



MACHAKOS UNIVERSITY

University Examinations for 2019/2020 Academic Year

SCHOOL OF BUSINESS AND ECONOMICS

DEPARTMENT OF ECONOMICS

THIRD YEAR FIRST SEMESTER EXAMINATION FOR
BACHELOR OF SCIENCE (AGRIBUSINESS MANAGEMENT)

BACHELOR OF ECONOMICS AND FINANCE

BACHELOR OF ECONOMICS

EAE 303: MANAGERIAL ECONOMICS

DATE: 28/11/2019

TIME: 2.00-4.00 PM

INSTRUCTIONS:

- (i) Answer question one (Compulsory) and any other two questions
- (ii) Do not write on the question paper
- (iii) Show your working clearly

QUESTION ONE (30 MARKS)

- a) Distinguish between the following concepts of managerial economics
- i. demand function and demand schedule
 - ii. individual demand and market demand
 - iii. price elasticity and cross price elasticity
 - iv. marginal revenue and marginal revenue product
 - v. marginal cost and marginal factor cost (10 marks)
- b) The following is the demand and total revenue functions of a firm;
 $P = 20 - 4Q$, $TC = 5Q$ where P is the demand function, TC is the total cost and Q is the quantity produced and sold. Calculate;
- i. Total revenue function (3 marks)
 - ii. The output maximizing the revenue (3 marks)
 - iii. The output maximizing the profit and hence the maximum profit (4 marks)
- c) Explain the various dimensions of industrial structure in a competitive market. (10 marks)

QUESTION TWO (20 MARKS)

- a) GG Ltd is a small distributor of B and Q food stores in the highly competitive health care product industry. The market determined price of a 100 tablet vial of GG successful product papaya extract is sh 10. The total cost function for the firm is given as follows;

$$TC=100+2Q+0.011Q^2$$

Determine the profit maximizing level of output for the firm. (5 marks)

- b) Distinguish between the following;
- fixed cost and variable cost
 - short run and long run periods (4 marks)
- c) Explain the following pricing policies that can be used by a company
- cost plus
 - marginal costing
 - average costing (6 marks)
- d) Define production elasticity(E_X) and show that;
- $$E_X=MP_X/AP_X$$
- (5 marks)

QUESTION THREE (20 MARKS)

- a) Define the term capital budgeting (3 marks)
- b) Using an example explain the steps of capital budgeting (7 marks)
- c) The table below gives the expected cashflow from two projects A and B

Year	Project A	Project B
0	2000	4000
1	1000	3000
2	2000	2000
3	1200	1600
4	1600	1000

Required;

If only one of the project has to be recommended for implementation, which would you recommend using;

- Net Present value-assume a discount of 10% (5 marks)
- Pay back period (5 marks)

QUESTION FOUR (20 MARKS)

A firm is considering whether to adopt a high-price or a low-price strategy. The success of the firm's pricing strategy depends, however, on its competitors' reaction to the firm's pricing strategy. The firm estimates that if it adopts a high-price strategy, there is a 60% probability that competitors will respond with a high price of their own, and 40% that they will respond with a low price. On the other hand, if the firm adopts a low-price strategy, there is a 20% probability that competitors will respond with a high price, and 80% with a low price. Each pricing strategy on the part of the firm and competitors' price response (reaction) can occur under three states of the economy: boom, normal, and recession, with probabilities of 30, 50, and 20%, respectively.

Assume also that the estimated net present value (NPV) of profits of the firm given each pricing response of the competitors is as presented in the table below

The NPV of Profits of the Firm given each Pricing Response of competitors'

<u>Firm Prices High</u>		
State of economy	Competitors' pricing response	
	High	Low
Boom	\$60,000	50,000
Normal	\$40,000	30,000
Recession	\$20,000	20,000
<u>Firm Prices Low</u>		
State of economy	Competitors' pricing response	
	High	Low
Boom	50,000	35,000
Normal	40,000	30,000
Recession	25,000	25,000

Require;

Construct a decision tree for the above company and determine the net present value (NPV) of the profits of the firm, given each possible pricing response of the competitors and states of economy.

(20 marks)

QUESTION FIVE (20 MARKS)

Suppose that a coffee producing firm estimated the following regression of the demand for its brand of coffee:

$$Q_c = 1.5 - 3.0P_c + 0.8Y + 2.0P_b - 0.6P_s + 1.2A$$

where Q_c = sales of coffee brand C, in dollars per pound

P_c = price of coffee brand C, in dollars per pound

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

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

P_s = price of sugar, in dollars per pound

A = advertising expenditures for coffee brand C, in hundreds of thousands of dollars per year.

Suppose also that this year, $P_c = \$2$, $Y = \$2.5$, $P_b = \$1.80$, $P_s = \$1$ and $A = \$1$.

- a) Interpret the results of the estimated demand. (3 marks)
- b) Compute point price elasticity of demand for the firm's brand of coffee with respect to its price. (4 marks)
- c) Compute the cross-price elasticity of demand for coffee with respect to the price of competitive coffee brand b. (4 marks)
- d) 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 marks)
- e) Would you recommend that the firm continues to advertise its product? (4 marks)