



**UNIVERSITY EXAMINATIONS**

**EXAMINATION FOR SEPTEMBER/DECEMBER 2023/2024 DIPLOMA IN  
COMPUTER SCIENCE/INFORMATION TECHNOLOGY/BUSINESS INFORMATION  
TECHNOLOGY**

**RCS 025/RCS 023: SYSTEM ANALYSIS AND DESIGN**

**DATE: 18<sup>TH</sup> APRIL 2024**

**TIME: 2 HOURS**

**GENERAL INSTRUCTIONS:**

Students are NOT permitted to write on the examination paper during exam time.

This is a closed book examination. Text book/Reference books/notes are not permitted.

**SPECIAL INSTRUCTIONS:**

This examination paper consists Questions in Section A followed by section B.

Answer Question 1 and any Other Two questions.

QUESTIONS in ALL Sections should be answered in answer booklet(s).

- 1. PLEASE start the answer to EACH question on a NEW PAGE.**
- 2. Keep your phone(s) switched off at the front of the examination room.**
- 3. Keep ALL bags and caps at the front of the examination room and DO NOT refer to ANY unauthorized material before or during the course of the examination.**
- 4. ALWAYS show your working.**
- 5. Marks indicated in parenthesis i.e. ( ) will be awarded for clear and logical answers.**
- 6. Write your REGISTRATION No. clearly on the answer booklet(s).**
- 7. For the Questions, write the number of the question on the answer booklet(s) in the order you answered them.**
- 8. DO NOT use your PHONE as a CALCULATOR.**
- 9. YOU are ONLY ALLOWED to leave the exam room 30minutes to the end of the Exam.**
- 10. DO NOT write on the QUESTION PAPER. Use the back of your BOOKLET for any calculations or rough work.**

### **QUESTION ONE (30Marks-COMPULSORY)**

- a) Discuss **FIVE** key components of Information System. **(5 marks)**
- b) Feasibility study is the second stages of SDLC and is key in understanding the existing information system with the aim of proposing a more advanced and efficient system. Discuss **FIVE** types of feasibility study. **(5 marks)**
- c) A system analyst requires special skills to analyze, design and manage an information system effectively. Explain **THREE** main categories of skills that a system analyst is expected to have. **(6 marks)**
- d) Information system development requires a very smart system analyst, it however remains a very challenging task even for a good system analyst. State and explain **TWO** technical and **TWO** human problems encountered by a system analyst. **(4 marks)**

### **QUESTION TWO**

- a) Giving at least **TWO** advantages and disadvantages, discuss Questionnaires as a fact finding technique used during system investigations; **(6 marks)**
- b) System Investigation is one of the most interesting and core parts of System Analysis and Design. The choice of method is likely to determine the quality of data to be gathered, explain **THREE** different scenarios where interviews would be the most ideal method to use during data collection. **(6 marks)**
- c) System implementation is a very vital stage in SDLC, confirmation about functionality of the system takes place at this stage. Briefly describe this stage and explain **SEVEN** activities undertaken at this stage. **(8 marks)**

### **QUESTION THREE**

- a) JAD is a process designed for developing computer based systems. Discuss the key components of JAD and clearly state its benefits. **(10 marks)**
- b) During system implementation in SDLC, testing is done to ensure all errors are captured and rectified hence preventing future malfunctioning of the system. Discuss **FIVE** types of system testing. **(10 marks)**

#### QUESTION FOUR

- a) Define the following terms as used in SAD; **(5 marks)**
- i. system objective
  - ii. Process and transformation
  - iii. Inputs and outputs
  - iv. Subsystems
  - v. Control
- b) Structured methodology is a method discovered in 1970's to assist system analysts and developers in addressing problems of traditional approaches that had failed. Discuss structured methodology and give **THREE** merits and demerits of this approach. **(9 marks)**
- c) Discuss the components and activities that take place at the analysis stage of SDLC. **(6 marks)**

#### QUESTION FIVE

- a) Briefly discuss the concept of system theory. **(2 marks)**
- b) A stakeholder is a person who stands to be affected or to benefit either directly or indirectly from a given venture. Explain **SIX** possible stakeholders of a payroll system stating their understanding or expectation of the system. **(6 marks)**
- c) During the process of system development, system failure can be anticipated since there is no full guarantee of success for the anticipated information system. State and explain **EIGHT** possible reasons why systems fail. **(8 marks)**
- d) State **FOUR** important reasons for system documentation **(4 marks)**