**MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**P.O. Box 972-60200 – Meru-Kenya.**

 **Tel: 020-2069349, 061-2309217. 064-30320 Cell phone: +254 712524293, +254 789151411**

**Fax: 064-30321**

**Website:** [**www.must.ac.ke**](http://www.must.ac.ke) **Email:** **info@must.ac.ke**

**University Examinations 2015/2016**

FIRST YEAR, FIRST SEMESTER EXAMINATION FOR THE DEGREE OF MASTERS IN BUSINESS ADMINISTRATION.

**BFA 5158: MANAGERIAL ECONOMICS.**

**DATE: AUGUST 2016 TIME: 3 HOURS**

**INSTRUCTIONS: -** *Answer question* ***one*** *and any other* ***three*** *questions*

**QUESTION ONE (24 MARKS)**

1. Suppose that a coffee producing firm estimated the following regression of the demand for its band of coffee: (13 marks)

QC=1.5-3.0PC+0.8Y+2.0Pb=0.6PS+1.2A

Where QC = sales of coffee brand C, in dollars per pound

 PC = price of coffee band C, in dollars per pound

 Y = personal disposable income, in millions of dollars per year

 Pb = price of the competitive brand of coffee, in dollars per pound

 PS = price of sugar, in dollar per pound

 A = advertising expenditure for coffee brand C, in hundreds of thousands of dollars

 per year

Suppose also that this year PC = $2, Y=$2.5, Pb=$1.80, PS = $1 and A=$1.

1. Interpret the results of the estimated demand.
2. Compute point price electricity of demand for the firm’s brand of coffee with respect to its price
3. Compute the cross-price elasticity of demand for coffee with respect to the price of competitive coffee brand b.
4. At the current price level, would it be viable for the firm to increase the price level of its brand of coffee? Support your answer. (Hint, what effect does an increase in price of the firm’s brand of coffee have on total revenue?)
5. Would you recommend that the firm continues to advertise its product?
6. Given the following information for a firm

TR = 45Q-0.5Q2

TC=Q3-8Q2+57Q+2

Find Q that maximizes profit (II). (6 marks)

1. Given the following profit function determine the profit maximizing level of output X and Y.

II=80X-2X2-XY-3Y2+100Y, (5 marks)

**QUESTION TWO (12 MARKS)**

1. Briefly explain the various steps involved in estimating demand by regression analysis. (3 marks)
2. Clearly distinguish between consumer clinic and market experiments. (2 marks)
3. The data below shows a tabulation on the production of a hypothetical product

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Output (Q) | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Total cost  | 25 | 32 | 38 | 42 | 48 | 58 | 67 | 78 | 98 |

Using the above data, determine (3 marks)

1. Total fixed cost
2. Average variable cost when output equals 6 units
3. Marginal cost of the 3rd unit of output.
4. Suppose that the cost equation for a monopolist is given by

TC=500+20Q2

Let the demand equation be given by

P=400-20Q.

Find the profit-maximizing price and output of a monopolist. (4 marks)

**QUESTION THREE (12 MARKS)**

1. Differentiate between the monopolistic and oligopolistic market structures. (2 marks)
2. Chemoji enterprises produces two products A1 and Q2 and estimates that its total costs of production as TC=4Q125Q22-Q1Q2 where Q1 is the output per hour of first product and Q2 is the output per hour for the second output. Because of the commitments to customers, the number produced of both products combined should be equal to 30 per hour.

Find out the output levels of the two products that will minimize total costs for Chemoji Enterprises using:

1. Substitution method (2 marks)
2. Lagrangian multipliers method. (4 marks)
3. The total cost fo Chege’s workshop at Kivera Ayany area is TC=100+4Q+8Q2. What is marginal cost when output is 10 and 20?

Calculate the average costs also when output is 10 and 20 respectively. (4 marks)

**QUESTION FOUR (12 MARKS)**

1. Explain the differences between price elasticity and income elasticity of demand and highlight their importance in managerial economics. (3 marks)
2. Consider the following production function Q=56K0.38 L0.72
3. Find the elasticity of production with respect to labour input. (2 marks)
4. Establish the nature of returns to scale. (2 marks)
5. Given the cost of labour is 20 usd per hour and the cost of capital is 10 usd per machine hour. The firm has 500 USD to spend.

Determine the least cost combination of inputs. (5 marks)

**QUESTION FIVE (12 MARKS)**

1. Explain the difference between the Cournot and Bertrand models of competition; why are these models not true models of interdependent behaviour? (4 marks)
2. Explain the following terms: (8 marks)
3. Dominant strategy
4. Nash equilibrium
5. Most favoured customer clause
6. Mixed strategies