

BACHELOR OF SCIENCE IN AGRIBUSINESS
FOURTH YEAR SECOND SEMESTER EXAMINATION
(FOR 2016/2017 ACADEMIC YEAR)
COURSE CODE: AGB423
COURSE TITLE: MANAGERIAL ECONOMICS

INSTRUCTIONS TO CANDIDATES:

- Answer question one and any other three questions
- The duration of this paper is 3 hours

Question One

a) Consider the following Cobb-Douglas production function from manufacturing sector:

$$Q=10L^{0.75} K^{0.45}$$

- (i) What are the marginal products of Labour and Capital (3 Marks)
- (ii) What is the marginal rate of technical substitution of capital for labour (3 Marks)
- (iii) Calculate the factor intensity and explain the technique of production that is being used in the production process (3 Marks)
- (iv) How would you characterize this manufacturing sector in terms of the returns to scale. Explain the significance of this information in decision making. (4 Marks)
- b) What is elasticity of demand (2 marks)
- c) Outline and explain the stages in the decision making process (10 marks)

Question Two

Suppose the total benefit derived from a given decision, Q , is $B(Q) = 25Q - Q^2$ and the corresponding total cost is $C(Q) = 5 - Q^2$, so that $MB(Q) = 25 - 2Q$ and $MC(Q) = -2Q$.

- a. What is total benefit when $Q = 2$? $Q = 10$? (3 Marks)
- b. What is marginal benefit when $Q = 2$? (2 Marks)
- c. What level of Q maximizes total benefit? (2 Marks)
- d. What is total cost when $Q = 2$? (2 Marks)
- e. What is marginal cost when $Q = 10$? (2 Marks)
- f. What level of Q minimizes total cost? (2 Marks)
- g. What level of Q maximizes net benefits? (2 Marks)

Question Three

The demand for good X is given by

$$Q_x^d = 1200 - 1/2P_x + 1/4P_y - 8P_z + 1/10N$$

Research shows that the prices of related goods are given by $P_y = \text{Sh}5,900$ and $P_z = \text{Sh}90$, while the average income of individuals consuming this product is $M = \text{Sh}55,000$.

- a. Indicate whether goods Y and Z are substitutes or complements for good X . (4 marks)
- b. Is X an inferior or a normal good? (3 marks)
- c. How many units of good X will be purchased when $P_x = \text{Sh}4,910$? (4 marks)
- d. Determine the demand function and inverse demand function for good X . (4 marks)

Question Four

Suppose that; Mr. Moreno is a Strategic and Risk Manager in Salsa Bongo Corporation (SBC), a multinational telecommunication corporation operating in the Republic of Kenya. He is faced with managing various investment portfolios and projects in telecommunications carried out by the corporation on a daily basis.

- a) Define Managerial Economics and Strategy as used in decision making (2 Marks)