AFRICA UNIVERSITY

(A United Methodist-Related Institution)

"Investing in Africa's Future"

COLLEGE OF ENGINEERING AND APPLIED SCIENCE

NCSE 206: REQUIREMENTS ENGINEERING

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 any THREE in section B

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

Section A [Answer all]

Answer all questions in this Section

Question One
Define the following terms as they are used in Requirements Engineering

a. System   [02]
b. Stakeholder   [02]
c. Mutable requirements   [02]
d. Enduring requirements   [02]
e. Compatibility requirements   [02]

Question Two
What are the Strategies for Effective Stakeholder Engagement during requirements
gathering?   [10]

Question Three
Explain the role of requirements prioritization in the analysis process. What are some
common prioritization techniques, and how do they help in managing requirements?[10]

Question Four
Explain the concept of a "requirements traceability matrix" and its role in ensuring that
all requirements are addressed throughout the software development lifecycle.   [10]

SECTION B

Answer any three questions from this Section
Question Five
You have been asked to work on the software design for a ride-sharing mobile phone app,
which matches people who require transport with drivers in the local area who have spare
seats in their vehicles. Identify the Entities and the attributes of this app   [20]

Question Six

A software development team is working on a project that requires collaboration among
team members who are located in different geographic locations. The team is facing
challenges in communication and coordination. Propose software engineering tools and
practices that can facilitate effective collaboration and improve communication among
the team members.   **[20]**

Question Seven

You are working as a requirements engineer for a software development company tasked with building a new online booking system for a hotel chain. The hotel chain has recently expanded its operations to multiple locations and wants to streamline its reservation process.

a. Identify the key stakeholders you would need to engage with during the requirements elicitation phase, and explain the importance of each stakeholder group.

b. Propose a requirements elicitation plan that incorporates at least three different techniques to gather both functional and non-functional requirements for the online booking system.

c. Imagine that during the requirements gathering process, you identify conflicting requirements between the hotel management and the customer service team. Describe the steps you would take to facilitate a requirements negotiation session and reach a resolution. **[20]**

Question Eight

"Imagine you are the requirements engineer for a new e-commerce platform to sell car parts. Discuss the key activities and deliverables you would expect to produce during the requirements engineering process, and explain how they would contribute to the overall success of the project."

[20]

End of Paper