

The
Management
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UNDERGRADUATE UNIVERSITY EXAMINATIONS
SCHOOL OF MANAGEMENT AND LEADERSHIP
DEGREE OF BACHELOR OF ARTS IN DEVELOPMENT
STUDIES/ BACHELOR OF MANAGEMENT AND
LEADERSHIP/ BACHELOR OF COMMERCE/ BACHELOR
OF EDUCATION ARTS

**UCU 103: INTRODUCTION TO LOGIC AND CRITICAL
THINKING**

DATE: 28TH JULY 2026

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:

DECLINING ELEPHANT POPULATION

Kenya is home to some of Africa's most iconic wildlife conservation areas. Among them, seven major game parks stand out for their rich biodiversity and tourism value: Maasai Mara, Amboseli, Tsavo East, Tsavo West, Samburu, Meru, and Nairobi National Park. In recent years, wildlife conservation authorities have observed a concerning trend: elephant populations have significantly declined in some parks while remaining stable or even increasing in others. To design effective conservation policies, the Kenya Wildlife Service (KWS) seeks to identify the major one contributing factor responsible for the decline in elephant numbers in certain parks. Consequently, they have done their research and given you their findings to help them uncover the mystery as follows;

Masai Mara population was stable, had low presence of Mathenge plant, high presence of zinc concentrates, High level of tourists, 1,510 sq. km, rangers staffing was adequate and had inadequate drinking ponds. Amboseli had increased population, low presence of zinc concentrates, high level of tourists, 392 sq. km, low presence of Mathenge plant, adequate ranger staffing and adequate Presence of drinking ponds. Tsavo East had high presence of zinc concentrates, high level of tourists, 13,747 sq. km, high presence of Mathenge plant, inadequate ranger staffing, inadequate Presence of drinking ponds, and declined population. Tsavo West had high presence of zinc concentrates, high level of tourists, 9,065 sq. km, high presence of Mathenge plant, adequate ranger staffing and adequate Presence of drinking ponds and declined population.

Samburu had adequate ranger staffing, low presence of zinc concentrates, high level of tourists, 165 sq. km, low presence of Mathenge plant, inadequate Presence of drinking ponds and stable population. Meru had declined population, high presence of zinc concentrates, low level of tourists, 392 sq. km, high presence of

Mathenge plant, inadequate ranger staffing and inadequate Presence of drinking ponds. Finally, Nairobi had increased population, high presence of zinc concentrates, high level of tourists, 117 sq. km, low presence of Mathenge plant, adequate ranger staffing and adequate Presence of drinking ponds

Required:

a) Draw a table to determine the possible cause of declining elephant population (10

marks)

b) From the table,

- i. what can you conclude is the cause of declining elephant population
- ii. Was the cause a necessary, sufficient or both necessary and sufficient cause
- iii. Which of mills method did you use in answer B
- iv. What advice/recommendation would you give KWS based on your conclusion

(9

marks)

c) Assess any 6 uses of critical thinking skills to a KWS Rangers (6 marks)

QUESTION TWO

A. A market researcher investigating students use of the three types of reading materials namely: physical books, E-Books and social media in MUA Campus gathered the following information: From a sample of 800 students, 230 read physical books, 245 read social media and 325 read E-Books, 30 read all the three reading materials, 70 read physical books and E-Books only, 110 read physical books only, 185 read E-Books only.

Calculate:

- i. How many read physical books and social media only (2 marks)
 - ii. How many read E-Books and social media only (2 marks)
 - iii. How many read social media only (2 marks)
 - iv. Present the above information in form of a venn diagram. (3 marks)
- B. Determine the three reasons which motivate a Kenyan politician to commit a fallacy
(6 Marks)

QUESTION THREE

A. Explain with reasons whether the following statements are true or false

- i. The young one of an animal is a small animal (2 Marks)
- ii. Any sentence with a premise and a conclusion is an argument (2 Marks)
- iii. The room I am working in has more than eight faces (2 Marks)
- iv. I cannot be your brother if you are not my brother (2 Marks)
- v. If you see me smiling, then you must have opened your eyes (2 Marks)
- vi. "All cats are mammals. Some flying animals are mammals. Therefore, some mammals are cats" is a valid argument (2 Marks)

B. Assess any two uses of a language (3 marks)

QUESTION FOUR

A. Use modern square of opposition to determine the validity of the following argument

“All Gen Z who braved the mayhem of the finance bill are wonderful because it is false that some Gen Z who braved the mayhem of the finance bill are not wonderful guys”

(7 marks)

B. Distinguish an argument from a disagreement using relevant examples
(6 marks)

QUESTION FIVE

a) Discuss any five classes of fallacies using relevant examples **(10 marks)**

b) Mukeu fell into a ditch while going to sit for his logic and critical thinking exam in MUA. When asked what made him fall, Mukeu could only stare at people. Propose the mental processes which could have been running in Mukeus mind immediately after the fall

(5 marks)

QUESTION SIX

a) Generate four categorical propositions which conform to the four standard form categorical propositions using **All, Some and NO**

(7 marks)

b) Explain any **five** factors that will influence the strength of your argument which

Involves comparing two similar items

(8

marks)