



MACHAKOS UNIVERSITY

University Examinations for 2020/2021 Academic Year

SCHOOL OF HUMANITIES AND SOCIAL SCIENCES

DEPARTMENT OF SOCIAL SCIENCES

FIRST YEAR SECOND SEMESTER EXAMINATION FOR

BACHELOR OF ARTS

APH 102: INTRODUCTION TO LOGIC

DATE: 15/6/2021

TIME: 2:00 – 4:00 PM

INSTRUCTIONS: Answer QUESTION ONE and any other TWO QUESTIONS.

QUESTION ONE (COMPULSORY) (30 MARKS)

- a) Explain the following in detail; (18 marks)
- i) Valid argument
 - ii) Invalid argument.
 - iii) Sound argument.
 - iv) Unsound argument.
 - v) Cogent argument.
 - vi) Uncogent argument.
- b) Explain the following arguments forms (12 marks)
- i) Modus ponens
 - ii) Modus tollens
 - iii) Fallacy of denying the antecedent
 - iv) Fallacy of affirming the consequent

QUESTION TWO (20 MARKS)

- a) Explain the rationale of the venn diagrams (4 marks)
- b) Construct venn diagrams for the four categorical statements. (4 marks)
- c) Using Venn diagrams determine whether the following arguments are valid or invalid (12 marks)
- I.
- 1. No anemic persons are blood donors
 - 2. Some nurses are blood donors.
 - 3. Therefore, some nurses are not anemic.

II.

1. All nursing is intervention.
2. No intervention is passive.
3. Therefore, no nursing is passive.

QUESTION THREE (20 MARKS)

Elaborate the rationale of the modern square of opposition.

QUESTION FOUR (20 MARKS)

Form the following Aristotelian logical inferences; conversion, obversion and contraposition.

QUESTION FIVE (20 MARKS)

- a) What is a fallacy? (2 marks)
- b) Giving examples, Identify the four major classifications of fallacies. (18 marks)