MAASAI MARA UNIVERSITY

REGULAR UNIVERSITY EXAMINATIONS
2017/2018 ACADEMIC YEAR
THIRD YEAR FIRST SEMESTER

SCHOOL OF BUSINESS AND ECONOMICS
BACHELOR OF ARTS IN ECONOMICS

COURSE CODE: ECO 310

COURSE TITLE: INTERMEDIATE MICROECONOMICS

DATE: 24TH APRIL, 2018 **TIME: 14.30 – 1630AM**

INSTRUCTIONS TO CANDIDATES

Answer Question **ONE** and any other **THREE** questions

*This paper consists of **3** printed pages. Please turn over.*

Question One

a. Using diagrams where necessary, distinguish between the following pairs of economic terms and concepts: **(12 marks)**
   i. Price Consumption Curve and Income Consumption Curve
   ii. Giffen Good and Inferior Good
   iii. Weak Axiom and Strong Axiom of Revealed Preference

b. Residents of Gate C are well known for their consumption of *Kangumu.* The commodity has a unique characteristic in that the Income Effect of a change in its price opposes and outweighs the Substitution Effect
   i. Which category of goods does *Kangumu* belong to? Give a reason for your answer **(2 Marks)**
   ii. Using Consumer Equilibrium analysis, clearly explain and illustrate graphically the effect of a decrease in the price of *Kangumu* on an individual's consumption. **(6 Marks)**

c. Briefly discuss the sources/causes of Monopoly **(5 marks)**

Question Two

Mau Growers uses only Capital (K) and Labour (L) in its production of Irish Potatoes and is faced with the following output maximization problem:

$$\text{Max } Q = 20K^{3/4}L^{1/4}$$

The firm has Ksh. 2000 to spend on the two inputs and it is given that one unit of capital and one unit of labour cost ksh. 40 and ksh. 20 respectively.

a) Using the Lagrangian expression, determine the quantity of capital and labour that the firm should use in order to maximize its output **(8 Marks)**

b) What will be the maximum output of Irish potatoes by Mau Growers **(2 Marks)**

c) Given the demand function for a monopolist as:

$$Q = a - bP$$

Derive the equations for the firm's Average Revenue and Marginal Revenue and compare the slopes of the two **(5 marks)**

Question Three

a) Wafula's preference for two vegetables, *Mrenda* (X) and *Likhubi* (Y), is represented by the following utility function

$$U = (X+4)(Y+1)$$

Given that his income is M and that the prices of *Mrenda* and *Likhubi* are P_x and P_y respectively, determine Wafula's demand functions for the two vegetables **(9 Marks)**

b) Given the demand and supply functions of a commodity as:

$$Q_d = 20 - 3p$$
$$Q_s = -15 + 4p$$

Find price elasticities of demand and supply at equilibrium **(6 marks)**

Question Four

Tich Tek Ta Enterprise is a price discriminating monopolist and is faced with the following demand functions in the two markets:

$$Q_1 = 12\frac{1}{2} - \frac{1}{2}P_1$$

$$Q_2 = 26\frac{2}{3} - \frac{2}{3}P_2$$

The Enterprise has the following Total Cost function

$$C = 60 + 4Q$$

a) Highlight the conditions necessary for Tich Tek Ta to practise price discrimination (5 Marks)

b) Calculate the Enterprise's profit maximizing levels of prices (P_1 and P_2) and outputs (Q_1 and Q_2) (5 Marks)

c) In the absence of price discrimination, what would be Tich Tek Ta's profit maximizing level of output and price (5 Marks)

Question Five

Kinyanjui's Average Total Cost function for the production of *Mtura* is given as follows:

$$ATC = 0.24Q^2 - 0.8Q + 4 + 5Q^{-1}$$

i) Determine the functions for:
   a) Total Cost
   b) Total Variable Cost
   c) Marginal Cost
   d) Average Variable Cost
   e) Average Fixed Cost (10 Marks)

ii) Derive Kinyajui's short run supply function (5 Marks)

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