

**UNIVERSITY OF SWAZILAND**  
**DEPARTMENT OF ECONOMICS**  
**SUPPLEMENTARY EXAMINATION 2010/2011**

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**TITLE OF PAPER : MICROECONOMICS**

**COURSE CODE : ECON 201(FT)/ECON 201(IDE)**

**INSTRUCTIONS :**

- 1. ANSWER QUESTION ONE AND ANY OTHER QUESTION IN SECTION A.**
- 2. ANSWER QUESTION FIVE AND ANY OTHER QUESTION IN SECTION B**
- 3. DECIMAL NUMBERS ARE TO BE ROUNDED TO TWO(2) DECIMAL PLACES**

**TIME ALLOWED : THREE (3) HOURS**

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

**SECTION A****ANSWER QUESTION ONE AND ANY OTHER QUESTION IN THIS SECTION****QUESTION ONE (COMPULSORY) – 30 MARKS**

- A. At the market equilibrium demand equals supply and any tendency for a divergence away from the equilibrium will revert back. With the aid of diagrams explain this concept. [7 Marks]
- B. Using a suitable graph, distinguish between the concepts of **Diminishing Marginal Returns** and **Diminishing Returns** of a factor input. [8 Marks]
- C. “Long run average costs of production are lower than short run average costs”. Using a suitable sketch show that this statement is true. [8 Marks]
- D. Prove that there is an inverse relationship between productivity and average variable costs. [7 Marks]

**QUESTION TWO – 20 MARKS**

- A. i) Explain the concept of **Consumer Surplus**. [3 Marks]  
 ii) Given the following demand function:  

$$P = 45 - 2Q - Q^2$$
 Where  $P^* = 10$   
 Find the consumer surplus and interpret your results. [7 Marks]
- B. i) Explain the concept of **Producer Surplus**. [3 Marks]  
 ii) Given the following supply function:  

$$P = Q + Q^2$$
 If the equilibrium market price is E30 per unit, find the producer surplus and interpret your results. [7 Marks]

**QUESTION THREE – 20 MARKS**

- A. i) Show the relationship between **Elasticity** and **Total Revenue**. [5 Marks]

ii) From the relationship you obtained in (i) above, suggest a pricing policy for a firm that wants to increase total revenue depending on the elasticity of the product that it is selling. [5 Marks]

B. Using the following demand function:

$$Q = \alpha + \beta P$$

where: Q – Quantity  
P – Price  
 $\alpha$  &  $\beta$  – Constants

Show that the demand function has a constant slope but different elasticity along it.

[10 Marks]

#### **QUESTION FOUR – 20 MARKS**

- A. Show that the **Marginal Rate of Technical Substitution** is different along an Isoquant Curve. [5 Marks]
- B. The long run average cost (LRAC) curve is referred to as “an envelope” of the short run average cost (SRAC) curves. Illustrate and explain why this is so. [10 Marks]
- C. Briefly explain the concepts of **Economies and Diseconomies of Scope**. [5 Marks]

**SECTION B****ANSWER QUESTION FIVE AND ANY OTHER QUESTION IN THIS SECTION****QUESTION FIVE (COMPULSORY) – 30 MARKS**

- A) Distinguish between **Value Marginal Product (VMP)** and **Marginal Revenue Product (MRP)**. (Also state the formulas) [5 Marks]
- B) The long run market/industry supply curve of a perfectly competitive firm depends on the cost structure of the particular market. Using a suitable graph, illustrate and explain the long run supply curve for an increasing cost market. [6 marks]
- C) Briefly differentiate between a **Cournot** and **Stackelberg** Oligopoly model. (no graphical or mathematical analysis required) [6 Marks]
- D) Show the welfare effects of a Monopoly firm that is taken over by a competitive firm. [9 marks]
- E) Sketch a graph showing a perfectly competitive firm in equilibrium in the long run. (The graph should be correctly labeled to obtain full marks). [4 Marks]

**QUESTION SIX – 20 MARKS**

With the aid of diagrams, describe how the employment and pricing of an input resource is determined under the following scenarios: indicate clearly the type of exploitation the input is subjected to in each case:

- i) Inputs are sourced from a perfectly competitive industry but output is distributed by a monopoly firm. [10 marks]
- ii) Both input and output markets are imperfectly competitive [10 marks]

**QUESTION SEVEN – 20 MARKS**

A. The demand function for a monopoly firm is as follows:

$$Q = 100 - P$$

The firm's **average costs** of production are depicted by the following function:

$$AC = 5 + 100/Q$$

where: Q – output

P – Price

AC – Average Costs

What are the firm's profit maximizing levels of output and price? [10 Marks]

B. Briefly explain how the "*Prisoner's Dilemma*" can be used to get a solution of the non-cooperative game in Oligopoly. [10 Marks]

**"ALL THE BEST"**