MACHAKOS UNIVERSITY

University Examinations for 2020/2021 Academic Year

SCHOOL OF BUSINESS AND ECONOMICS

DEPARTMENT OF ECONOMICS

THIRD YEAR SPECIAL/SUPPLEMENTARY EXAMINATION FOR

BACHELOR OF ECONOMICS AND STATISTICS

BACHELOR OF ECONOMICS AND FINANCE

BACHELOR OF ECONOMICS

BACHELOR OF ARTS

EAE 303: MANAGERIAL ECONOMICS

DATE: 25/3/2021   **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 (30 MARKS)

a)   Identify and explain various techniques of demand estimation   (6 marks)

b)   Suppose an investor regards $200,000 with certainty as equivalent to the expected risky return of $800,000 per year for the next five years. The initial cost outlay for the project is $600,000, and the risk-free discount rate is 10 percent. Find the net present value of the investment project   (8 marks)

c)   Explain consumer clinics and market experiments as methods of information collection.

                                                                                        (4 marks)

d)   A firm has 2 projects, and their probability distribution and their possible returns for various states of the economy are as follows;

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	0.3	1100	1450
NORMAL	0.4	950	820
RECESSION	0.3	650	500

Required

Compute the standard deviation and coefficient of variation of each project. Advise the firm on which project to undertake. (12 marks)

QUESTION TWO (20 MARKS)

a) Explain the difference between fixed and variable costs (4 marks)

b) Briefly discuss the main sources of economies and diseconomies of scale (8 marks)

c) Explain the relationship between short-run and long –run costs of production (4 marks)

d) With the aid of a diagram explain the break-even analysis of the firm (4 marks)

QUESTION THREE (20 MARKS)

A profit maximizing firm faces the following constrained maximization

$\Pi (x, y) = 80x - 2x^2 - xy - 3y^2 + 100y$

Subject to: $x + y = 12$

Where : x=quantity produced

Y=advertising expenditure

a) Determine profit maximizing output levels of output and advertisement subject to the condition that total output and expenditure equal 12. (8 marks)

b) Using diagrams show the relationship between price elasticity of demand, total revenue and marginal revenue. (6 marks)

c) A dominant firm is considering setting high prices so that it earns high profit of $1000 every year for a period of three years before it eventually loses its dominant position. Alternatively, the dominant firm would set a limit price and earn a lower profit of $500 for the next 7 years but still maintain its dominant position for a much longer time. If the discounting rate is 10% which of the twooptions would it take? (6 marks)

QUESTION FOUR (20 MARKS)

A company is considering two mutually exclusive projects requiring an initial cash outlay of Sh 20,000 each and with a useful life of 5 years. The company required rate of return is 10% and the appropriate corporate tax rate is 50%. The projects will be depreciated on a straight line basis. The before depreciation and taxes cashflows expected to be generated by the projects are as follows.

YEAR 1	1	2	3	4	5
Project A	Shs 8,000	8,000	8,000	8,000	8,000
Project B	Shs 18,000	6,000	4,000	7,000	10,000

Required:

Calculate for each project

a) The payback period   (3 marks)

b) The average rate of return   (3 marks)

c) The net present value   (6 marks)

d) Profitability index   (4 marks)

e) The internal rate of return   (4 marks)

QUESTION FIVE (20 MARKS)

a) Justify the existence of monopoly market in an economy   (6 marks)

b) Briefly explain the main characteristics of a pure market structure.   (6 marks)

c) With the aid of a diagram, discuss the profit maximization level of output for an oligopoly market structure.   (8 marks)