**COPERATIVE UNIVERSITY OF KENYA**

Institute of Computing and Informatics

Department of Computer Science & Information technology

**UNIVERSITY EXAMINATION FOR:**

bCS /BDAT 2.2

BCIT 2214: SOFTWARE ENGINEERING

END OF SEMESTER EXAMINATION PAPER II

**SERIES: APRIL 2025**

**TIME:**2HOURS

**DATE:**Pick DateNov2022

**Instructions to Candidates**

You should have the following for this examination

*-Answer Booklet, examination pass and student ID*

This paper consists of five questions. Attemptquestion ONE (Compulsory) and any other TWO questions.

**Do not write on the question paper.**

# QUESTION ONE [30 Marks]

1. **Describe two reasons why stakeholder engagement is crucial throughout the software project lifecycle. [4 marks]**
2. Explain why modularity is important in software engineering. [4 Marks].
3. Imagine you are tasked with developing a testing plan for a new mobile app. List the types of testing you would include and briefly describe their purpose. [8 Marks].
4. Describe a situation where reusability would benefit a software development project. [4 Marks]
5. **Compare the handling of customer feedback in Agile and Waterfall methodologies. [5 Marks]**
6. Evaluate the importance of aligning software requirements with business goals in the SDLC. [5 Marks]

# QUESTION 2[20 Marks]

1. **Explain the** role of version control in a collaborative software development environment [5 Marks].
2. **Describe the suitability of Agile for a large-scale project with multiple teams. [5 Marks]**
3. Describe a scenario where requirements engineering could prevent software project failure [5 Marks]
4. Compare modularity and separation of concerns showing how they contribute to maintainability [5 Marks]

# QUESTION 3[20 Marks]

1. Define Software requirements, and state how are they important in the SDLC. [4 Marks]
2. **Describe the importance** Requirement Gathering and Analysis phase in the SDLC. [6 Marks]
3. **Explain how** software requirements can inform the System Design phase. [6 Marks]

### Analyze the impact of ambiguous requirements on the Testing phase of the SDLC. [4 Marks]

# Question 4[20 Marks]

1. **Describe** the impact of poor coding standards on software quality and team productivity. [5 Marks]
2. Design a strategy for integrating CASE tools into a software development project to improve its efficiency.

[6 Marks]

1. Explain the significance of Risk Assessment and Management in software engineering. [4 Marks]
2. Evaluate the importance of using version control tools in the software development lifecycle. [5 Marks].

# Question 5[20 Marks]

* 1. Explain the importance of abstraction in managing software complexity. [5 Marks]
  2. Analyze the benefits of modularization in the context of software re-engineering. [5 Marks]
  3. **Assume you are managing a mobile app development project. Develop a brief project timeline using five key tasks, specifying start and end dates, durations, assigned team members, and dependencies. Present your answer in a tabular format. [10 Mark]**