KABARAK **UNIVERSITY**

UNIVERSITY EXAMINATIONS

2009/2010 ACADEMIC YEAR
FOR THE DEGREE OF BACHELOR OF COMMERCE

COURSE CODE: ECON 210

COURSE TITLE: INTERMEDIATE MICRO
ECONOMICS

STREAM: Y2S1

DAY: MONDAY

TIME: 4:00 – 6:00P.M.

DATE: 07/12/2009

INSTRUCTIONS:

Answer questions **ONE** and any other **TWO** questions.

(1) (a) Define the law of demand and identify the exceptions to this law. (3 marks)

(b) (i) Explain why consumers indifference curves do not intersect. (4 marks)

(ii) Explain the assumption of indifference curves theory. (4 marks)

(c) The Quantity demanded and total sales value of good X at different prices is given as follows;

Quantity demanded (Q)	Total sales revenue (shs.)
0	0
5	35
10	60
15	75
20	80
25	75
30	60
35	35
40	0

Required:
   (i)   Calculate the elasticity of demand when price is Ksh. 6 (3 marks)
   (ii)   Estimate the elasticity of the demand curve in price from Kshs 5 to Kshs. 6. (4 marks)

(d) (i) A firm reports that marginal product of labor is 5 and marginal rate of technical substitution of labor for capital is 2. What is the marginal product of capital? (3 marks)
(ii) A firm employs labour as the only variable factor along with a fixed quantity of capital. Wage rate for labour is Ksh.100 per day and its marginal product is 20 units of output. What is marginal cost of the product? (3 marks)

(e) Using indifference curve analysis, show the substitution and income effects for a normal good in case of a price decrease. (6 marks)

2. (a) (i) Define an Isoquant.   (1 mark)
(ii) Explain the several properties of Isoquants.   (3 marks)

(b) What do you understand by the term marginal rate of technical substitution between labor and capital (MRTS)   (3 marks)

(c) Consider the following short-run production function (where L is the variable input and $Q=6L^2-0.4L^3$
(i) Determine the marginal product function. (MP_L)   (1 mark)
(ii) Determine the average product function. (AP_L)   (1 mark)
(iii) Find the value of L that maximizes Q.   (3 marks)
(iv) Find the value of L at which its average product takes on its maximum value. (3 marks)

(d) The demand function equation faced by HCL for its personal computers is given by:
    $P = 50,000 - 4Q$.
(i) At what price and quantity marginal revenue will be zero (2 marks)
(ii) At what price and quantity will total revenue be maximized? (2 marks)
(iii) Comment on your answer in (i) and (ii) above. (1 mark)

3. (a) With the help of a diagram explain the short-run equilibrium at a firm making losses. (6 marks)

(b) Identify the conditions necessary for perfect competition to prevail in the market. (4 marks)

(c) A firm is allowed to charge different prices for its domestic and industrial customers. If P_1 and Q_1 denotes the price and demand for the domestic market then the demand equation is:
$P_1 + Q_1 = 500$
If P_2 and Q_2 denote the price and demand for the industrial market then the demand equation is:
$2P_2 + 3Q_2 = 720$
The total cost function is:
$TC = 50,000 + 20Q$
Where: $Q = Q_1 + Q_2$
Determine the prices (in shillings) that the firm should charge to maximize profits.
    (i)   With price discrimination. (3 marks)
    (ii)   Without price discrimination (4 marks)
    (iii)   Compare the profits obtained in parts (i) and (ii) above. (3 marks)

4. (a) Given the following production fraction .$Q = 100K^{0.5} L^{0.5}$

Where $C = $ Ksh 1,200, $W = $ Kshs 30 and $r = $ Kshs. 40

Required:

    (i)   Determine the quantity of labour and capital that the firm should use in order to maximize output. (6 marks)

    (ii)   Determine the maximum output (Q) (4 marks)

(b) There are two commodities X_1 X_2 on which a customer spends his entire income in a day. He has utility function $\cup = \sqrt{x_1 x_2}$

Find out the optimal quantities of X_1 and X_2 if prices of X_1 and X_2 are KShs 5 and KShs. 2 respectively and his daily income equals Kshs 500. (10 marks)

5. (a) Distinguish between positive economics and welfare economics. (2 marks)

(b) Using isoquants distinguish between increasing returns to scale, constant returns to scale and decreasing returns to scale. (10 marks)

(c) Capital-labour ratio has been increasing in the Kenyan manufacturing industry over time. What possible explanations can you offer for this increase in capital intensity? (8 marks)