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KIRIRI WOMEN'S UNIVERSITY OF SCIENCE AND TECHNOLOGY
UNIVERSITY EXAMINATION, 2024/2025 ACADEMIC YEAR
FIRST YEAR, SECOND SEMESTER EXAMINATION
FOR THE DIPLOMA IN BUSINESS & INFORMATION TECHNOLOGY
DCU 1008 – RESEARCH METHODOLOGY

Date: 08TH April 2024
Time: 2:30PM – 4:30PM

INSTRUCTIONS TO CANDIDATES

ANSWER QUESTION ONE (COMPULSORY) AND ANY OTHER TWO QUESTIONS

QUESTION ONE (30 MARKS)

- a) Explain the significance of research methodology in system development projects (6 Marks)
- b) As an IT professional you have been tasked to assist an organization to acquire or design a new information system. Discuss the steps involved in conducting research for system development and implementation (6 Marks)
- c) Explain the difference between qualitative and quantitative research methodologies, highlighting their strengths and weaknesses (6 Marks)
- d) A literature review is an account of what has been published on a topic by the accredited scholars and researchers. Discuss the importance of literature review in the research methodology of system development projects (6 Marks)
- e) Explain the following terms:
 - i) Sample (2 Marks)
 - ii) Population (2 Marks)
 - iii) Census (2 Marks)

QUESTION TWO (20 MARKS)

- a) Explain the process of formulating research objectives and research questions for system development projects (8 Marks)
- b) Discuss the importance of research methodology in conducting scientific research (4 Marks)
- c) Explain the different research designs and their advantages and disadvantages (8 Marks)

QUESTION THREE (20 MARKS)

- a) Explain the concept of sampling in research methodology and discuss different any two sampling techniques (6 Marks)
- b) In business research, the process of gathering data is known as data collection where as in system analysis and design it is called requirement gathering. Discuss the various requirement gathering techniques (8 Marks)
- c) Explain the different types of research instruments used in quantitative research and discuss their importance (6 Marks)

QUESTION FOUR (20 MARKS)

- a) Discuss the ethical considerations that researchers need to keep in mind while conducting research (8 Marks)
- b) Explain the concept of research bias and discuss different types of biases that researchers need to be aware of (6 Marks)

- c) Outline the difference between descriptive and inferential statistics and their use in research methodology for system development projects (6 Marks)

QUESTION FIVE (20 MARKS)

- a) Elucidate on the importance of validity and reliability in research methodology (4 Marks).
- b) Discuss the role of theory in research and its significance in informing the research design and data analysis (6 Marks).
- c) Describe the process of writing a research proposal, including the components and structure (10 Marks).