THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

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MAIN EXAMINATION

JANUARY – APRIL 2022

FACULTY OF ARTS AND SOCIAL SCIENCES

DEPARTMENT OF ECONOMICS

REGULAR PROGRAMME

ECO 111: MICROECONOMIC THEORY I
CEC 111: INTRODUCTION TO MICROECONOMICS
ACS 205: INTRODUCTION TO MICROECONOMICS

Date: APRIL 2022	**Duration: 2 Hours**
INSTRUCTIONS: Answer Question ONE and any TWO Questions	

Q1.

a. Define Economics and explain why it is referred to as 'a science of choice.' **(5 marks)**

b. Consider a market described by the following equations:
Demand function: $Q_D = 24 - 20P$
Supply function: $Q_S = 4 + 4P$
Determine market equilibrium price and quantity. **(5 marks)**

c. Define and illustrate the following microeconomics concepts:
   i. Consumption function. **(2 marks)**
   ii. Consumer surplus. **(2 marks)**
   iii. Opportunity cost. **(2 marks)**
   iv. Scarcity. **(2 marks)**
   v. Economies of scale. **(2 marks)**

d. Use an example to explain and illustrate:
   i. Isocosts and isoquants. **(5 marks)**
   ii. Indifference curves and budget line. **(5 marks)**

Q2.

a. Using an example to illustrate, show that the optimum level of consumption for a rational consumer is where: **MU = P**. **(5 marks)**

b. Distinguish between substitute and complementary goods and give an example of each. **(5 marks)**

c. It is observed that in the short run, price elasticity of demand for fuel is inelastic but elastic in the long run. Explain. **(5 marks)**

d. Outline the Water-Diamond utility paradox. **(5 marks)**

Q3.

a. Explain and illustrate the optimal consumption point using indifference curves and budget line. **(10 marks)**

b. Use an example to explain and illustrate:

  i. Cross-price elasticity of demand ($C\epsilon_{Dab}$). **(5 marks)**

  ii. Average and marginal physical product. **(5 marks)**

Q4.

a. Explain and graphically illustrate the following:

  i. Totally inelastic demand ($P\epsilon_D = 0$). **(2.5 marks)**

  ii. Infinitely elastic demand ($P\epsilon_D = \infty$). **(2.5 marks)**

b. Give 5 determinants of a firm's location. **(5 marks)**

c. A firm wants to produce 5,000 units of a product. It has a budget of KES 300,000 to spend on two factors of production: Labour and Capital. The price of Labour is KES 10,000 per unit and that of Capital is KES 20,000 per unit.

  i. Determine the firm's iso-cost line. **(5 marks)**

  ii. Show the effect on the firm's iso-cost line, if now the price of Labour rises from KES 10,000 to 20,000, but that of Capital remains at KES 20,000. **(5 Marks)**

Q5.

a. A consumer has a budget of KES 60 to spend on goods X and Y. Their prices are:

P_X = KES 6 and P_Y = KES 3.

  i. Determine the consumer's budget line. **(5 marks)**

  ii. Show the effect on the consumer's budget line, if now the price of good X falls to P_X = KES 3, but that of good Y remains at P_Y = KES 3. **(5 marks)**

b. Graphically illustrate what would happen to market equilibrium price and quantity of Butter in the following cases:

  i. A rise in the price of margarine. **(2.5 marks)**

  ii. A fall in demand for bread. **(2.5 marks)**

  iii. An increase in the market supply of butter. **(2.5 marks)**

  iv. A rise in the price of milk. **(2.5 marks)**

END