

TECHNICAL UNIVERSITY OF MOMBASA
FACULTY OF ENGINEERING
DEPARTMENT OF ELECTRICAL AND ELECTRONICS
DEGREE OF BACHELOR OF SCIENCE IN ELECTICTICAL AND ELECTRONICS
ENGINEERING
END OF SEMESTER EXAMINATION FOR JANUARY – APRIL 2016 SEMESTER
HRD 2114 RESEARCH METHODS

PAPER A

Instructions: Answer Question One and any other Two Questions.

Time: 2 hours

Question One

You have been commissioned by the Ministry of Internal Security, to look into issues that have contributed to the high rate of elections malpractice in the past elections.

- a)
- i) Come up with an appropriate research topic (3 marks)
 - ii) Formulate the general objective and three specific objectives that will guide you in your investigation. (8 marks)
 - iii) Formulate Research questions that will help in the investigation (6 marks)
- b)
- i) Discuss the principle research methods (9 marks)
 - ii) Explain the basic principles of scientific research? (4 marks)

Question Two

- a)
- (i) Differentiate between primary and secondary data (4 marks)

(ii) Briefly discuss the advantages and disadvantages of secondary data (4 marks)

b) Explain what you understand by a Questionnaire and state some characteristics of a good questionnaire (12marks)

Question Three

a) Explain the difference between the following terms:

- (i) Sampling frame and sampling (4 marks)
- (ii) Probability and non-probability sampling (4 marks)

b) Explain what is a research hypothesis? State the qualities of a good research hypothesis (12 marks)

Question Four

Describe the structure of an academic proposal (20 marks)

Question Five

a)

Explain the meaning of the following in the context of Research design

- i) Independent and dependent variables (4 marks)
- ii) Experimental and control groups (4 marks)

b)

Explain the following measurement scales as used in research with a clear example in each

- i) Nominal scale
- ii) Ordinal scale
- iii) Interval scale
- iv) Ratio scale

(12 marks)