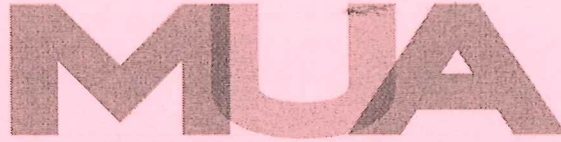


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UNDERGRADUATE UNIVERSITY EXAMINATIONS

SCHOOL OF MANAGEMENT AND LEADERSHIP

DEGREE OF BACHELOR OF MANAGEMENT AND LEADERSHIP/

BACHELOR OF ARTS IN DEVELOPMENT STUDIES/ BACHELOR

OF COMMERCE/ BACHELOR OF EDUCATION ARTS

UCU 103: INTRODUCTION TO LOGIC AND CRITICAL THINKING

DATE: 26TH MARCH 2025

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:

I am 79 and have been smoking for 60 years. My husband is 90 and has inhaled my smoke for some 50 years with no bad effects. I see no reason to take further steps to isolate smokers in our hotels and public places other than we now observe. Smokers have taken punishments enough from neurotic sniffers, some of whom belong in bubbles. There are plenty of injudicious fumes on our streets and freeways

Required:

- a) Identify and give a brief explanation of any three fallacies committed in the above case (9 marks)
- b) Suggest the three reasons which motivate an arguer to commit a fallacy (6 marks)
- c) Explain with reasons whether the following statements are true or false
 - i. Being a tiger is a necessary condition for being an animal. (2 Marks)
 - ii. Since Tom is the only brother to Agatha, and Agatha is the only sister to Rachel, it follows that Tom is the only brother to Rachel. (2 Marks)
 - iii. Some students doing logic exam have one head (2 Marks)
 - iv. If you open the bottle top of a bottle of coke, then you drink the content of the bottle (2 Marks)
 - v. "All cats are snakes. Some snakes are cows. Therefore, some cats are cows" is a valid argument (2 Marks)

QUESTION TWO

- a) Venn diagrams are used by critical thinkers to show relationships among groups of things

Draw a Venn diagram of three circles. Let the circles contain black things, reptiles and vertebrates (animals with backbones). Name the common region A, outer region B, region common to reptiles and vertebrates C, vertebrates and black things D, black things and reptiles E, black things only F, reptiles only G and vertebrates only H

- i. Shade blank region as required in critical thinking (2 marks)

- ii. State regions where you find the following
Snakes
Rivers
Computer (5 marks)
- iii. Name one item found in each of the un shaded regions (5 marks)
- b) Explain the two uses of a language (3 marks)

QUESTION THREE

- a) Use modern square of opposition to determine the validity of the following argument
"Some crooks are not good because it is false that no crooks are good" (9 marks)
- b) Distinguish a formal fallacy from an informal fallacy using relevant examples (6 marks)

QUESTION FOUR

- a) Wamalwa has not been able to answer even simple questions asked by his critical thinking lecturer. Propose any five possible reasons for this (10 marks)
- b) From the following statement, state which is the premise, the conclusion and others and explain with reasons whether it is an argument, valid or invalid

Some film stars are men. Mama Kayai is a film star. Therefore, Mama Kayai is a woman (5 marks)

QUESTION FIVE

- A. Generate categorical propositions which conform to the four standard form categorical propositions using All, Some and NO (8 marks)
- B. Explain any four factors that influence the strength of an argument from analogy (7 marks)

QUESTION SIX

- A. Argue for the statement that “the most important reason why human race are able to adjust to most situations as opposed to other animal species is that we are extremely good in solving problems”. **(7 marks)**
- B. Susie started a camel butchery sometimes back. On a Monday morning, she had 5 camels in the boma. During the week, she bought 15 camels. 4 camels gave birth to triplets and two camels died. If at the end of the week she had 8 camels,
- i. Calculate the number of camels that she slaughtered in the week **(4 marks)**
- ii. Suggest any two assumptions that should be made to assist in calculating profit in the above question **(4 marks)**