UNIVERSITY OF EMBU

2017/2018 ACADEMIC YEAR

SECOND SEMESTER EXAMINATIONS

FIRST YEAR EXAMINATION FOR THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION

DFI 502: MANAGERIAL ECONOMICS

DATE: APRIL 24, 2018   TIME: 8:30 AM – 11:30 AM

INSTRUCTIONS:

Answer any FOUR Questions.

QUESTION ONE (25 MARKS)

Briefly discuss five essential elements of pure capitalism.   (25 marks)

QUESTION TWO (25 MARKS)

    a)   Briefly explain the manager–worker/principal–agent problem.   (10 marks)

    b)   The demand equation for a popular brand of fruit drink is given by the equation

$$Qx = 10 - 5P_X + 0.001I + 10P_y$$

Where

Q_x = monthly consumption per family in gallons

P_x = price per gallon of the fruit drink = $2.00

I = median annual family income = $20,000

P_y = price per gallon of a competing brand of fruit drink = $2.50

i)   Interpret the parameter estimates.   (4 marks)

ii)   At the stated values of the explanatory variables, calculate the monthly consumption (in gallons) of the fruit drink.   (2 marks)

iii)   Rewrite the demand equation in terms of Q_x and P_x.   (2 marks)

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iv) Suppose that median annual family income increased to $30,000. How does this change your answer to part ii? (2 marks)

c) Giving an example explain what an incentive contract is. (5 marks)

QUESTION THREE (25 MARKS)

a) With the use of relevant examples explain the economic concept of externalities.

(10 marks)

b) The following production function has been estimated for a particular wheat farm in Kenya:

$$Q = KA^{0.1}L^{0.1}E^{0.1}S^{0.1}R^{0.1}$$

Where Q is output per period, A is the amount of land used, L is the amount of labor used, E is the amount of equipment used, S is the amount of fertilizer and chemicals used, R is the amount of other resources used, and K is a constant.

i) If the amount of every input is doubled, the production function states that the output will be equal to Q_1. Showing your workings express the new output Q_1 in terms of Q.

(10 marks)

ii) Find the percent increase in wheat output as a result of a 100 percent increase in all inputs. (5 marks)

QUESTION FOUR (25 MARKS)

a) One of the common errors in economic theorizing is the fallacy of composition. Citing an example briefly explain what is the fallacy of composition. (5 marks)

b) The market demand and supply equations for a product a

$$Q_D = 25 - 3P$$
$$Q_S = 10 + 2P$$

where Q is quantity and P is price. What are the equilibrium price and quantity for this product? (5 marks)

c) Adam has an extensive collection of Flash and Green Lantern comic books. Adam is planning to attend a local community college in the fall and wishes to sell his collection to raise money for textbooks.

Three local comic book collectors have expressed an interest in buying Adam's collection. The individual demand equation for each of these three individuals is

$Q_D,1 = Q_D,2 = Q_D,3 = 550 - 2.5P$

where P is measured in dollars per comic book.

    i)   What is the market demand equation for Adam's comic books?   (2 marks)

    ii)   How many more comic books can Adam sell for each dollar reduction in price?

                                      (2 marks)

    iii)   If Adam has 900 comic books in all, what price should he charge to sell his entire collection?   (6 marks)

d)   Briefly discuss one solution to the owner-manager/principal-agent problem.   (5 marks)

QUESTION FIVE (25 MARKS)

a)   Adam is the owner of a small grocery store in a busy section of Boulder, Colorado. Adam's annual revenue is $200,000 and his total explicit cost (Adam pays himself an annual salary of $30,000) is $180,000 per year. A supermarket chain wants to hire Adam as its general manager for $60,000 per year.

    i) What is the opportunity cost to Adam of owning and managing the grocery store?

                                          (2 marks)
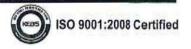
    ii) What is Adam's accounting profit?   (2 marks)

    iii) What is Adam's economic profit?   (2 marks)

b)   Briefly explain the reasons for economies and diseconomies of scale.   (6 marks)

c)   Suppose that a perfectly competitive industry comprises 1,000 identical firms. Suppose, further, that the market demand (Q_D) and supply (Q_S) functions are

        $Q_D=170,000,000-10,000,000P$
        $Q_S=70,000,000+15,000,000P$

    i)   Calculate the equilibrium market price and quantity?   (3 marks)

    ii)   Given your answer to part (i), how much output will be produced by each firm in the industry?   (2 marks)

iii)   Suppose that one of the firms in the industry goes out of business. What will be the effect on the equilibrium market price and quantity? (3 marks)

d)   Briefly explain five examples of environments in which decisions are made under situations of uncertainty where decision theory provides a framework and methodology for rational decision making. (5 marks)

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