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**KIRIRI WOMENS' UNIVERSITY OF SCIENCE AND TECHNOLOGY**  
**UNIVERSITY EXAMINATION, 2022/2023 ACADEMIC YEAR**  
**FIRST YEAR, SECOND SEMESTER, END OF SEMESTER EXAM**  
**FOR THE DIPLOMA IN INFORMATION TECHNOLOGY**  
**DCU 1008- RESEARCH METHODOLOGY**

Date: 26<sup>TH</sup> JULY 2022

Time: 2:30PM – 4:30PM

**INSTRUCTIONS TO CANDIDATES**

**ANSWER QUESTION ONE (COMPULSORY) AND ANY OTHER TWO QUESTIONS**

**QUESTION ONE (30 MARKS)**

- a) Distinguish between the following as used in research;
  - i) Cluster and area sampling (2 Marks)
  - ii) Experiment and survey (2 Marks)
  - iii) Simple hypothesis and composite hypothesis (2 Marks)
  - iv) Research methods and research methodology (2 Marks)
- b) Under what circumstances would you recommend:
  - i) A probability sample (6 Marks)
  - ii) A non-probability sample
  - iii) A stratified sample
- c) Outline the major steps followed in conducting a research. (6 Marks)
- d) Explain Three sources of research problems. (6 Marks)
- e) Explain Four problem likely to be experienced by a researcher. (4 Marks)

**QUESTION TWO (20 MARKS)**

- a) Describe the observational design as used in research. (4 Marks)
- b) Explain Three Characteristics of Scientific Research. (6 Marks)
- c) State Three merits and three demerits of direct personal interviews. (6 Marks)
- d) Explain the importance of literature review in research. (4 Marks)

**QUESTION THREE (20 MARKS)**

- a) Describe Four types of research that can be conducted. (8 Marks)
- b) Describe the techniques of defining a research problem. (6 Marks)
- c) Explain the importance of defining a research problem. (6 Marks)

**QUESTION FOUR (20 MARKS)**

- a) Explain the significance of a Research design. (4 Marks)
- b) Explain the procedure of selecting a random sample. (6 Marks)
- c) Differentiate between collection of data through questionnaires and schedules. (8 Marks)
- d) Describe a research hypothesis. (2 Marks)

**QUESTION FIVE (20 MARKS)**

- a) Explain Four guiding considerations in the construction of questionnaire (8 Marks)
- b) Describe Four types of analysis of data pointing out the significance of each (8 Marks)
- c) Describe Two characteristics of a good research hypothesis (4 Marks)