ZIMBABWE SCHOOL EXAMINATIONS COUNCIL

General Certificate of Education Advanced Level

COMPUTING 9195/2

PAPER 2

SPECIMEN 3 hours

Additional materials:
Answer paper

TIME: 3 hours

INSTRUCTIONS TO CANDIDATES

Write your name, centre number and candidate number on the answer paper/answer booklet provided.

Answer **all** questions in Section A and any **two** questions in section B.

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 4 printed pages.

[Turn over

Section A (50 marks)

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

Question 1

Explain **any** four components of a Visual Basic Project. [8]

Question 2

(a) What is a variable? [1]
(b) List four rules used in naming variables? [4]
(c) Which three primary steps are involved in building a Visual Basic Project? [3]

Use scenario 1 to answer question **3** and **4**

Scenario 1

The RK University's Mathematics department is looking for a way to automate the determination of roots of a quadratic equation. The equation is of the form
$ax^2 + bx + c = 0$ where 'a' 'b' and 'c' are arbitrary constants. The solution to the equation is given by

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Question 3

From scenario 1, design a visual Basic form that captures the values of the arbitrary constants using text boxes and displays the solution on a picture box. For the text boxes and picture box assign the names. [10]

Question 4

Write a visual Basic Code that will find the roots of the equation given in scenario 1 and display the result on a picture box on the form created in number (3). The names of the controls named in number (3) are to be used in the code. [12]

Question 5

The following code is supposed to compute the volume of a cylinder. Check the code for errors. Identify four errors, correct them and document your solution. Also provide a form that will work with your solution taking note of the fact that the names of your controls on the form should match the names used in your code.

```
Private sub ok- Click ( )
Oim r,h,v, AS Boolean

r = vl (radius txt)
h = vl (hghl txl)
p^i = 22/7
V = p^1 * (r^2) * h
volume e.Text − str(V)
End sub
```

[12]

Section B (50 Marks)

*Answer any **two** questions only in this section*

Question 6

(a) Explain four main fact finding techniques used in systems analysis. [8]

(b) Carry out an analysis of four school library and identify its major processes as well as data storage. Come up with a context level Data flow diagram (DFD) of the system and identify the scope and boundary of the system. [17]

Question 7

(a) Explain four major database models. [12]

(b) Write a type declaration for an employee record that contains Name, Date of birth (Day, month, and year), Employee Code Number and Age. [13]

Question 8

(a) Explain how you would obtain an in-order, post-order and pre-order given a tree. [10]

(b) Given the following tree, construct a binary tree

14, 25, 31, 45, 19, 4, 16, 2, 8, 26 [5]

(c) Convert 7395 to binary, showing all the necessary steps. [5]

(d) Evaluate $\sqrt[101]{1100001}$

Showing all the necessary steps. [5]