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UNIVERSITY EXAMINATIONS 2024/2025

THIRD YEAR FIRST SEMESTER EXAMINATION FOR DEGREE OF BACHELOR OF SCIENCE IN APPLIED ACCOUNTING

BFC 3430: BUSINESS DECISION AND ANALYTICS

DATE: JANUARY 2025   **TIME: 2 HOURS**

INSTRUCTIONS: Answer Question ONE and any other TWO questions.

QUESTION ONE (30 MARKS)

a) Describe decision making process   (8marks)

b) A company makes two product, A and B each product requires time on two machines X and Y. the specifications for each product are as follows;

Product		A	B
Processing time on machine	X(hours/unit)	2	2
Processing time on machine	Y(hours/unit)	1	2
Materials and labour cost	(shs/unit	14	15
Selling price	(sh/unit)	16	18
Maximum possible sale	(units)	130	150

The amount of time available on machine A is 360 hours and on machine B is 260 hours.

Required;

i. Formulate the linear programme which when solved would indicate the number of product A and B which should be sold in order to maximize total contributions for the company   (6marks)

ii. Using graphical method, determine the number of units to be produced in order to maximize total contribution   (16marks)

QUESTION TWO (20 MARKS)

a) A business has three alternatives open to him wach of which can be followed by ay of the possible event. The conditional payoffs (in shs) for each action event contribution are given below;

Pay offs Conditional On events

Alternative	A	B	C	D
X	8	0	-10	6
Y	-4	12	18	-2
Z	14	6	0	8

Determine which alternative should the business choose of the adopts the;

i. Hurcz criterion of degree of optism is 0.7 (5marks)

ii. Laplace criterion (5marks)

iii. Maximum regret criterion (5marks)

b) How is a decision tree useful to a decision maker (5marks)

QUESTION THREE (20 MARKS)

a) Solve the following game

		X	Y	Z	
Play	a	1	2	3	
A	b	0	2	-2	
	C	-1	0	1	(10marks)

b) Describe common applications of network analysis (10marks)

QUESTION FOUR (20 MARKS)

A small project consisting of eight activities has the following characteristics.

Time-estimate (in weeks

Activity	Proceeding activity	Optimistic	Most likely	Pessimistic
A	-	2	4	12
B	-	10	12	26
C	A	8	9	10
D	A	10	15	20
E	A	7	7.5	11

F	B,C	9	9	9
G	D	3	3.5	7
H	E,F,G	5	5	5

Required;

i. Draw the PERT network for the project (15marks)

ii. Determine the critical path (5marks)

QUESTION FIVE(20MARKS)

a) Describe any three decision making environments (6marks)

b) A distribution system has the following constraints;

Factory	Capacity(in units)
A	45
B	15
C	40

Warehouse	Demand(in units)
I	25
II	25
III	20

The transportation cost/unit(in shs) allocated with each route are as follows

	To;		
	I	II	III
A	10	7	8
From: B	15	12	9
C	7	8	12

Required;

Find the optimal transportation schedule and minimum total cost of transportation (14marks)