



UNIVERSITY OF ESWATINI

FIRST SEMESTER SUPPLEMENTARY EXAMINATION PAPER,
JANUARY 2019

FACULTY OF SOCIAL SCIENCES

DEPARTMENT OF ECONOMICS

COURSE CODE: IDE-ECON201

TITLE OF PAPER: MICROECONOMICS

TIME ALLOWED: 3 HOURS

Instructions

1. This paper consists of Sections (A) and (B).
2. Answer two (2) questions in Section A, and two (2) questions in Section B.

Special Requirements

Scientific calculator

Additional Material (s)

1. None

Candidates may complete the front cover of their answer book when instructed by the Chief Invigilator and sign their examination attendance cards but must NOT write anything else until the start of the examination period is announced.

No electronic devices capable of storing and retrieving text, including electronic dictionaries and any form of foreign material may be used while in the examination room.

DO NOT turn examination paper over until instructed to do so.

SECTION A ANSWER ANY TWO (2) QUESTIONS FROM THIS SECTION

QUESTION 1

[25 Marks]

- a) With the aid of relevant graphs, explain the Stages of Production. [12 Marks]
- b) Among the Stages of Production stated in b) above, at which stage would a firm operate in? Explain your reasoning. [3 Marks]
- c) Mandla has the utility function $U = 3X^{1/4}4Y^{1/4}$ and a budget $M = PxX + PyY$. Derive the Marshallian and Hicksian (Compensated) demand curves for goods X and Y. [10 Marks]

QUESTION 2

[25 Marks]

- a) The market demand function for brown sugar is given as $P = 35 - 2Q - Q^2$ where $P^* = E10$ and $Q^* = 5$. Find the consumer surplus. [5 Marks]
- b) Find the producer surplus given the production function $= Q + Q^2$, at the market equilibrium price $P^* = E20$. [5 Marks]
- c) Given $Q = f(L, K)$ and $C = wL + rK$, show that maximising output for a given cost or minimising cost for a given output level yields the same equilibrium result for the producer. [15 Marks]

QUESTION 3

[25 Marks]

- a) The Manzini family consumes 1000 litres of milk per year at E9.00 per litre. If the price elasticity of demand for milk is -0.07 ;
- i) What will the consumption and cost be if the price of milk increases to E10.00? [10 Marks]
- ii) Indicate what the percentage increase in price and the percentage fall in demand will be given a) above. [4 Marks]
- iii) How would you explain the price elasticity of demand for milk for this family? [2 Marks]
- b) Explain the concepts of Economies and Diseconomies of Scope. Give the formula and the rule of thumb. [10 marks]

SECTION B ANSWER ANY TWO (2) QUESTIONS FROM THIS SECTION

QUESTION 4

[25 Marks]

Write short explanatory notes on the following market structure concepts

- a) Short-run supply curve under perfect competition. [5 Marks]
- b) In perfect competition, all the firms make zero profits in the long-run. Explain why this is so. [5 Marks]
- c) In the short-run a perfectly competitive firm will continue with production even though it cannot cover all its average costs. Graphically illustrate and explain. [5 Marks]
- d) The demand curve for an oligopolistic competitor. [5 Marks]
- e) Stackelberg behaviour under oligopoly. [5 Marks]

QUESTION 5

[25 Marks]

The demand function and cost function of members of a duopoly is given by:

$$P = 100 - 0.5 [q_1 + q_2]$$

$$C_1 = 5q_1$$

$$C_2 = 0.5q_2^2$$

If the two firms decide to form a cartel or collude then:

- a) Determine the output levels q_1 and q_2 . [12 Marks]
- b) The price level P . [3Marks]
- c) Profits for each member of the cartel. [6 Marks]
- d) Cartel profits. [4 Marks]

QUESTION 6

[25 Marks]

- a) Suppose that a monopolist demand function is defined as $q = 100 - 10P$. Given that the monopolist's marginal cost is constant at E2.
 - i) Find the monopolist's profit maximizing output level. [9 Marks]
 - ii) Find the profit maximizing price. [3 Marks]

iii) Calculate the monopolist's profits.

[3 Marks]

b) Given the profit function $\pi = TR_1(q_1) + TR_2(q_2) - TC(q_1 + q_2)$. Use algebraic derivation to show profit maximization for a price discriminating monopolist.

[10 Marks]