



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**SCHOOL OF INFORMATICS AND INNOVATIVE SYSTEMS**

**UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN  
INFORMATION AND COMMUNICATION TECHNOLOGY**

**3<sup>RD</sup> YEAR 1<sup>ST</sup> SEMESTER 2016/2017 ACADEMIC YEAR**

**MAIN CAMPUS**

---

**COURSE CODE: ICT 3318**

**COURSE TITLE: INDEPENDENT ICT CAPSTONE RESEARCH**

**EXAM VENUE: STREAM: ICT**

**DATE: EXAM SESSION:**

**TIME: 2.00 HOURS**

---

**INSTRUCTIONS:**

- 1. Answer Question 1 (Compulsory) and ANY other two questions**
- 2. Candidates are advised not to write on the question paper**
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room**

**INSTRUCTIONS: Answer question ONE and any other TWO questions**

## QUESTION ONE

- a) Define the following terms (4 Marks)
- i. Research problem
  - ii. Research design
- b) Describe the following documents (4 Marks)
- i. Research proposal
  - ii. Research report
- c) Explain why it is wrong to set out to prove or disapprove a hypothesis. (2 Marks)
- d) The table below shows the distribution of scores for the 2011 class Research method test. Read and understand the table, and then answer the following questions.

Score (x)	Frequency (f)
30	3
40	3
45	2
50	6
60	2
80	3
90	1

- i. Complete the table so that you will be able to do part (ii) through (iv) (4 Marks)
  - ii. Calculate the mean (2 Marks)
  - iii. Calculate the variance (2 Marks)
  - iv. Calculate the standard deviation (2 Marks)
- e) Differentiate between the following types of research
- i. Qualitative Vs quantitative research (2 Marks)
  - ii. Basic Vs Applied research (2 Marks)
- f) Describe the main sections in research proposal (4 Marks)
- g) Define the term data interpretation (2 Marks)

## QUESTION TWO

- a) Describe five attributes of good research (5 Marks)
- b) Discuss five purposes served by research (5 Marks)
- c) Suppose you are having problems identifying a research problem. State and explain four areas where you would look around to get started. (4 Marks)
- d) Discuss six guidelines that you would follow when in order to come up with a legitimate research problem. (6 Marks)

## QUESTION THREE

No research effort is complete without a careful and exhaustive review of the material related to the topic under study. With that fact in mind answer the following questions.

- a) Define the term literature review (2 Marks)
- b) State and explain five reasons why it is important to carry out the literature review. (5 Marks)
- c) Discuss four indicators of an adequate scope of the reviewed materials. (8Marks)
- d) Discuss five sources of literature that you are likely to contact when reviewing your literature. (5 Marks)

## QUESTION FOUR

- a) Define the following terms commonly used in the research design context.(4 Marks)
  - i. Population
  - ii. Sample
- b) Describe the following sampling techniques, stating when each is applicable (4 Marks)
  - i. Random sampling
  - ii. Stratified sampling
  - iii.
- c) Discuss the general criteria for any research design irrespective of the branch of research. (4 Marks)
- d) Describe the various forms of validity of measuring tools (4 Marks)
- e) Describe the various forms of reliability of measuring tools (4 Marks)

## QUESTION FIVE

You have carefully planned and selected the team that you require for your project. You are concerned that team members employed by the organisation may leave before they have completed their work on your project.

a) Outline a strategy that you could put in place to avoid or minimize staff losses.

(10 Marks)

b) Accepting that staff turnover is inevitable, describe steps that you could take to mitigate the adverse effects.

(5 Marks)

c) If a team member needs to be replaced through long-term sickness, what steps could you take to ensure that a new recruit does not adversely affect the good team spirit you have established.

(5 Marks)