

**KABARAK**



**UNIVERSITY**

**EXAMINATIONS**

**2008/2009 ACADEMIC YEAR**

**FOR THE DEGREE OF BACHELOR OF COMMERCE &  
ECONOMICS AND MATHEMATICS**

**COURSE CODE: ECON 210**

**COURSE TITLE: INTERMEDIATE MICROECONOMICS**

**STREAM: Y2S1**

**DAY: TUESDAY**

**TIME: 8.30-10.30 A.M.**

**DATE: 9/12/2008**

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**INSTRUCTIONS:**

1. Answer Question **ONE** and any other **TWO** questions
2. Apart from question **ONE**, all other questions carry equal marks. Marks for subdivisions are shown in brackets.
3. Calculators are allowed in the examination room provided they are not programmable and cannot store or recall information.
4. Marks will be awarded to candidates who demonstrate clarity and accuracy of presentation.
5. Diagrams should be used where helpful.

**PLEASE TURN OVER**

### QUESTION ONE

- a) Define an indifference curve and show that the further away from the origin an indifference curve lies the higher the level of utility it denotes. (4mks)
- b) Explain and derive Marginal Rate of Commodity Substitution of two commodities say X and Y. (6mks)
- c) Suppose that a consumer consuming only two commodities X and Y has an income M and prices of good X and Y are given as  $P_1$  and  $P_2$  respectively. Distinguish between the consumer's budget line and budget set and show that the slope of the budget line is equal to ratio of commodity prices. (4mks)
- d) Distinguish between Income Consumption curve and Engel's curve. Using graphical method derive Income consumption curve clearly showing its effect on the demand for an inferior good. (6mks)
- e) Consider the following demand function given by:

$$Q = 20 + \frac{M}{20P}$$

Where;

P = Price of good X = 6

M = Income = 240

If price (P) increases from 6 to 8, compute substitution and income effect of price change and comment on the nature of good X. (6mks)

### QUESTION TWO

- a. Explain the principles of consumer behavior. (5mks)
- b. According to Cardinal utility theory of consumer behavior, utility is measurable. Explain the two methods through which utility can be measured according to this theory. (4mks)
- c. Show that consumer equilibrium conditions both under Cardinal utility theory and Ordinal utility theory are identical. (6mks)

d. Derive the consumers demand curve under the cardinal utility theory of consumer behavior. (7mks)

### QUESTION THREE

a. Distinguish between production set and production function. (3mks)

b. Explain why Cobb-Dougllass production function is preferred over other types of production function in analyzing relationship between inputs and outputs in economics. (4mks)

c. Given that, Firm's profit ( $\pi$ ) is equal to total revenue (TR) minus total cost(TC), that is,

( $\pi = TR - TC$ ), formulate the optimization problem if:

i) The firm is contracted to produce a given level of output and graphically show the optimal choice. (5mks)

ii) The firm has a fixed amount of money to acquire factor inputs (capital and labor) to use in her production and graphically show the optimal choice. (5mks)

d. i) Why is the theory of costs vital in the study of economics? (2mks)

ii) Show that in the short-run marginal cost is simply the change in total variable cost as output changes, that is:

$$MC = \frac{dTVC}{dQ} \quad (3mks)$$

#### QUESTION FOUR

- a. Suppose that the market demand and supply functions of a perfectly competitive industry are given by:

$$Q = 4750 - 50P$$

$$Q = 1750 + 50P$$

- i) Draw the demand curve for one of the 100<sup>th</sup> identical perfectly competitive firm in this industry. (3mks)

- ii) Explain why in a perfectly competitive market, the firm is a price taker and not a price maker. (3mks)

- b. A perfectly competitive firm produces 1000 units per week, each sold at sh25. The firm's marginal cost is, sh30 per unit. Is the firm maximizing profit? Explain why or why not. What should the firm do to maximize profit? (5mks)

- c. Show that monopoly is inefficient relative to perfect competition. (6mks)

- d. Consider the following demand and cost functions for a monopolist:

$$p = 1190 - 36Q \quad \{\text{Demand function}\}$$

$$C = 4320 + 146Q \quad \{\text{Cost Function}\}$$

Find, Profit maximizing level of output, price and level of profits. (5mks)

#### QUESTION FIVE

- a. Explain the various sources of oligopoly. (5mks)

- b. Consider the market demand curve for a duopoly given by:

$$P = 100 - Q$$

The marginal cost of each firm is constant and equal to 10.

- i. What is the firm one (1) profit maximizing output when firm two (2) produces 50 units? (5mks)

ii. Determine the reaction functions for each firm (6mks)

iii. Compute the cournot's equilibrium quantities for each firm, market quantity and price. (4mks)

iv. Find the level of profit for each firm. (2mks)

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