(Knowledge for Development)

KIBABII UNIVERSITY

UNIVERSITY EXAMINATIONS

2022/2023 ACADEMIC YEAR

YEAR TWO SEMESTER ONE

MAIN EXAMS

FOR THE DEGREEOF BACHELOR OF COMMERCE

COURSE CODE: ECO210

COURSE TITLE: INTERMEDIATE MICRECONOMICS

DATE:19ᵀᴴ DECEMBER,2022   **TIME:**2.00PM – 4.00PM

INSTRUCTIONS TO CANDIDATES

1.Answer Question One in Section A and Any other TWO (2) Questions in Section B

2.Question **one** carries **30**marks and each of the other two questions carry **20** marks each.

TIME: 2 Hours

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QUESTION ONE(30 marks) – compulsory

a) Suppose you have a constrained profit problem as follows:

$$Max\pi = 100x2x^2 - xy + 180y - 4y^2 \text{ Subject to: } x + y = 30$$

Required:
Use lagragian multiplier methods find the values of X, Y and λ hence find the maximum profit without the multiplier.　　　　(10marks)

b) With the aid of graphs explain the properties of indifference curve.
　　　　　　　　　　　　　　　　　　　　　　　(10marks)

c) Define the nature and scope of microeconomics　　　(5marks)

d) Using a labelled diagram explain the concept of general equilibrium
　　　　　　　　　　　　　　　　　　　　　　　(5marks)

QUESTION TWO (20 Marks)

(a). A discriminating monopolist has a total demand function = 50- 0.5P.
Suppose the
demand functions of the segmented markets are:
 Q_1 = 32-0.4P_1 (Market A)
 Q_2 = 18- 0.1P_2 (Market B)
If the cost function is $TC = 50 + 40Q$, calculate the:
(i) Price which the discriminating monopolist will charge in each market. **(6 marks)**
(ii) Profits of the discriminating monopolist　　　　**(3 marks)**
(b).With the help of illustrations distinguish between increasing returns to scale, constant returns
to scale and decreasing returns to scale　　　　**(6 marks)**
(c) With the help of indifference curve analysis, explain the substitution effects and income
effects for a normal good in case of a price increase.　　　**(5 marks)**

QUESTION THREE (20 Marks)

2. (a) Given the following utility function
$U(X1X2) = ⬚⬚X1 + X2$
(i) State the consumer problem. [1 mark]
(ii) Form a Langrangian function for the problem. [1 mark]
(iii) Find the consumer's demand function for X1 and X2. [8 marks]

b) Define 'oligopoly' and with the aid of appropriate diagram, explain why on theoretical considerations oligopolistic prices should be more stable than prices of other product market structures (10 marks)

QUESTION FOUR(20 marks)
a) Define the term externalities and hence discuss negative externalities and clearly give the various forms of negative externalities. (10marks)
b) Define the term economic model and explain the importance of mathematics in the study of economics (5marks)
c) Prove that MR=MC at maximum profits. (5marks)

QUESTION FIVE (20 marks)
(b) Show that in cobb-douglas production function elasticity of factor substitution is equal to unity. **(4 marks)**

(c) Explain the difference between Price consumption curve and income consumption curve. **(2marks)**

(d) The short run production function of XYZ company is represented by the following

equation: $Q = 6L^2 - 0.2L^3$. Where L denotes the number of workers.

i) Determine the size of the workforce which maximizes output **(5 marks)**
ii) Determine the size of the workforce, which maximizes the average product of labour.
Compute MPL and APL at this value of workforce. **(6 marks)**
c) Describe the ways which a monopolist can discriminate price [3 marks]