For Performance Measurement

ZIMBABWE SCHOOL EXAMINATIONS COUNCIL

General Certificate of Education Advanced Level

SOFTWARE ENGINEERING 6044/1

PAPER 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.

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[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]

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