Progress

(ii) Axiom of rationality

(iii) The law of diminishing returns

(iv) Homogeneous production function

Assumptions of Perfect Competition

1 There are large Numbers of buyers & seller

2 The product sold in the market are homogenous

3 There is perfect knowledge of all relevant information

4 There is free exit and entrance of goods into and out of the market

5 The firm is a price Taker. It takes the price dictated by the forces of demand and supply in market.

b NO

3. Given the utility function

$U = X^2 + Y^2$

s.t. $P_X X + P_Y Y = M$

(i) Determine the indifference curve.

(ii) Obtain the Marginal Rate of Substitution between the two commodities

(iii) Obtain the ordinary demand functions for the two commodities.

4. If a firm production function is as specified below

$Y = L^{0.3} + K^{0.3}$

(i) Show that the marginal productivity of each input is diminishing

(ii) Determine the output elasticity of each of the factor input.

(iii) Determine if this production function exhibits increasing, constant or decreasing returns to scale.

Hicksian or Compensated demand function

Marshallian or Ordinary Demand Function