JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF BUSINESS & ECONOMICS
UNIVERSITY EXAMINATION FOR BACHELOR OF LOGISTICS AND SUPPLY
CHAIN MANAGEMENT (BLSCM) AND BACHELOR OF BUSINESS
ADMINISTRATION (With IT) SECOND YEAR SEMESTER ONE

MAIN CAMPUS

COURSE CODE: AEC 201 / BEN 3221

COURSE TITLE: INTRODUCTION TO MICRO ECONOMICS

EXAM VENUE: STREAM:

DATE: EXAM SESSION:

TIME: 2 HOURS

INSTRUCTIONS:

1. Answer Question ONE (COMPULSORY) and ANY other 2 questions
2. Candidates are advised not to write on the question paper.
3. Candidates must hand in their answer booklets to the invigilator while in the examination room.
QUESTION ONE (Compulsory)

i. Explain the concept of diminishing marginal utility (3 marks)

ii. Compare and contrast the cardinal and ordinal utility theories (5 marks)

iii. Suppose a utility function is given as \( U = f(Q_1, Q_2) = Q_1^{0.4}Q_2^{0.6} \), determine the marginal rate of commodity substitution if the utility curve passes through bundles 30 and 60 for \( Q_1 \) and \( Q_2 \) respectively. (5 marks)

b) Distinguish between the following terms

i. Isocost and isoquant (3 marks)

ii. Engel’s curve and the price consumption curve (3 marks)

c) Demand function for a firm is given as \( P = 30 - Q \), if the firm’s cost function is \( C = 5 + 10Q \), determine the firm’s maximum profit (5 marks)

d) Given a cost function specified as \( = 100 + 20Q + \frac{10}{Q^2} \), determine the firm’s ATC and MC functions. (6 marks)

QUESTION TWO

i. Explain the meaning of Pareto optimality situation. (2 marks)

ii. Describe an edge worth box diagram as used in welfare analysis. (7 marks)

iii. With the aid of an edge worth box diagram, explain the Pareto optimality condition in production and consumption. (8 marks)

iv. What are the factors that affect the cost of production of a firm? (3 marks)
QUESTION THREE

a) In a perfectly competitive market, a firm’s average revenue and cost function are given as follows;

\[ AR = \alpha Q - \beta \]

\[ AC = \frac{\alpha}{Q} - \beta \]

Where \( \alpha \) and \( \beta \) are constants and \( Q \) is the output.

On the basis of the function given above, determine;

i. The total revenue function; (2 marks)

ii. The total cost function; (2 marks)

iii. The total break even output level (4 marks)

b) With the help of a well labeled diagram, explain how long run equilibrium of a perfectly competitive model is achieved in an industry. (7 marks)

c) Outline the features of an oligopoly market and how pricing for goods and services are done to maximize profits. (5 marks)

QUESTION FOUR

i. Using a well labeled diagram, discuss Paul Samuelson’s revealed preference theory (10 marks)

ii. Geometrically derive the average and the marginal product curves. (5 marks)

iii. With the aid of a diagram, explain why indifference curves do not intersect. (5 marks)

QUESTION FIVE

i. Explain the Pareto efficiency conditions and illustrate with relevant example. (10 marks)

ii. Assume two goods X and Y are normal and also the consumer’s income (I). Assume further that there is a fall in the price of good X while the price of Good Y and the
consumer’s Income (I) are constant. Explain the income and substitution effect of the price fall and illustrate using a diagram. (10 marks)