

**QUESTION ONE- COMPULSORY (30 MARKS)**

(1 mark)

- a) Define research. (3 marks)
- b) Differentiate between the following common research concepts:-
  - i. Reliability and validity (3 marks)
  - ii. Hypothesis and Assumption (3 marks)
  - iii. Depended and Independent variable (3 marks)
- c) Explain how you define a research problem. Give three examples to illustrate your answer. (3 marks)
- d) i) Enumerate and explain the different methods of collecting data. (3 marks)
- ii) Giving reasons identify which one of the above mentioned methods is the most suitable for conducting enquiry regarding family welfare program in Kenya. (3 marks)
- e) Explain giving examples how computers are used as a tool in research (6 marks)
- f) "Processing of data implies editing, classification and tabulation". Describe briefly these four operations pointing out the significance of each in context of research study. (4 marks)
- g) Due to rapid change in technology, Computers have become part of human lifestyle right from communication, education, management, research just to mention a few. This trend that has embraced technology in the day today's transactions has come along with some challenges which researchers need to establish and address.

**Required**

- i) Identify and formulate a research problem in the area of computer science that you think has brought challenges due to rapid change in technology. (2 marks)
- ii) Give a clear statement of the research problem formulated in (i) above (2 marks)
- iii) State three specific objectives for your study (3 marks)
- iv) State with reasons TWO instruments used in collecting data for this study (2 marks)
- v) Formulate a hypothesis or two research questions for the this study (2 marks)

**QUESTION TWO (20 MARKS)**

- a) Describe any FOUR stages of the research process (8 marks)
- b) Explain the significance of a research report and narrate the various steps involved in writing such report. (12 marks)

### QUESTION THREE (20 MARKS)

- a) Discuss the factors that you would take into account when choosing a research problem and designing a study to address the identified problem. (10 marks)
- b) Explain at least five guiding principles used in designing an effective questionnaire citing relevant examples. (10 marks)

### QUESTION FOUR (20 MARKS)

- a) Explain any five purpose of research in the modern times (10 marks)
- b) You have received report done by an external consultant firm, a Life Insurance company. The study is a survey of morale in the headquarters and covers opinions of about 200 secretaries and clerks plus about 20 executives and actuaries. As an internal research expert, you are asked to comment on its quality. What will you look for and why? (10 marks)

### QUESTION FIVE (20 MARKS)

- a) Describe the "task of interpretation" in context of research Methodology (8 marks)
- b) Discuss the need for a research design (10 marks)
- c) Explain term data analysis (2 marks)