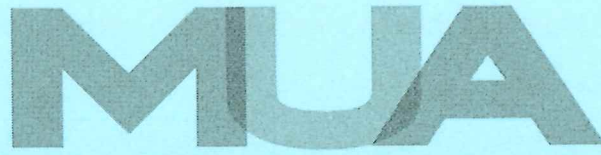


The
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UNDERGRADUATE UNIVERSITY EXAMINATIONS
SCHOOL OF MANAGEMENT AND LEADERSHIP
DEGREE OF BACHELOR OF COMMERCE

BCM 226: MANAGEMENT DECISION MODELS

DATE: 17TH DECEMBER 2024

DURATION: 2 HOURS

MAXIMUM MARKS: 70

INSTRUCTIONS:

1. Write your registration number on the answer booklet.
2. **DO NOT** write on this question paper.
3. This paper contains **SIX (6)** questions.
4. Question **ONE** is compulsory.
5. Answer any other **THREE** questions.
6. Question **ONE** carries **25 MARKS** and the rest carry **15 MARKS** each.
7. Write all your answers in the Examination answer booklet provided.

QUESTION ONE

Read the case study below carefully and answer the questions that follow:

Decision making in organization of all types takes place as a matter of course in groups such as teams, task forces, management boards and committees. As matter of fact, in most organizations, it is unusual to find decision made regularly by one individual. This particularly true of category II decisions.

Amana ventures Ltd is no exception. Since the inception of the company ten years ago, her reputation in collective decision-making has spread like bush fire. The company has become popular as a case study with scholars coming from far and wide to familiarize themselves with the company's sociology of decision making mechanisms. Their main point of interest is how the company has created harmony in employee social relations to catapult her decision-making processes.

The company has been doing it so well that the bottom line has improved drastically over the last ten years to the amusement of shareholders and management. The share prices of the company at Security Exchange market have also drastically risen and is being sought after by management boards of Fortune 500 companies to advice on the magic of sociology of decision-making. The Government too has also noticed the harmonious work relations at Amani ventures Limited and recently decorated the management team with national honors' during Jamhuri day celebrations in 2017.

In sum, mastery of the art of sociology of decision making at Amani ventures limited has made the company the talk of the talk of the corporate world and the management team is set for bigger things in coming years.

Required:

- a) Within the context of the case, distinguish between individual and group decision-making. (4 marks)
- b) Discuss the steps in decision-making process. (8 marks)
- c) Describe the four networks that may be adopted for communication in a group. (8 marks)
- d) Discuss the six c's of decision making (5 marks)

QUESTION TWO

In decision-making, systems can be used to design an approach to solving complex management issues in organizations.

- a) Examine the components of decision support systems. **(10 marks)**
- b) Describe five functions of decision support systems. **(5 marks)**

QUESTION THREE

A company is considering investing in one of three investment opportunities A, B and C under certain economic conditions. The payoff matrix for this situation is

economic condition

Investment opportunities	1 £	2 £	3 £
A	5000	7000	3000
B	-2000	10000	6000
C	4000	4000	4000

Determine the best investment opportunity using the following criteria

- i. Maximin **(3 marks)**
- ii. Maximax **(3 marks)**
- iii. Minimax **(3 marks)**
- iv. Hurwicz (Alpha = 0.3) **(6 marks)**

QUESTION FOUR

A construction company has a £1 million contract to complete a building by 31 March 2019, but is experiencing delays due to the complex design. The managers have to make a decision now whether to continue as at present, or to employ specialist-engineering consultants at a cost of £ 200,000.

If the company continues as at present, it estimates there is only a 30% chance of completing the building on time, and that the delay could be one two or three months, with equal probability. If the building is late, there are penalties for each

month's delay (or part of a month). The managers believe that if they employ specialist-engineering consultants, their chances of finishing the building on time will be trebled. But if the building is still late, it would only be one or two months late, with equal probability.

Required:

- a) Draw a tree diagram to represent this decision problem, using squares for decision points, circles for random outcomes, and including probabilities revenues and penalties. (8 marks)
- b) Analyze the tree using expected value techniques. (7 marks)

QUESTION FIVE

- a) With relevant examples from a company of your choice, explain Phases of Decision Making Process. (7 marks)
- b) Examine four functions of systems in an organization. (8 marks)

QUESTION SIX

- a) A has two ammunition stores, one of which is twice as valuable as the other. B is an attacker who can destroy an undefended store but he can only attack one of them. A can only successfully defend one of them. What would A do so as to maximize his return from the situation no matter what B may do? (10 marks)
- b) Differentiate between minimax and maximax decision rules (5 marks)