

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

**TITLE OF PAPER : MICROECONOMICS I**

**COURSE CODE : ECO 201**

**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) With the aid of a diagram, differentiate between the concepts of consumer surplus and producer surplus. [6 Marks]
- b) For the following demand function  $Q_d = 24 - 4P$  and supply function  $Q_s = 13P - 27$
- i. Find the equilibrium price and quantity. [5 Marks]
  - ii. Calculate the consumer surplus? [6 Marks]
- c) Graphically illustrate and explain why the following indifference curves are impossible:
- i. Upward sloping indifference curve [6 Marks]
  - ii. Crossing indifference curve [6 Marks]
- d) Distinguish between the Marginal Rate of Substitution (MRS) and the Marginal Rate of Transformation (MRT). [6 Marks]
- e) Define Income Elasticity of Demand (also state the mathematical formula) [5 Marks]

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

**QUESTION 2**

Diagrammatically illustrate and explain fully the concepts of total effect, substitution effect and the income effect for a price decrease in one of the commodities consumed and an income decrease for a normal good. [30 Marks]

**QUESTION 3**

- a) Suppose that a producer's cost function is given as follows :  $\bar{C} = wL + rK$ ,  
Where  $w$  is the price of labour,  $r$  is the price of capital,  $\bar{C}$  is the given total cost,  $L$  is labour and  $K$  is capital. Mathematically derive and explain fully the isocost line. [10 Marks]
- b) Show mathematically how the slope of the isocost line derived in (a) above can be calculated. [10 Marks]
- c) Show graphically and fully explain how a producer equilibrium is attained. [10 Marks]

**QUESTION 4**

- a) Using the following Cobb-Douglas production function, demonstrate the concept of returns to scale:

$Q = K^\alpha L^\beta$ , where  $\alpha$  and  $\beta$  are positive constants. [15 Marks]

- b) The long run average cost (LRAC) curve is referred to as “*an envelope of the short run average cost (SRAC) curves*”. Explain [15 Marks]

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