

CHUKA



UNIVERSITY

Knowledge is Wealth (*Sapientia divitia est*) Akili ni Mali

PHYS 314 RESEARCH METHODS Y3:S2 STREAMS: Bsc. PHYSICS

INSTRUCTIONS

Answer question ONE and other TWO questions

QUESTION ONE (30 MARKS)

- a) Define research (4 marks)
- b) List five ways of searching for Research Instrument (5 marks)
- c) Differentiate between research methods and methodology (4 marks)
- d) Define what is Validity in research and describe four types of validity (5 marks)
- e) Give 4 objectives of research (4 marks)
- f) Define epistemology and give four different sources of knowledge (5 marks)
- g) How does the average person benefit from Intellectual Property rights (3 marks)

QUESTION TWO (20 MARKS)

- a) State two advantages and two disadvantages of the survey Approach (4 marks)
- b) State the importance of research ethics (10 marks)

- c) What is a Patent and what role do patents play in everyday life? (4 marks)
- d) What is a research problem? (2 marks)

QUESTION THREE 20 MARKS)

- a) Define research reliability and state three types of reliability identified in research (5 marks)
- b) Discuss three advantages of a good literature review (6 marks)
- c) State two factors to be considered in the selection of the chosen data collection method (2 marks)
- d) Differentiate between quantitative and qualitative research (2 marks)
- e) What are Copyright and Related Rights and who are the beneficiaries of related rights? (5 marks)

QUESTION FOUR 20 MARKS)

- a) Describe five sources of research problems (5 marks)
- b) List four guidelines for selecting a research problem (4marks)
- c) Describe the common, salient features of a research proposal (11 marks)

QUESTION FIVE 20 MARKS)

- a) What is a research process (2 marks)
- b) Discuss briefly steps in the research process (18 marks)