



NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY
FACULTY OF SCIENCE AND TECHNOLOGY EDUCATION
DEPARTMENT OF SCIENCE, MATHEMATICS AND TECHNOLOGY
EDUCATION

PST2179 SOFTWARE ENGINEERING

Special Examination Paper

First Semester

August 2024

This examination paper consists of three printed pages

Time Allowed: 3 hours

Total Marks: 100

Special Requirements: None

Examiner's Name: Mr D. Mkwanzani

External Examiner: Dr Moyo

INSTRUCTIONS

1. This paper consists of two Sections (Section A and Section B). Answer the question in Section A, and any three questions in section B.
2. Calculators can be used where possible

MARK ALLOCATION

QUESTION	MARKS
1.	40
2.	20
3.	20
4.	20
5.	20
TOTAL	100

Section A (40 Marks): Answer this question

QUESTION ONE

- a) Define the following terms:
 - i. Software [2]
 - ii. Software failure [2]
 - iii. Stress Testing [2]
- b) State any three reasons for software design in education [3]
- c) Explain the following terms as used in software engineering:
 - i. reliability [2]
 - ii. maintainability [2]
 - iii. usability [2]
 - iv. simplicity [2]
- d) Explain the following terms:
 - i. Tress Testing [2]
 - ii. Black Box testing [2]
 - iii. Software failure [2]
 - iv. White Box Testing [2]
- e) Illustrate the Software Design Life Cycle (SDLC) [4]
- f) Explain the role of software engineering in education [5]
- g) Differentiate between software engineering and programming [6]

Section B (60 Marks): Answer any three (3) questions in this section. Each question carries 20 marks

QUESTION TWO

- a) Sketch a clearly labeled illustration to show the Waterfall Model [5]
- b) Discuss any three factors that affect software quality [15]

QUESTION THREE

- a) Compare and contrast the RAD and the spiral models of software design [10]
- b) Software design is critical for classroom practitioners. Discuss [10]

QUESTION FOUR

Discuss the following software engineering terms:

- a) Software size [4]
- b) Software function [4]
- c) Software scope [4]
- d) Software baseline [4]
- e) Software management [4]

QUESTION FIVE

Discuss, giving relevant examples, the influence of Software Engineering on the education system in Zimbabwe. [25]

End of paper