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**KIRIRI WOMENS' UNIVERSITY OF SCIENCE AND TECHNOLOGY
UNIVERSITY EXAMINATION, 2019/2020 ACADEMIC YEAR
SECOND YEAR, FIRST SEMESTER EXAMINATION
FOR THE DEGREE OF BACHELOR OF SCIENCE
(BUSINESS ADMINISTRATION)**

Date: 12th April, 2019
Time: 2.30 – 4.30pm

KFI 201 – INTERMEDIATE MICROECONOMICS THEORY

INSTRUCTIONS TO CANDIDATES

ANSWER QUESTION ONE (COMPULSORY) AND ANY OTHER TWO QUESTIONS

QUESTION ONE (30 MARKS)

- a) Using a CD utility function of the form $U(X_1, X_2) = X_1^\alpha X_2^\beta$ and expenditure function is given by $P_1X_1 + P_2X_2 = M$. Showing all your working obtain:
- i) Objective function for utility maximization. (3 marks)
 - ii) First order conditions. (3 marks)
 - iii) Final demand functions for the optimal choice bundles. (6 marks)
- b) Using illustrations, define the term Diminishing Technical Rate of Substitution as you differentiate it from Returns to Scale. (6 marks)
- c) Illustrate and explain the deadweight loss in a monopoly firm. (6 marks)
- d) The average revenue and average cost functions for a firm are given as:

$$AR = 4 - \frac{1}{4}Q$$

$$AC = \frac{4}{Q} + 2 - 0.3Q + 0.005Q^2$$

Find the level of Q and P that will maximize profits of the firm. (6 marks)

QUESTION TWO (20 MARKS)

- a) Derive and explain the slope of a budget line. (8 marks)
- b) Using illustration, derive the profit maximization condition for a competitive market firm. (12 marks)

QUESTION THREE (20 MARKS)

- a) Using proper diagrams differentiate and explain the shapes of indifference curves. (14marks)
- b) Explain the three assumptions of consumer preferences. (6marks)

QUESTION FOUR (20 MARKS)

- a) Using examples, explain the conditions for price discriminating monopolist. (9 marks)
- b) Given the CD production function, derive the conditional factor demands for each factor that would help the firm to produce the given level of output in the cheapest way.

$$\text{Min } C = w_1x_1 + w_2x_2$$

st

$$y = x_1^a x_2^b \quad (11 \text{ marks})$$

QUESTION FIVE (20 MARKS)

- a) Differentiate between the weak axiom of revealed preference and the strong axiom of revealed preference. (10 Marks)
- b) Demonstrate a Pareto efficient allocation that makes each agent as well-off as possible give the utility of the other agent. (10 Marks)