AFRICA UNIVERSITY

(A United Methodist-Related Institution)

"Investing in Africa's Future"

COLLEGE OF ENGINEERING AND APPLIED SCIENCE

NCIS 401: SYSTEMS ANALYSIS AND DESIGN& IMPLEMENTATION

END OF FIRST SEMESTER EXAMINATION NOVEMBER 2024

LECTURER: MR J. CHINZVENDE

DURATION: 3 HOURS

INSTRUCTIONS

Answer questions instructed in each section

Start **each** question on a new page.

The marks allocated to **each** question are shown at the end of the section.

Answer all questions in Section A and Chose THREE in section B

Credit will be awarded for logical, systematic and neat presentations.

Section A

Answer all questions from tis Section

Question One

Define the following terms as they are used in Software engineering

a. Reliability,
b. Availability
c. Maintainability,
d. Class diagram
e. Systems Analyst **[10]**

Question Two

Expand the following abbreviations as they are used in Systems development?

a. 1NF
b. UML
c. SAD
d. OOP
e. VPN **[10]**

Question Three

Explain the role of the systems analyst and the skills and competencies required for this role. **[10]**

Question Four

Explain the purpose and importance of systems modeling in the system development process. **[10]**

SECTION B

Answer any three questions from this Section

Question Five

Define systems analysis and design. Explain the key objectives and activities involved in the systems analysis and design process. **[20]**

Question Six

Discuss the Waterfall model and the 'Rapid Application Development' (RAD) Suggest how the limitations of the Waterfall model can be addressed **[20]**

Question Seven

You are tasked with implementing a new e-commerce website that allows users to browse products, add items to their cart, and complete purchases. Describe the steps you would take to ensure a successful implementation, including setting up the development environment, integrating payment gateways, and testing the website's functionality. **[20]**

Question Eight

A healthcare organization wants to implement an electronic medical records system. Outline the steps you would take to model the system using data flow diagrams (DFDs) and entity-relationship (ER) diagrams **[20]**

END OF EXAMINATION