



MACHAKOS UNIVERSITY

University Examinations 2018/2019

SCHOOL OF PURE AND APPLIED SCIENCES

DEPARTMENT OF MATHEMATICS, STATISTICS AND ACTUARIAL SCIENCE

FIRST YEAR FIRST SEMESTER EXAMINATION FOR

MASTER OF SCIENCE (MATHEMATICAL MODELLING AND COMPUTATION)

SMA 805: RESEARCH METHODS FOR MATHEMATICS

DATE: 20/5/2019

TIME: 2:00 – 5:00 PM

INSTRUCTIONS:

Answer question ONE and ANY OTHER TWO questions

QUESTION ONE (COMPULSORY) (30MARKS)

- a)
 - i) Explain what literature review is, outlining its purposes the mathematical research study. (8 marks)
 - ii) Give the various sources of literature in a mathematical research activity. (6 marks)
 - iii) Briefly describe the difference between an aim and objective in an academic text. (4 marks)
- a) Explain any four types of research introductions. (8 marks)
- b) Discuss the types of abstracts in research and give an example of well stated abstract. (4 marks)
- c) Explain what ‘statement of the problem’ and ‘significance of a study’ are. (4 marks)

QUESTION TWO (15 MARKS)

- a) Define a research literature review. (4 marks)
- b) Describe steps in developing a good research Review of Literature. (11 marks)

QUESTION THREE (15 MARKS)

- a) Outline key features of a good Statement of a research problem. (6 marks)
- b) Explain the qualities of good mathematical research. (9 marks)

QUESTION FOUR (15 MARKS)

Briefly discuss the format of the mathematical research Proposal/Thesis.