KABARAK UNIVERSITY

EXAMINATIONS

2008/2009 ACADEMIC YEAR

FOR THE DEGREE OF BACHELOR OF COMMERCE

COURSE CODE: **ECON 210**

COURSE TITLE: **INTERMEDIATE MICROECONOMICS**

STREAM: **Y2S1**

DAY: **MONDAY**

TIME: **9.00 – 11.00 A.M.**

DATE: **23/03/2009**

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) Consider the total utility schedules of commodities X and Y bellow.

Units of commodity	**TU_x**	**TU_y**
0	0	0
1	5	6
2	9	11
3	12	15
4	14	18
5	15	20

Required.

From the schedules above;

i) How many units of commodity X and Y will the consumer buy in order to maximize utility if the consumer's income is 5 and $P_x=P_y=1$. (4mks)

ii) Compute total utility when the consumer is in equilibrium. (2mks)

b) Explain, with the help of a graph, why a consumer whose indifference curves cross is irrational. (5mks)

c) A consumer faces a budget line of the form $m = p_1x_1 + p_2x_2$. Write down and graph the new budget constraint if:

i) The government decides to impose a lump sum tax of **u** on good x_1. (3mks)

ii) The government decides to impose a quantity tax of **t** on good x_1. (3mks)

iii) The government decides to impose a quantity of **s** subsidy on good x_2. (3mks)

d) Consider the following demand function given by;

$$P = \frac{M}{20Q - 400}$$

Where;

P =Price of good X=6

M=Income=240

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

QUESTION TWO

a. Define an indifference curve and explain the economic intuition behind the fact that they are usually drawn as downwards sloping and convex to the origin. (4mks)

b. Show that consumer equilibrium conditions both under Cardinal utility theory and Ordinal utility theory are identical. (4mks)

c. An individual derives utility from two commodities, A and B. His utility function is described as $U = A^{0.4}B^{0.4}$.

If he has a budget of Ksh 300 and the price of commodities A and B are Ksh 10 and Ksh 20 respectively:

i. Find the quantities of commodities A and B the consumer will consume so as to maximize utility. (3mks)
ii. Determine the consumer's maximum total utility. (2mks)
iii. Use indifference curve and budget line to represent your results in (a) and (b) above. (2mks)

QUESTION THREE

a. What is production? (2mks)

b. Given the following Cobb-Douglas production function;

$Q = AK^{bo}L^{b1}$

Where:

A, $_{bo}$ and $_{b1}$=Constants

Q=Output

K=Capital

L=Labour.

i. Determine the equation that gives the rules for the laws of returns to scale (2mks)

ii. From the equation in (b) (i) above derive and explain the rules for the laws of returns to scale (6mks)

c. Giving examples, distinguish between the following pair of concepts:

i. Quasi fixed costs and Sunk costs (2.5mks)

ii. Explicit costs and implicit costs (2.5mks)

QUESTION FOUR

a) Define perfect competition and show that under perfect competition D=P=AR=MR. (3mks)

b) A perfectly competitive firm has the same cost curves with other firms in the industry. The market price is 25 per unit. To maximize profit, each firm produces 200 units. Average total cost is 20 and minimum variable cost is 12 per unit.

i. Compute each firm's profit. (1mk)

ii. If price falls to 20 per unit will firms continue to produce 200 units? Explain your answer. What will be the firm's new profit? (3mks)

iii. If the price falls to 12 per unit what will firms do? (3mks)

c. Consider the following demand and cost functions for a perfectly competitive firm;

$p = 20$ {Demand function}

$C = 50 + 10Q^2 - 20Q$ {Cost Function}

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

QUESTION FIVE

a. Explain the various forms of direct and indirect competition that the monopolist faces despite being the only seller of a commodity with no close substitute that limits its market power. (2mks)

b. Discuss, with the aid of diagrams, the efficiency and welfare losses resulting from the monopolization of a perfectly competitive industry. Clearly display the, Change in consumer surplus, change in producer surplus and dead-weight loss. (5mks)

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

$$P = \alpha_0 - \alpha_1 Q$$

Each firm has an identical total cost function given by;

$$TC = cQ$$

i. Determine the reaction function for each firm in terms of output and constants α_0, α_1 and c. (4mks)

iii. Compute the cournot's equilibrium quantities for each firm, market quantity and price in terms of α_0, α_1 and (4mks)

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