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**University Examinations 2014/2015**

FIRST YEAR, FIRST SEMESTER EXAMINATION FOR MASTER OF BUSINESS ADMINISTRATION

**BFA 5128: MANAGERIAL ECONOMICS**

**DATE: APRIL 2015 TIME:** $3$**HOURS**

**INSTRUCTIONS:** *Answer question* ***one*** *and any other* ***two*** *questions*

**QUESTION ONE**

1. The rivalry between United States and Russia can be interpreted by the following pay-off matrix. Each side has the choice of two strategies, aggressive and restrained.

|  |  |  |
| --- | --- | --- |
| U.S.A |  | Russia |
|  | Restrained  | Aggressive  |
| Restrained  | 4,3 | 1,4 |
| Aggressive | 3,1 | 2,2 |

1. Does each country have a dominant strategy? (3 Marks)
2. Suppose the two countries move simultaneously, find the Nash equilibrium.(5Marks)
3. Company x sells its output to company Y for shillings 250 per unit. The cost of the sales per week in company x are given by the following cost function;



Q = value of weekly sales

Company Y uses the output of company X to manufacture a product whose demand is dependent on the sale price. The revenue per week of company Y is given by the following function.

R = 1000q – 8q2

The cost per week of company Y excluding costs of the products bought from company X are given by the following function;



Company X can restrict the weekly supply of its product to company Y, but cannot raise the unit price above sh. 250.

The two companies are considering whether to merge together into a single company.

**Required:**

1. At what weekly sales would company X maximize its profits. What would be the profit or loss of company Y if company X were able to supply a profit maximizing quantity or its product each week. (5 Marks)
2. At what level of weekly sales would company Y maximize its profits?(3 Marks)
3. If the two companies merge into one, what would be the profit maximizing output per week and what would be the weekly profit? (3 Marks)
4. Discuss the various pricing strategies a firm can adopt for its product. (5 Marks)

**QUESTION TWO ( 20 MARKS)**

1. Discuss the managerial decision making process. (4 Marks)
2. Given the following average revenue and total cost functions;

AR1= 8 – 2Q1 – 10Q2

AR2 = 4 – 4Q1 – 2Q2

Tc = 4Q13 + 6Q1Q2 + 2Q22

Determine the corresponding profit function. (4 Marks)

1. Explain the least cost combination of inputs principle. (4 Marks)

**QUESTION THREE (20 MARKS)**

a) A firm producing two products Q1 and Q2 under monopolistic market structures has the following demand and cost functions;

 Q2 = -2 P1 – P2 + 40

 Q2 = -P1 – P2 + 35

 C = Q12 +2Q22

1. Find the firm’s average revenue functions. (1 Mark)
2. Find the total revenue (R) for the firm. (1 Mark)
3. What s the profit function? (2 Marks)
4. Find the levels of Q1 and Q2 that satisfies the first order condition for maximization. (2 Marks)

b) Given the demand and cost function for a monopolist;

 P = 3 – Q

 TC = Q2 + Q

 If the government imposes a per unit tax “t” on the firms output;

1. Calculate the maximum profits (2 Marks)
2. Calculate the change in price. (2 Marks)
3. Calculate the tax rate that maximizes tax revenue. (2 Marks)

**QUESTION FOUR (20 MARKS)**

a) KK Ltd has Cobb-Douglas production function of this nature.

 Q = 120 L2 K3

 Where L represents labour units and K is the capital units.

Each labour unit costs the firm twice as much as each unit capital.

The cost of acquiring each unit of capital is Kenya Shillings 200.

The firm has a cost outlay of 60,000 shillings to spend on capital and labour.

**Required:**

1. Determine the least cost combination of capital and labour. (4 Marks)
2. Determine the optimum production level of the firm. (4 Marks)

b) Explain the relationship between managerial economics and other subjects. (4 Marks)

**QUESTION FIVE (20 MARKS)**

a) Explain the importance of managerial economics to business managers. (2 Marks)

b) For the following two demand functions, compute the four partial elasticities of demand and state whether the two commodities are substitutes or complements. (6 Marks)

 Q1 = 7 – 2P1 –P2

 Q2 = 23 – P1- 3P2

c) Explain the methods used in demand estimation and forecasting. (4 Marks)