

FIRST SEMESTER 2019/2020



UNIVERSITY OF SWAZILAND  
RESIT EXAMINATION

PROGRAMME BSc in Agricultural Economics and Management

COURSE CODE AEM 201

TITLE OF PAPER INTERMEDIATE MICROECONOMICS

TIME ALLOWED 2.00 HOURS

INSTRUCTION 1. ANSWER ALL QUESTIONS

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CHIEF INVIGILATOR

**Question 1**

- a) Discuss 2 assumptions of ordinal utility analysis [ 10 points ]
- b) Among all the combinations of goods attainable by a consumer, when will total utility will be maximized ? [ 5 points]
- c) Suppose an individual spends all his income on only two goods, good X and good Y. Moreover, suppose that you were asked to derive his price consumption curve for good Y. Which variable will be allowed to vary? [ 5 points]
- d) What is the basic behavioral assumption of a Cournot mode ? [ 5 points]

**Question 2**

- i. Suppose that a competitive firm's  $MC = 3 + 2q$ ,  $AVC = 3 + q$ , and  $FC = 3$ . Assume that the market price is E9 per unit. (25 points)
  - a) What level of output will the firm produce?
  - b) What is the firm's producer surplus?
  - c) Will the firm be earning a positive, negative or zero profit in the short run?

**Question 3**

Mandla consumes beef ( $x_1$ ) or chicken ( $x_2$ ) for lunch. His preferences are described by the following utility function

$$U(x_1, x_2) = \ln(x_1) + \ln(x_2)$$

Answer the following questions;

- a) Derive Mandla's demand for beef and chicken as a function of prices  $p_1$ ,  $p_2$  and his income  $m$ . [ 20 points ]
- b) For the demand functions, determine whether the two goods complements, substitutes or neither. [ 10 points ]



**Question 4**

A farmer produces maize using seeds (K) and labor (L). He has access to the technology given by the following production function

$$y = F(K;L) = K^{1/3}L^{1/3}$$

The price of maize per Kg is  $p = E1$ ; the price of seeds is  $w_k = E2$  and the (Labor) wage rate is  $w_l = E1$

- a) What form of production function is displayed by the technology ? [ 5 points]
- b) Does this function exhibit increasing, constant or decreasing returns to scale? [5 points]
- c) Write down the profit function (a function that depends on K and L) [5 points]
- d) Find the optimal input levels, the output level and the maximal profit. [10 points]