



COLLEGE OF ENGINEERING AND APPLIED SCIENCES(CEAS)

NCIS 212 SOFTWARE ENGINEERING

END OF SECOND SEMESTER EXAMINATION

APRIL 2025

LECTURER: MR J. CHINZVENDE

TIME: 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 two in section B

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

Section A

Answer ***all*** questions in this section

Question One

Define the following terms as they apply to good quality Software

- a. Security
- b. Usability
- c. Flexibility
- d. Compatibility
- e. Maintainability

[10]

Question Two

Complete the following table on comparison on Software development Models using the following verbs: **Low, Slow, Limited, moderate, continuous, High, Fast.**

Model	Flexibility	Risk Management	Stakeholder involvement	Delivery Speed
Waterfall				
Agile				
Spiral				
V-Model				
RAD				

[10]

Question Three

Discuss how applying the SOLID principles can lead to better software design. Provide examples to support your argument.

[10]

Question Four

Who are stakeholders in Software development and why are they important?

[10]

SECTION

Answer any two (2) questions from this Section

Question Five

You are part of a team tasked with developing a simple task management application.

- a. Describe the steps you would take to gather requirements from stakeholders.
- b. Explain how you would engage users throughout the prototyping process.
- c. What tools or techniques would you use to ensure all requirements are captured effectively? **[25]**

Question Six

You are working on the evolutionary prototyping model of a software development

- a. Describe this evolutionary prototyping model of a software development
- b. Describe your approach to iterative testing within the evolutionary prototyping model.
- c. State the type of development project to which this is most suited. **[25]**

Question Seven

Midway through the implementation phase of the Waterfall model, a critical stakeholder requests a major change to the booking system that would affect multiple components.

- a. Describe each of the five stages of the Waterfall model of software development processes.
- b. Discuss how the Waterfall model handles the change in requirements.
- c. Give TWO examples of projects, which would suit the Waterfall model of software development and justify. **[25]**

End of paper