

CHUKA UNIVERSITY

EXAMINATION FOR BACHELOR OF SCIENCE IN COMPUTER SCIENCE Y3S1

AND

BACHELOR OF SCIENCE IN APPLIED COMPUTER SCIENCE Y3S1

COSC 380 : RESEARCH METHODS IN COMPUTER SCIENCE

AND

ACSC 381: RESEARCH METHODS IN APPLIED COMPUTER SCIENCE

DATE:

TIME: 2 HRS

INSTRUCTIONS:

Answer Question ONE and ANY other TWO Questions

Question one (30 Marks)

- a) As a manager at KEMSA, explain the possible motives for doing research in that organization. **(4 marks)**
- b) Scientific methods are usually based on certain basic postulates. List any four. **(4 Marks)**
- c) Outline research procedure cycle one has to follow for a credible study as taught to you in this course. **(4 Marks)**
- d) As a Junior Researcher, explain the quantitative approach and the qualitative approach as used in research. **(3 marks)**
- e) What is research methodology? Explain the importance of research methodologies in any research study. **(3 marks)**
- f) Explain what you understand by experimental computer science and show how it compares with the scientific method of research. **(4 marks)**
- g) Discuss four features that would make your problem of study viable. **(4 marks)**
- h) Examine four qualities of a good research question. **(4 marks)**

Question Two (20 Marks)

- a) Explain why is research ethics important in qualitative research? **(3 marks)**
- b) A good Research will usually satisfy several criteria. Explain any four of these criteria. **(4 marks)**

- c) Mention four types of sample survey designs normally used for collecting data. State the advantages and disadvantages of the design methods you have mentioned. **(8 marks)**
- d) Researchers, particularly those engaged in empirical research, face several problems. Explain any five problems encountered by the researchers. **(5 marks)**

Question Three (20 Marks)

- a) Explain any four qualities of a good research. **(4 marks)**
- b) Explain the difference between purposive and quota sampling. **(4 marks)**
- c) Highlight any four objectives of research. **(4 marks)**
- d) Individual informed consent may be written or oral. Explain the difference. **(4 marks)**
When doing research there should be enough scope to impose the control over the situation. List any four ways by which control can be enhanced. **(4 marks)**

Question Four (20 Marks)

- a) Briefly explain the meaning of Research plan/design. **(4 marks)**
- b) Explain the difference between descriptive vs. Analytical Research. **(4 marks)**
What is Randomization? Briefly explain any four main characteristics of randomization. **(4 marks)**
- c) What are the major advantages of randomization in any research study? **(4 marks)**
- d) explain briefly any two most common qualitative research methods. **(4 marks)**

Question Five (20 Marks)

- a) As a researcher list any four different components of a research design. **(4 marks)**
- b) As a researcher, explain briefly any four characteristics of a good research sample. **(4 marks)**
- c) When undertaking any research study, there are several difficulties which can make poor research design. List any four. **(4 marks)**
- d) What are the advantages of qualitative methods for exploratory research? **(4 marks)**
- e) What do you understand by piloting in research and what are its limitations? **(4 marks)**