



MACHAKOS UNIVERSITY

University Examinations 2016/2017

SCHOOL OF HUMANITIES AND SOCIAL SCIENCE

DEPARTMENT OF SOCIAL SCIENCES

FIRST YEAR SECOND SEMESTER EXAMINATION FOR BACHELOR OF ARTS

APH 101: INTRODUCTION TO LOGIC

DATE: 29/5/2017

TIME: 11:00 – 1:00 PM

INSTRUCTIONS

Answer Question One and Any Other Two Questions

QUESTION ONE(COMPULSORY) (30 MARKS)

- a) Explain the following terms (12 marks)
- i. Valid argument
 - ii. Invalid argument
 - iii. Deductively sound argument
 - iv. Deductively unsound argument
 - v. Cogent argument
 - vi. Uncogent argument
- b) Giving examples, differentiate deductive from inductive logic (6 marks)
- c) State at least five argument forms with names and elaborate any two (12 marks)

QUESTION TWO (20 MARKS)

- a) Giving examples, highlight the four standards forms of categorical statements (5 marks)
- b) Give two stylistic variants of each of the four (5 marks)

- c) Construct Venn diagrams for the four categorical statements (4 marks)
- d) Using Venn diagrams construct four arguments (two valid and two invalid) (6 marks)

QUESTION THREE (20 MARKS)

- a) Provide the illustration of the traditional square of opposition (4 marks)
- b) Explain the logical relationships found in the traditional square of opposition. (10 marks)
- c) Construct and explain why the need for the modern square of opposition arises?(6 marks)

QUESTION FOUR (20 MARKS)

Demonstrate the following inferences (20 marks)

- i. Conversion
- ii. Obversion
- iii. Contraposition

QUESTION FIVE (20 MARKS)

- a) Provide the illustration of the traditional square of opposition. (4 marks)
- b) Explain the logical relationships found in it. (10 marks)
- c) Construct and explain why the need for the modern square. (6 marks)