

**UNIVERSITY OF SWAZILAND  
FACULTY OF SOCIAL SCIENCES  
DEPARTMENT OF ECONOMICS  
MAIN EXAMINATION PAPER: DECEMBER 2017**

**TITLE OF PAPER : INTERMEDIATE MICROECONOMICS**

**COURSE CODE : ECO 301 / ECON 302**

**TIME ALLOWED : TWO (2) HOURS**

**INSTRUCTIONS :**

- 1. ANSWER QUESTION ONE (1) AND ANY TWO (2) QUESTIONS OF YOUR CHOICE.**
- 2. QUESTION ONE (1) CARRIES FORTY (40) MARKS AND THE OTHER QUESTIONS YOU WILL CHOOSE CARRY THIRTY (30) MARKS EACH.**
- 3. NON PROGRAMMABLE CALCULATORS ARE ALLOWED.**
- 4. WHERE NECESSARY, FIGURES ARE TO BE ROUNDED UP TO TWO (2) DECIMAL POINTS.**

**THIS QUESTION PAPER IS NOT TO BE OPENED UNTIL PERMISSION HAS BEEN GRANTED BY THE INVIGILATOR**

### QUESTION 1 – COMPULSORY

(Total =40 Marks)

- a) Write short explanatory notes on the following: ( 5 marks each)
- i) Duality in consumer theory
  - ii) Nonsatiation
  - iii) Expenditure function
- b) Differentiate between the weak and the strong axioms of the theory of revealed preferences. (5)
- c) Given the following utility function:  $U = x_1^2 x_2^2$
- i) Derive the marshallian demand functions (10)
  - ii) Derive the indirect utility function (4)
  - iii) Use the appropriate theorem to get back the marshallian demand function for the first commodity. (6)

**ANSWER ANY TWO (2) QUESTIONS FROM THE FOLLOWING:**

### QUESTION 2

Given the following Cobb-Douglas production function:  $Q = AL^\alpha K^\beta$  where  $\alpha, \beta$  and  $A > 0$ ;

$0 < \alpha < 1$  and  $0 < \beta < 1$ .

- a) Find the marginal products of labour and capital (10)
- b) Derive the marginal rate of technical substitution of labour on capital (10)
- c) Show that isoquants are always convex to the origin. (5)
- d) Prove that for the cobb-douglas production function  $\alpha$  and  $\beta$  are elasticities of output with respect to each one of the inputs. (5)

### QUESTION 3

- a) Discuss the type of relationship that exists between the total cost, marginal cost and the average cost curves of a firm that is experiencing both decreasing and increasing returns to scale. (20)
- b) Write short explanatory notes on the following production theory concepts: (5 marks each)
  - i) Homogeneity of production functions
  - ii) Elasticity of substitution

**QUESTION 4**

Write short explanatory notes on the following general equilibrium concepts: (**5 marks each**)

- i) A pure exchange economy
- ii) Walras Law
- iii) Gross demand
- iv) Final allocation
- v) Walrasian equilibrium
- vi) Pareto efficiency

\*\*\*\*\*GOOD LUCK\*\*\*\*\*