



PAN AFRICA CHRISTIAN UNIVERSITY

**END OF SEMESTER EXAMINATION FOR THE DEGREE OF
JANUARY –APRIL 2024**

CAMPUS: ROYSAMBU

DEPARTMENT: BUSINESS

COURSE CODE: BCM 303

COURSE TITLE: MANAGEMENT DECISION MODELS

EXAM DATE:

TIME:

INSTRUCTIONS

- This examination script consists of **SIX (6)** questions.
- Answer question **ONE** and ANY other **THREE** Questions.
- Read all questions carefully before attempting.
- Write your **student number** on the answer booklet provided.

Management decision making models are used to aid in solving managerial problems in a company. Using relevant examples from an industry of your choice, discuss **five** managerial problems that may be solved using management decision models. (10 marks)

Question Two (10 marks)

- a. Discuss the term network analysis using relevant examples. (2 marks)
- b. Describe the following terms as used in network analysis
 - i. Activity (2marks)
 - ii. Critical path (2 marks)
 - iii. Dummy activity (2 marks)
 - iv. Networks (2 marks)

Question Three (10 marks)

- a. Using a relevant example explain the term game as used in game theory. (2 marks)
- b. Discuss any **four** applications of game theory in the real world (8 marks)

Question Four (10 marks)

Using the table below:

- a. Draw the network diagram (4 marks)
- b. Identify the critical path. (3 marks)
- c. Calculate the expected time ET for each activity and the completion duration of the project. (3 marks)

ACTIVITY	IMMEDIATE PREDECESSOR	TIME ESTIMATE IN WEEKS		
		A TO	BTM	CTP
A	-	10	22	28
B	A	1	4	7
C	A	4	6	14
D	B	1	2	3
E	C,D	1	5	9
F	C,D	7	8	9
G	E,F	2	2	2

Question Five (10 marks)

A mobile phone manufacturing company has three branches located in three different regions, say Jaipur, Udaipur and Mumbai. The company has to transport mobile phones to three destinations, say Kanpur, Pune and Delhi. The availability from Jaipur, Udaipur and Mumbai is 40, 60 and 70 units respectively. The demand at Jaipur, Udaipur and Mumbai are 70, 40 and 60 respectively. Use the Vogel's Approximation Method to find a basic feasible solution (BFS)

(10 Marks)

Question Six **(10 marks)**

- a. Explain the term simulation. (2 marks)
- b. Discuss **four** application areas of simulation giving relevant examples. (8 marks)