UGANDA INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY
PROGRESSIVE ASSESSMENT EXAMINATIONS
ACADEMIC YEAR 2025/2026

PROGRAMME(S): DIPLOMA IN SOFTWARE ENGINEERING (DSWE)

YEAR OF STUDY: ONE SEMESTER TWO

COURSE: REQUIREMENTS ENGINEERING

COURSE CODE : SWE1202

DATE: SATURDAY 27TH, JUNE 2026

TIME: 9:00 AM – 12:00 PM

DURATION: 3 HOURS

VENUE: RM 2.8, RM 2.9

Instructions

1. Answer ALL questions in Section A plus any THREE questions in Section B.
2. Section A carries 40 Marks and Section B carries 60 Marks.

SECTION A: MULTIPLE CHOICE QUESTIONS (40 MARKS)

Answer ALL questions. Each question carries 2 marks.

1. Requirements Engineering is primarily concerned with:

A. Writing source code

B. Testing software

C. Identifying and managing system requirements

D. Installing software

2. Which of the following is NOT a functional requirement?

A. Generate reports

B. Process payments

C. System response time must be less than 3 seconds

D. Register users

3. A feasibility study is conducted to:

A. Design databases

B. Determine whether a project should proceed

C. Write program code

D. Create user manuals

4.Which feasibility assesses whether the technology needed is available?

A. Economic

B. Operational

C. Technical

D. Legal

5. An interview is an example of:

A. Requirements elicitation

B. Coding

C. Testing

D. Deployment

6. Which stakeholder directly uses the system?

A. End user

B. Auditor

C. Supplier

D. Regulator

7. A Software Requirements Specification (SRS) document contains:

A. Source code

B. Approved requirements

C. Database backups

D. Test scripts

8. Which UML diagram shows interactions between actors and a system?

A. Sequence Diagram

B. Class Diagram

C. Use Case Diagram

D. Activity Diagram

9. A non-functional requirement describes:

A. What the system does

B. Quality attributes of the system

C. Program code

D. Database tables

10. Which elicitation technique gathers information from many stakeholders simultaneously?

A. Interview

B. Observation

C. Workshop

D. Prototyping

11. Requirements validation helps ensure that requirements are:

A. Cheap

B. Correct and complete

C. Compiled

D. Installed

12. Scope creep refers to:

A. Unauthorized expansion of project requirements

B. Software testing

C. Data migration

D. User training

13. Which requirement specifies that data must be encrypted?

A. Functional

B. Business

C. Security

D. User

14. Which diagram best represents workflow processes?

A. Use Case Diagram

B. Activity Diagram

C. Class Diagram

D. Component Diagram

15. Stakeholders are individuals who:

A. Write all program code

B. Are affected by the system

C. Test databases only

D. Install operating systems

16. Requirements traceability is used to:

A. Track requirements throughout the project lifecycle

B. Improve coding speed

C. Design interfaces

D. Train users

17. A prototype is mainly used to:

A. Deploy software

B. Gather feedback and clarify requirements

C. Conduct maintenance

D. Configure networks

18. Which document formally defines the system requirements?

A. Test Plan

B. User Manual

C. SRS

D. Maintenance Plan

19. Conflicting requirements should be resolved through:

A. Ignoring stakeholders

B. Negotiation and prioritization

C. Coding immediately

D. Deleting requirements

20. The purpose of requirements management is to:

A. Control and manage changes to requirements

B. Design interfaces

C. Write code

D. Create databases

SECTION B (60 MARKS)

Answer ANY **THREE** questions. Each question carries 20 marks.

QUESTION 1 (20 MARKS)

A large public hospital in Uganda plans to replace its paper-based patient record system with a computerized Hospital Information System. The system should allow doctors to retrieve patient records, record consultation notes, generate prescriptions, and share reports with the Ministry of Health.

(a) Identify FIVE key stakeholders and explain their interest in the system. (5 Marks)

(b) Describe FOUR requirements elicitation techniques you would use and justify each. (8 Marks)

(c) Differentiate between functional and non-functional requirements using examples from the scenario. (4 Marks)

(d) State THREE benefits of producing a Software Requirements Specification (SRS) document. (3 Marks)

QUESTION 2 (20 MARKS)

An airline company intends to develop an Online Flight Reservation System. The system should allow passengers to search flights, book seats, make payments, and receive electronic tickets.

Management requires the system to be operational within six months.

(a) Conduct a feasibility study by discussing:

- Technical feasibility
- Economic feasibility
- Operational feasibility
- Schedule feasibility

(8 Marks)

(b) Explain why a feasibility study should be conducted before requirements specification. (4 Marks)

(c) Identify TWO risks that may occur if feasibility analysis is ignored. (4 Marks)

(d) Recommend TWO non-functional requirements for the system and justify them.(4 Marks)

QUESTION 3 (20 MARKS)

A Savings and Credit Cooperative Organization (SACCO) wants to implement a Mobile Money Integration System. Members should be able to deposit money, withdraw money, repay loans, and receive SMS notifications.

Some stakeholders do not trust automated systems, and requirements are not clearly documented.

(a) Explain how you would conduct requirements elicitation for this project. (6 Marks)

(b) Identify FOUR types of requirements relevant to this system with examples. (8 Marks)

(c) Identify TWO possible requirement conflicts and explain how you would resolve them. (4 Marks)

(d) Explain why requirements validation is important in this project. (2 Marks)

QUESTION 4 (20 MARKS)

A university plans to develop a Student Registration and Results Management System. Students should register courses online, lecturers should upload marks, and administrators should generate transcripts.

(a) Develop a brief list of functional requirements for the system. (5 Marks)

(b) Develop a brief list of non-functional requirements for the system. (5 Marks)

(c) Explain how you would model the requirements using:

- Use Case Diagram
- Activity Diagram
- Class Diagram

(6 Marks)

(d) Explain the importance of requirements traceability in this project. (4 Marks)

QUESTION 5 (20 MARKS).

A city council intends to implement a Smart Parking Management System that allows drivers to locate parking spaces, reserve parking slots, make digital payments, and receive parking notifications through a mobile application.

The project involves multiple stakeholders including drivers, parking attendants, system administrators, banks, and city authorities.

(a) Identify and classify the stakeholders as primary or secondary stakeholders. (5 Marks)

(b) Explain how requirements analysis would be performed for this project. (5 Marks)

(c) Discuss FOUR characteristics of a good requirement and illustrate each using the scenario. (6 Marks)

(d) Explain how requirements management would help during system development. (4 Marks)

END