



MACHAKOS UNIVERSITY

University Examinations 2018/2019

SCHOOL OF HUMANITIES AND SOCIAL SCIENCES

DEPARTMENT OF SOCIAL SCIENCES

THIRD YEAR SECOND SEMESTER EXAMINATION FOR
BACHELOR OF SCIENCE (MATHEMATICS AND STATISTICS)

SST 303: RESEARCH METHODOLOGY

DATE: 18/4/2019

TIME: 2.00-4.00

INSTRUCTIONS

Answer Question One and any other Two Questions

QUESTION ONE (30 MARKS)

- a) Differentiate between the following terms as used in research methods
- Non- probability sampling and Probability sampling
 - Sample and sampling
 - Validity and reliability (6 marks)
- b) Explain four characteristics of a good research hypothesis (4 marks)
- c) Explain any three sources of bias/errors that can occur during the sampling process (6 marks)
- d) Using relevant examples, differentiate between quantitative and qualitative research designs (4 marks)
- e) Describe any four different data measurement scales (4 marks)
- f) Giving relevant example, describe the various sources of data that may be used in a research study (6 marks)

QUESTION TWO (20 MARKS)

- a) Discuss the main components of a good research proposal (10 marks)
- b) Describe the advantages of covert observation as a method of data collection (4 marks)
- c) Discuss the various probability sampling techniques a researcher can use in a research study (6 marks)

QUESTION THREE (20 MARKS)

- a) Explain the four activities that are involved in data processing (4 marks)
- b) Discuss the data measurement errors that you expect to encounter as you conduct your research proposal and suggest ways of dealing with them (8 marks)
- c) Describe the four factors a researcher needs to consider as she develops a research instrument (8 marks)

QUESTION FOUR (20 MARKS)

- a) Differentiate between a census and a sample (2 marks)
- b) Illustrate four advantages and four disadvantages that you would face while using the survey questionnaire method for data collection. (8 marks)
- c) Differentiate between survey research design and experimental research design (4 marks)
- d) Discuss three constraints a researcher is likely to face in carrying out interviews with an interview schedule. (6 marks)

QUESTION FIVE (20 MARKS)

- a) As a researcher, you have observed that men in the organization you are working in are engaging in sexual harassment of multiple female colleagues. You decide to carry out interviews and observation of your male and female colleagues. Discuss four ethical issues that you must observe when carrying out the research. (8 marks)
- b) Explain four characteristics of research that would qualify a research study to be referred to as 'scientific'. (4 marks)
- c) Explain four kinds of statistical errors that may threaten the validity of a research study. (8 marks)