

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

THIRD YEAR EXAMINATION FOR THE AWARD OF DEGREE
OF BACHELOR OF SCIENCE IN COMPUTER SCIENCE
AND BACHELOR OF SCIENCE IN APPLIED COMPUTER SCIENCE

COSC 380: RESEARCH METHODS IN COMPUTER SCIENCE
ACSC 381: RESEARCH METHODS IN APPLIED COMPUTER SCIENCE

STREAMS: BSC. COMP. SCI (Y3S1)

TIME: 2 HOURS

DAY/DATE: WEDNESDAY 31/03/2021

2.30 P.M. – 4.30 P.M

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)
- e) 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) A 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)
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