"Investing in Africa's Future"

COLLEGE OF ENGINEERING AND APPLIED SCIENCES (CEAS)

NCSE 303: SOFTWARE PROJECT MANAGEMENT

END OF FIRST SEMESTER EXAMINATIONS

NOVEMBER 2025

LECTURER: MS ELIZABETH MAFU

TIME: 3 HOURS

INSTRUCTIONS

1. Answer **ALL questions in Section A (MCQs)**.

2. Answer **THREE questions from Section B**.

3. Answer **TWO questions from Section C**.

4. Answer **ONE case study question from Section D**.

5. All questions carry equal weight unless otherwise stated.

6. Where applicable, illustrate your answers with diagrams, examples, or case references.

Section A: Multiple Choice Questions (10 Marks)

(Answer ALL – each question carries 2 marks)

1. Which of the following is **not** a phase of the Software Project Lifecycle?
   a) Initiation
   b) Execution
   c) Auditing
   d) Closure
2. In COCOMO II, the effort required for a project depends primarily on:
   a) Lines of Code (LOC)
   b) Project Team Size
   c) Budget Constraints
   d) Testing Methodology
3. Which Agile framework uses sprints, product backlog, and daily stand-ups?
   a) Kanban
   b) Scrum
   c) Extreme Programming (XP)
   d) Waterfall
4. A **risk register** is used to:
   a) Record software bugs
   b) Document project requirements
   c) Track identified risks and mitigation plans
   d) Manage source code versions
5. Earned Value Management (EVM) combines:
   a) Scope and Risk
   b) Scope, Schedule, and Cost
   c) Cost and Quality
   d) Time and Communication

Section B: Short Answer Questions (30 Marks)

(Answer ANY THREE questions – each carries 10 marks)

1. Explain the difference between **project scope management** and **project schedule management** in Software Project Management (SPM). Provide examples.
2. Describe three key challenges faced by a **software project manager** when leading a distributed team.
3. What is the purpose of a **feasibility study**? Discuss the three main types of feasibility.
4. Outline the role of a **communication plan** in ensuring project success.

Section C: Long Answer Questions (30 Marks)

(Answer ANY TWO questions – each carries 15 marks)

1. Discuss the differences between **Agile Project Management** and **Waterfall Project Management**. Which contexts are most suitable for each? Provide examples.
2. Project estimation is a major challenge in SPM. Compare and contrast **COCOMO II** and **Function Point Analysis**.

3. Explain how **risk management** is conducted in software projects. Using an example, show how risks are identified, prioritized, and mitigated.
4. "A software project manager needs both technical and leadership skills." Discuss this statement with examples.

Section D: Case Study (30 Marks)

(Choose ANY ONE Case study)

Case Study 1: Nigeria's National Identity Management System (NIMS)

In 2007, Nigeria launched NIMS to create a unified national ID. Despite huge investment, the project suffered from delays, poor infrastructure, and weak stakeholder coordination. As a software project manager brought in mid-project, explain:

- The **three main reasons for failure**.
- Steps you would take to **recover the project**.
- Lessons other African governments can learn for future ICT projects.

Case Study 2: Kenya's M-Pesa Project

M-Pesa revolutionized financial transactions in Kenya despite initial scepticism from banks and regulators. As a project manager, identify:

- The key factors that contributed to M-Pesa's success.
- How risk was managed during scaling.
- What lessons software project managers in Africa can apply from this project.

END OF EXAMINATION