



# MACHAKOS UNIVERSITY

University Examinations 2017/2018

SCHOOL OF EDUCATION

DEPARTMENT OF EDUCATIONAL MANAGEMENT AND CURRICULUM STUDIES

FIRST YEAR FIRST SEMESTER EXAMINATION FOR DOCTOR OF PHILOSOPHY  
IN COMMUNICATION TECHNOLOGY

ECT 902: ADVANCED RESEARCH METHODOLOGY

DATE: 20/12/2017

TIME: 8:30 – 10:30 AM

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## INSTRUCTIONS

Answer Question One and Any Other Two Questions

### QUESTION ONE

- a) Explain the term **research** as applied in educational research (2 marks)
- b) Describe any **two** types of research that may be used in educational research (6 marks)
- c) By use of relevant examples, explain the following terms as applied in research:
  - i. Delimitation
  - ii. Reliability
  - iii. Sample (6 marks)
- d) Describe any **FOUR** qualities of a good research proposal (8 marks)
- e) Outline **four** advantages and **four** disadvantages of using an interview as a tool to collect data in scientific research (8 marks)

### QUESTION TWO

- a) Highlight FIVE qualities of an effective topic (5 marks)
- b) Explain the stages involved in selecting a topic (5 marks)
- c) By use of relevant examples, explain the challenges that a researcher may encounter in selecting a topic . (10 marks)

### QUESTION THREE

- a) Differentiate between the terms: **independent** , **intervening** and **dependent** variables (6 marks)
- b) Explain **three** reasons why a researcher should formulate the specific research hypotheses for his/her study (6 marks)
- c) Discuss **four** types of intervening variables that would affect the internal validity of research instruments. (8 marks)

### QUESTION FOUR

- a) Explain the importance of designing a good theoretical frame work (4 marks)
- b) Highlight the steps followed when designing a research theoretical framework (6 marks)
- c) By the use of a pictorial chart explain the components of a conceptual framework in scientific research (10 marks)

### QUESTION FIVE

Assume that you have been invited to present a paper on “Research Methodology”. Explain **five** types research design that you will explain which are suitable in conducting scientific research (20 marks)