JARAMOGI ODINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY (JOOUST)

UNIVERSITY EXAMINATIONS 2012/13

THIRD YEAR FIRST SEMESTER EXAMINATIONS FOR THE DEGREE OF BACHELOR OF BUSINESS ADMINISTRATION

BUSIA STUDY CENTRE

ABA: 306 MANGERIAL ECONOMICS   TIME: 2HOURS

INSTRUCTIONS TO CANDIDATES

- Answer question ONE and any other TWO questions
- Question one carries 30 marks
- The rest of the questions carry 20 marks

QUESTION ONE (COMPULSORY)

(a) State the tools for business decision making. (5marks)

(b) Discuss the practical applications of elasticities of demand in business decision making. (8marks)

(c) Consider the following demand function for good *x*.

$$Q_x = 300 - 3P_x + 2P_r + 0.2Y$$

Where $P_x = 20; P_r = 30; Y = 800$

  (i)   Find the own price elasticity of demand and interpret your results.

                                             (3marks)

  (ii)   Find the cross elasticity of demand and interpret your results

                                             (3marks)

  (iii) Find the income elasticity of demand and interpret your results

                                             (3marks)

  (iv) If income increases by 5%, by what percentage will Q_r change?

                                             (3marks)

(d) A sports shop selling sports shoes has the following average revenue and total cost functions

$$P = 120 - 5Q$$
$$TC = 80 + 4Q$$

Find the level of Q that will maximize profits. Confirm that the second order condition is satisfied. (5marks)

QUESTION TWO

(a) Define 'comparative static analysis'. (4marks)

(b) Consider the following single commodity market model

$$Q_d = a - bP; \ a, b > 0$$

$$Q_s = -c + dP; \ c, d > 0$$

  (i)   Find the equilibrium P and Q. (4marks)

  (ii)   Compute the effect of a shift in supply function on equilibrium p and Q. Present your results in graphical form also. (6marks)

(iii)   Determine the effect of a change in the slope of the demand function on $\bar{Q}$ and $\bar{P}$. Present your results in graphical form also. (6marks)

QUESTION THREE

(a) A multiproduct firm has the following cost function and production quota that must be observed.

$$C = Q_1^2 + Q_1 Q_2 + 2Q_2^2 + 20$$
$$Q_1 + Q_2 = 8$$

(i)   Set up a constrained cost minimization problem.   (4marks)

(ii)   Construct the corresponding Lagrangian (L) function.   (4marks)

(iii)   Find $\bar{Q_1}$, $\bar{Q_2}$ and $\bar{\lambda}$ by applying the first order condition. (6marks)

(iv)   By applying the second order condition, confirm that the critical values present minimum costs.   (6marks)

QUESTION FOUR

(a) A monopolist can produce any level of output it wishes at a constant marginal (and average) cost of $ 5 per unit. The monopolist sells its goods in two different markets separated by some distance. The demand curve in the first market is given by;

$$Q_1 = 55 - P_1$$

and the demand curve in second market is given by

$$Q_2 = 70 - 2P_2$$

If the monopolist can maintain separation between the two markets:

(i)   What level of output should be produced in each market? (8marks)

(ii)   What price will prevail in each market?   (4marks)

(iii)   What are the profits in this situation?   (8marks)

QUESTION FIVE

A company has an investment opportunity costing £ 40000 with the following expected net cash flow (i.e. after taxes and before depreciation);

Year	Net cash flow (£)
1	7000
2	7000
3	7000
4	7000
5	7000
6	8000
7	10000
8	15000
9	10000
10	4000

Using 10% as the cost of capital (rate of discount) determine the following:

(i)   Payback period. (4marks)

(ii) Net Present Value at 10% discount factor (6marks)

(iii) Profitability index at 10% discount (4marks)

(iv) Internal Rate of Return with the help of 10% discount factor and 15% discount factor. (6marks)