



**ZIMBABWE SCHOOL EXAMINATIONS COUNCIL**  
General Certificate of Education Advanced Level

**SOFTWARE ENGINEERING**  
**PAPER 1**

**6044/1**

**SPECIMEN PAPER**

3 hours

Additional materials:  
Answer paper

**TIME** 3 hours

**INSTRUCTIONS TO CANDIDATES**

Write your name, Centre number and candidate number in the spaces provided on the answer paper/answer booklet.

Answer **all** questions.

Write your answers on the separate answer paper provided.

If you use more than one sheet of paper, fasten the sheets together.

**INFORMATION FOR CANDIDATES**

The number of marks is given in brackets [ ] at the end of each question or part question.

You are reminded of the need for good English and clear presentation in your answers.

---

**This question paper consists of 3 printed pages and 1 blank page.**

Copyright: Zimbabwe School Examinations Council, Specimen Paper.

©ZIMSEC SPECIMEN PAPER

**[Turn over**

Answer **all** questions

- 1 Software Engineering has become one of the popular fields in this country.
  - (a) Define the term *software engineering*. [2]
  - (b) Identify any **three** challenges faced by software engineers. [3]
  - (c) Briefly explain the difference between *software engineering* and *computer science*. [2]
- 2
  - (a) Explain the following types of prototyping.
    - (i) Throw away, [4]
    - (ii) Evolutionary. [4]
  - (b) State any **two** advantages of prototyping. [2]
  - (c) Criticise the use of Rapid Application Development Model (RAD) in software design. [3]
- 3
  - (a) The following deliverables are produced from a project plan:
    - (i) quality plan,
    - (ii) validation plan,
    - (iii) configuration management plan,
    - (iv) maintenance plan,
    - (v) staff development plan.

Briefly explain each of the above deliverables. [5]
  - (b)
    - (i) Explain the meaning of the term *project scheduling*. [1]
    - (ii) Discuss any **two** tools used for project scheduling. [4]
  - (c) Describe the purpose of any **five** sections found in a software project plan. [5]
- 4
  - (a) Differentiate between *function oriented design* and *object oriented design*. [4]
  - (b) Explain **four** important attributes that all professional software designers should have. [4]

- 5 Describe the following:
- (a) Control modelling, [2]
  - (b) Modular decomposition, [2]
  - (c) Layered architecture. [3]
- 6 Risk management is concerned with identifying risk and drawing up plans to minimise their effect on a project.
- (a) Outline the risk management process. [6]
  - (b) Suggest any **four** ethical practices in software engineering. [4]
- 7 For quality assurance of any software ISO 9000 standards are used. List the steps of ISO 9000 registration process in their correct order. [5]
- 8
- (a) Distinguish between *Quality Control* and *Quality Assurance* in software testing. [4]
  - (b) Briefly describe the testing levels which a software goes through. [6]
- 9
- (a) Discuss how software products of an organisation can be used by the marketing team. [8]
  - (b) Describe **two** duties carried out by software engineering professionals. [2]
- 10 Show how the following numbers can be sorted in ascending order using quick sort technique.
- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 5 | 2 | 6 | 1 | 3 | 4 |
|---|---|---|---|---|---|
- [10]
- 11 Suggest **five** regular tasks that can be performed on web-based application to safeguard data. [5]

**BLANK PAGE**