

UNIVERSITY OF SWAZILAND
FACULTY OF SOCIAL SCIENCE
DEPARTMENT OF ECONOMICS
MAIN EXAMINATION
DECEMBER 2014

TITLE OF PAPER: INTERMEDIATE MICROECONOMIC THEORY
COURSE CODE: ECON 302
TIME ALLOWED: THREE (3) HOURS

- INSTRUCTIONS:**
- 1. ANSWER THREE (3) QUESTIONS:**
QUESTION ONE (1) IS COMPULSORY AND YOU CAN THEN CHOOSE ANY TWO (2) QUESTIONS FROM THE REMAINING QUESTIONS PROVIDED.
 - 2. QUESTION 1 CARRIES 50 MARKS AND THE CHOSEN TWO QUESTIONS CARRY 25 MARKS EACH**

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QUESTION 1 (Compulsory)

- a) Write short explanatory notes on the following: **(5 marks each)**
- i) Compare and contrast the preference theory with the theory of revealed preference.
 - ii) The law of diminishing marginal rate of substitution.
- b) Given the following utility function: $U = 3\sqrt{x_1^2 x_2^2}$
- i) Derive the compensated demand functions **(10)**
 - ii) Derive the ordinary demand functions **(10)**
 - iii) Derive the indirect utility function **(5)**
 - iv) Derive the expenditure function **(5)**
 - v) Using the appropriate theorem find the marshallian demand function for good 2. **(5)**
 - vi) Using the appropriate theorem find the hicksian demand function for good 2. **(5)**

QUESTION 2

- a) Discuss the type of relationship that exists between total cost, marginal cost and average cost curves of a firm that is experiencing both decreasing and increasing returns to scale. **(15)**
- b) Prove mathematically that the least cost input combination is attained where the isocost line and isoquant are tangent to each other. Suppose that you are given the following functions:
- $$C = wL + rK \quad \text{and} \quad Q = f(L, K).$$
- (10)**

QUESTION 3

- a) Write short explanatory notes on the following: **(5 marks each)**
- i) Short-run supply curve under perfect competition.
 - ii) A comparison of perfect competition and monopoly.
 - iii) Difference between monopolistic competition and monopsony.
 - iv) Profit maximization for a monopsony.
 - v) Stackelberg behavior.

QUESTION 4

Assume that two firms in Matsapha produce cheese that tastes the same. The first firm is Parmalat and the other firm is Valley Farm. The profits of each firm depend on its own output and that of the rival/competitor's firm and these are expressed as:

$$\pi_1 = 24q_1 - q_1^2 - 2q_2^2 - 8$$

$$\pi_2 = 30q_2 - 3q_2^2 - 2q_1 - 9$$

- i) What will be the output level of each firm? (8)
- ii) Derive the profits for each firm (4)
- iii) Calculate the firm's profit and output levels if instead the two firms collide in order to maximize joint profits. (6)
- iv) Differentiate between the Cournot behavior and the Bertrand behavior (7)

QUESTION 5

- a) Write short explanatory notes on the following General Equilibrium theory concepts: (3 marks each)

- i) Walrasian equilibrium.
- ii) Gross demand.
- iii) Provide a reason why a contract curve in a standard two-person two – commodity pure exchange economy represents pareto efficient allocations?

- i) Using the edgeworth box analysis explain how general equilibrium is attained in a pure exchange economy consisting of two consumers (A & B) and two Commodities (1 & 2). You must show and explicitly explain that a point such as M in the centre of the region of improvement is a pareto efficient allocation. (16)

*****GOOD LUCK*****