

**NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY**  
**FACULTY OF APPLIED SCIENCES**  
**COMPUTER SCIENCE DEPARTMENT**  
**JANUARY EXAMINATIONS 2013**

**COURSE NAME: RESEARCH METHODS**  
**COURSE CODE: SCIS5205.**

**INSTRUCTION TO CANDIDATES**

This paper consists of five questions. Answer any FOUR questions.  
Each question carries 25 marks

**Time: 3 hours**

**QUESTION ONE**

a) Explain the following as used in research:

- i) Research Methodology. [3]
- ii) Research Method. [3]

b) Read the case study below and answer the questions that follow

Research is an exciting and sometimes frustrating process of discovering something completely new and communicating the discovery to others. For a research result to be meaningful, it must be shared for others to apply or build upon. Research involves many aspects: investigating prior work, experimenting, designing inventing, reasoning, collaboration, organisation, writing and speaking. If there is no chance of failure it is not a research. Projects can vary. Researchers should always choose projects that they think they would enjoy and that they have skills and knowledge that allow them to be productive both from an analytical and practical point of view. Through the projects researchers demonstrate the ability to critically review contemporary issues in the area of study as well as utilise these to produce a working software system. A groundbreaking discovery is not discouraged in a research project; it is not a prerequisite. However, it should be noted that the researcher should be in a position to display an acquisition of thorough understanding of fundamentals as well the ability to research and reading beyond his/her finger tips. There is freedom by researchers to choose their area of research and formulate the title of the project in consultation with the proposed supervisors. The subject area and title of the project can also be picked from the many that are proposed by the supervisors and industry. As a matter of advice, the original and challenging work will score higher than simple replication of work that has been done before. Researchers need to take cognisance of plagiarism as it violates the ethical issues in research. Such work is not accepted, we recommend originality in every research project.

- i) Suggest a suitable title for this case study. [1]
- ii) Give two reasons why research is sometimes frustrating? [2]
- iii) Why is groundbreaking discovery not an issue? [2]

- iv) Analyse the aspects that would identify a researcher. [4]
- v) Explain how a researcher arrives at a project title. [4]
- vi) What do you understand by “working software system”? [2]
- vii) What advice would you give to researcher? [2]
- viii) Make a comment about plagiarism in research work. [2]

## **QUESTION TWO**

- a) Evaluate the following data collection techniques:
  - i) Interviews [8]
  - ii) Questionnaires [6]
- b) Why is it important to carry out literature review in the research process? [4]
- c) Discuss the sources of problems in research. [7]

## **QUESTION THREE**

- a) Suggest with justifications the components that would identify a research project proposal. [20]
- b) Distinguish between quantitative methodology and qualitative methodology. [5]

## **QUESTION FOUR**

Discuss the Harvard referencing style taking cognisance of the reference list and citation formats. Use examples in some parts of your discussion. [25]

## **QUESTION FIVE**

Discuss ethical issues in research work related to information systems and suggest ways of handling them. [25]