(*Knowledge for Development*)
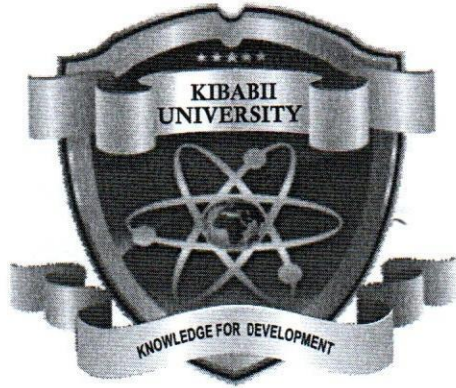
# KIBABII UNIVERSITY

## UNIVERSITY EXAMINATIONS 2019/2020 ACADEMIC YEAR

### SECOND YEAR 1ST SEMESTER SPECIAL/SUPPLEMENTARY EXAMINATIONS

**FOR THE DEGREE OF BACHELOR OF SCIENCE IN AGRICULTURAL ECONOMICS & RESOURCE MANAGEMENT**

**COURSE CODE:** AEC 212 / ECO 201.
**COURSE TITLE:** INTERMEDIATE MICROECONOMICS

**DATE:** 01/02/2021.                    **TIME:** 8 – 10AM.

**INSTRUCTIONS TO CANDIDATES**

Answer Question One and any other two (2) Questions
TIME: 2 Hours

This paper consists of 2 printed pages. Please Turn Over ▶

KIBU observes ZERO tolerance to examination cheating

1

# Q1

Suppose that the production function for a firm operating in a perfectly competitive labour market and a perfectly competitive output market is given by the following:

$$Q = 200 + 10N - N^2/20$$

### Required

i) If the price of output produced by the firm is Sh80 per unit, write the equation for the firm's $VMP_N$ curve **(5 marks)**

ii) Calculate the optimal labour demand, if the equilibrium wage is Ksh50 **(5 marks)**

iii) Determine the level of output and profits for the firm if the equilibrium wage is Ksh 50. **(5 marks)**

b) Write short notes on the following;

i) Factor- factor relationship and cardinal utility **(3 marks)**

ii) Isoquant and budget lines **(5 marks)**

iii) MRS and MRTS **(4 marks)**

iv) Product possibility frontier **(3 marks)**

# Q2

a) Explain the properties of indifference curves **(10 marks)**

b) Explain the difficulties encountered in measuring consumer surplus **(10 marks)**

# Q3

a) Using the Cardinalist approach of consumer behavior, distinguish between income and substitution effects of a fall in price for a normal good **(10 marks)**

b) Explain the characteristics of a perfectly competitive market **(10 marks)**

## Q4.

Consider consumer A who wants to maximize his utility subject to a budget constraint as given by the following functions

Utility function is given as $U = (X1, X2) = (X1^3 X2^2)$

budget constraint $= P_1X_1 + P_2X_2 = M$

### Required

a) Determine the optimal quantities of $x_1$ and $x_2$ that will maximize his utility  **(12 mark)**

b) Explain the factors to consider when choosing a factor of production  **(8 marks)**

## Q5.

a) The following demand and supply information relates to three different markets as follows

$$QD^1 = 23 - 5p_1 + p_2 + p_3$$

$$QS^1 = 8 + 6p_1$$

$$QD^2 = 15 + p_1 - 3p_2 + 2p_3$$

$$QS^2 = -11 + 3p_2$$

$$QD^3 = 19 + p_1 + 2p_2 - 4p_3$$

$$QS^3 = -5 + 3p_3$$

### Required

i) Calculate equilibrium prices in these markets  **(5.5 Marks)**

ii) Calculate equilibrium quantities in these markets  **(4.5 Marks)**

b) Explain the characteristics of utility  **(10 marks)**