



MACHAKOS UNIVERSITY

University Examinations for 2018/2019 Academic Year

SCHOOL OF BUSINESS AND ECONOMICS

DEPARTMENT OF ECONOMICS

FOURTH YEAR SECOND SEMESTER EXAMINATION FOR

BACHELOR OF ECONOMICS AND STATISTICS

BACHELOR OF ECONOMICS AND FINANCE

BACHELOR OF ECONOMICS

BACHELOR OF COMMERCE

BACHELOR OF ARTS

EAE 303: MANAGERIAL ECONOMICS

DATE: 25/4/2019

TIME: 8:30 – 10:30 AM

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 (COMPULSORY) (30 MARKS)

- a) A firm has the following cost equation for a monopolist is given by

$$TC = 500 + 20Q^2$$

Let the demand equation be given by

$$P = 400 - 20Q.$$

Find the profit-maximizing price and output for a monopolist.

(10 marks)

- b) i) Distinguish between fixed and variable costs

(2 marks)

- ii) 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

Required;

Using the above data, determine

- i) Total fixed cost (2 marks)
 - ii) Average variable cost when output equals 6 units (3 marks)
 - iii) Marginal cost of the 3rd unit of output. (3 marks)
- c) With the help of diagram distinguish the three stages of production (10 marks)

QUESTION TWO (20 MARKS)

- a) What are the factors that determine the entry condition in a market? (8 marks)
- b) Explain the various dimensions of industrial structure in a competitive market. (6 marks)
- c) State and explain the methods of evaluating an industry's performance. (6 marks)

QUESTION THREE (20 MARKS)

- a) A firm has 2 projects, their probability distribution and their possible returns for various states of the economy.

State of the Economy	Probability of occurrence of state of economy (P_i)	Profit of project A if state of economy occurs	Profit of project B if state of economy occurs
BOOM	0.2	600	1000
NORMAL	0.6	500	500
RECESSION	0.2	400	0

Required;

Compute the standard deviation and coefficient of variation of each project and advise the firm. (14 marks)

- b) Briefly explain the limitations of using Standard Deviation (σ) as a Measure of Risk (6 marks)

QUESTION FOUR (20 MARKS)

Kumalo Entertainment must decide whether to expand by building a few large theaters in large cities or building a number of mini theaters in small towns. Each of the alternatives would require an initial investment of 1 million. Although the large theaters have a greater expected return, the option has greater risk because there is more competition in the large cities. In contrast, there is less potential for profit in the small markets, but in many of them there is little or no competition. The expected values of the net cash flows in each of the next 7 years are 300,000 per year in the large markets and 250,000 per year in the small markets.

The CV=1.5 for the large markets and 1.0 for the small markets. If 18% would be used to discount cash flows in the large-city alternative and a rate of about 10% to discount cash-flows in the small-city alternative, which between the two should the company invest into?

Required:

Use the appropriate risk-adjusted discount rate in each alternative and compute the NPV.

QUESTION FIVE (20 MARKS)

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 $A = \$1$.

Required;

- 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)