



**NAMIBIA UNIVERSITY  
OF SCIENCE AND TECHNOLOGY**

**FACULTY OF COMPUTING AND INFORMATICS**

**DEPARTMENT OF INFORMATICS**

<b>QUALIFICATIONS:</b> Bachelor of Informatics	
<b>QUALIFICATION CODE:</b> 07BAIF	<b>LEVEL:</b> 6
<b>COURSE CODE:</b> SAD621S	<b>COURSE:</b> Systems Analysis and Design
<b>DATE:</b> November 2024	<b>SESSION:</b> 1
<b>DURATION:</b> 2 Hours	<b>MARKS:</b> 80

<b>FIRST OPPORTUNITY EXAMINATION QUESTION PAPER</b>	
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<b>MODERATOR(S):</b>	Prof Samuel Akinsola

**THIS EXAMINATION PAPER CONSISTS OF 4 PAGES  
(INCLUDING THIS FRONT PAGE)**

**INSTRUCTIONS FOR THE STUDENT**

1. Answer ALL QUESTIONS.
2. When writing, take into account: The style should inform than impress, it should be formal, in third person, paragraphs set out according to ideas or issues, and the paragraphs flowing in a logical order.
3. Information should be brief and accurate.
4. Please ensure that your writing is legible, neat and presentable

**Section A: Definition of terms**

**[10 Marks]**

- |                             |           |
|-----------------------------|-----------|
| 1) System                   | [2 Marks] |
| 2) Requirements elicitation | [2 Marks] |
| 3) Architectural design     | [2 Marks] |
| 4) Low-fidelity prototype   | [2 Marks] |
| 5) System maintenance       | [2 Marks] |

**Section B: Multiple choice**

**[10 Marks]**

- |  |           |
|--|-----------|
| 1. Which of the following best describes an information system?            | [2 Marks] |
| A) A system that collects and processes raw data                           |           |
| B) A combination of hardware, software, data, people, and procedures       |           |
| C) A database management tool  |           |
| D) A type of software application for businesses                           |           |
| 2. In which phase of the SDLC is the system's architecture developed?      | [2 Marks] |
| A) Planning Phase  |           |
| B) Analysis Phase  |           |
| C) Design Phase  |           |
| D) Maintenance Phase   |           |
| 3. Which technique is commonly used for gathering requirements?            | [2 Marks] |
| A) Code review   |           |
| B) Brainstorming sessions  |           |
| C) Network analysis  |           |
| D) Unit testing  |           |
| 4. Which design aspect focuses on how users will interact with the system? | [2 Marks] |
| A) Architectural design  |           |
| B) Data design   |           |
| C) User interface design   |           |
| D) Network design  |           |

5. What is a primary advantage of prototyping? [2 Marks]

- A) It eliminates the need for testing
- B) It allows for early user feedback
- C) It guarantees project completion on time
- D) It simplifies coding

**Section C: Structured questions**

**[34 Marks]**

1) Information systems come in various types and serve different purposes. What are the seven types of information systems used in business? [14 Marks]

2) Systems analysis and design can be complex, however using various modelling tool like context diagrams can ease the understanding of how an information system operates. What is the relationship between systems requirements and context diagrams?

[8 Marks]

3) Once an information system has been developed, there is a need to test. Describe three main types of testing and the order in which they are performed. s[9 Marks]

4) When dealing with information systems, there are instances where an information system no longer supports the user needs or has it has become outmoded. Provide three indicators that an information system needs to be retired. [3 Marks]

**Section D: Case study and knowledge application****[26 Marks]**

You were hired by Kashivi Motors as a consultant to design a new information system. Kashivi is an old-line dealership, and the previous owner was slow to change. A new management team has taken over, and they are eager to develop a first-class system. Right now, you are requested to analyse the service department, which is going through a major expansion. You have decided to design a model of the service department in the form of a use case diagram. The main actors in the service operation are customers, employees whose jobs responsibility are to prepare work orders and invoices, and mechanics who are responsible for the repair or maintenance work. You are meeting with the management team tomorrow morning. Perform the following tasks for your presentation to the management.

- 1) Design a draft of the diagram to present to them? [13 Marks]
- 2) Design the context diagram for this system to provide an overview of how the system will operate. [13 Marks]