CHUKA   **UNIVERSITY**

UNIVERSITY EXAMINATIONS

EXAMINATION FOR THE AWARD OF DEGREE OF
BACHELOR OF ECONOMICS AND STATISTICS, BACHELOR OF ECONOMICS
AND SOCIOLOGY, BACHELOR OF ECONOMICS AND MATHEMATICS,
BACHELOR OF COMMERCE, BACHELOR OF ENTERPRENEURSHIP AND
ENTERPRISE MANAGEMENT AND BACHELOR OF AGRIBUSINESS
MANAGEMENT

ECON 212: INTERMEDIATE MICROECONOMICS

STREAMS: AS ABOVE Y2S1   **TIME: 2 HOURS**

DAY/DATE: TUESDAY 03/12/2019   **2.30 PM – 4.30 PM**

INSTRUCTIONS:

ANSWER QUESTION ONE AND ANY OTHER TWO QUESTIONS

QUESTION ONE

(a)   Clearly distinguish between the following economic terms. Make use of well labelled
        diagrams when necessary.   [10 marks]

      (i)   Marginal rate of technical substitution and elasticity of substitution
      (ii)   Partial equilibrium and general equilibrium analysis
      (iii)   Consumer surplus and dead weight loss due to monopoly
      (iv)   Perfect complements and perfect substitutes
      (v)   Pure exchange and Edgeworth box

(b)   The following information pertains to company Z
        $P = 30 - Q$
        $C = 40 + Q^2$
        Tax = 40% of the gross profit

        Required:
      (i)   Determine the level of output produced and the profit for the firm. [5 marks]

      (ii)   Given that $P = 30 - Q$, $C = 40 - Q^2$ and lumpsum $tax\ (T) = ksh\ 10$. Find the
      output level and profits for company Z.   [5 marks]

(c)   (i)   Discuss the conditions that must exist for price discrimination to be possible.

               [5 marks]

    (ii)   Discuss different types of price discrimination and give an example for each.

               [5 marks]

QUESTION TWO

(a)   James can consume two goods. Good 1 and good 2 where X1 and X2 denote the quantity consumed of each good. These goods sell at prices P1 and P2 respectively. James preferences are represented by the following utility function

$U = (X_1 X_2) = \sqrt{X_1 X_2}$

Required:

(i)   Derive James' Marshallian demand functions for the two goods.   [8 marks]

(ii)   Assume that PI=kshs. 5, P2 = kshs. 5 and M = kshs. 100. What are James' demand for good 1 and good 2?   [2 marks]

(b)   Although cartels are formed with the main aim of controlling output in order to maximize profits, they rarely achieve joint profits. Discuss reasons behind this.   [10 marks]

QUESTION THREE (20 MARKS)

(a)   Given $Q = 100\ K^{0.5}\ L^{0.5}$, $C = 1200$, W=kshs. 30 and r= kshs. 40, where
C= cost
W = wages
r = Rate of interest

(i)   Determine the quantity of labour and capital that the firm should use in order to minimize cost.   [10 marks]

(ii)   What is the level of output produced at this level.   [2 marks]

(b)   With the use of well labelled diagrams discuss four types of technologies. [8 marks]

QUESTION FOUR

(a)   With the aid of a well labelled diagram, distinguish between income and substitution effects of a price increase in case of a giffen good.   [6 marks]

(b)   Paul has a rice consumption demand function which is given as $Q = \frac{20+M}{1-P}$
Where Q – quantity of rice in grams per week
P – price per gram
M – income
Its income is kshs. 150. If the price of rice per gram changes from kshs. 3 to kshs. 5, calculate Pauls total price, substitution and income effects.   [8 marks]

(c)   Given that $Y = 2X^{0.5}$ where Y is output and X is the input. Compute the maximum profit for this firm.   [6 marks]

QUESTION FIVE (20 MARKS)

(a)   A firms production function is given as follows:
$Q = AL^{0.6} K^{0.4}$

Required:
(i)   Determine the degree of homogeneity and returns to scale of the above function.   [4 marks]

(ii)   Calculate the marginal rate of technical substitution and elasticity of substitution for the firm.   [6 marks]

(b)   The demand function for a firm is given as P = 60 – 8Q. If the marginal cost is 4 and its fixed cost is 10, determine the firm's level of output that maximize profit and hence determine the firm's profit.   [7 marks]

(c)   Discuss the following terms as used in oligopoly market structure.   [3 marks]

(i)   Stackelberg model
(ii)   Cournot model
(iii)   Bertrand model