ZIMBABWE SCHOOL EXAMINATIONS COUNCIL

General Certificate of Education Advanced Level

COMPUTING 9195/2

PAPER 2

NOVEMBER 2012 SESSION 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 5 printed pages and 3 blank pages.

1 **(a)** Explain why *System Implementation* is a process. [2]

(b) Describe each of the following system implementation approaches:

(i) phased implementation [2]

(ii) pilot implementation [2]

(iii) parallel implementation [2]

(iv) direct implementation [2]

2 **(a)** Identify and explain **two** differences between a WAN and a LAN. [2]

(b) With the aid of diagrams, distinguish between a star network and a bus network. [6]

(c) **(i)** Explain, giving an example, *protocol*. [2]

(ii) Explain why protocols are essential in data transmission. [2]

3 **(a)** Define the term *Systems Software*. [2]

(b) Give a description of each of the following:

(i) Operating System

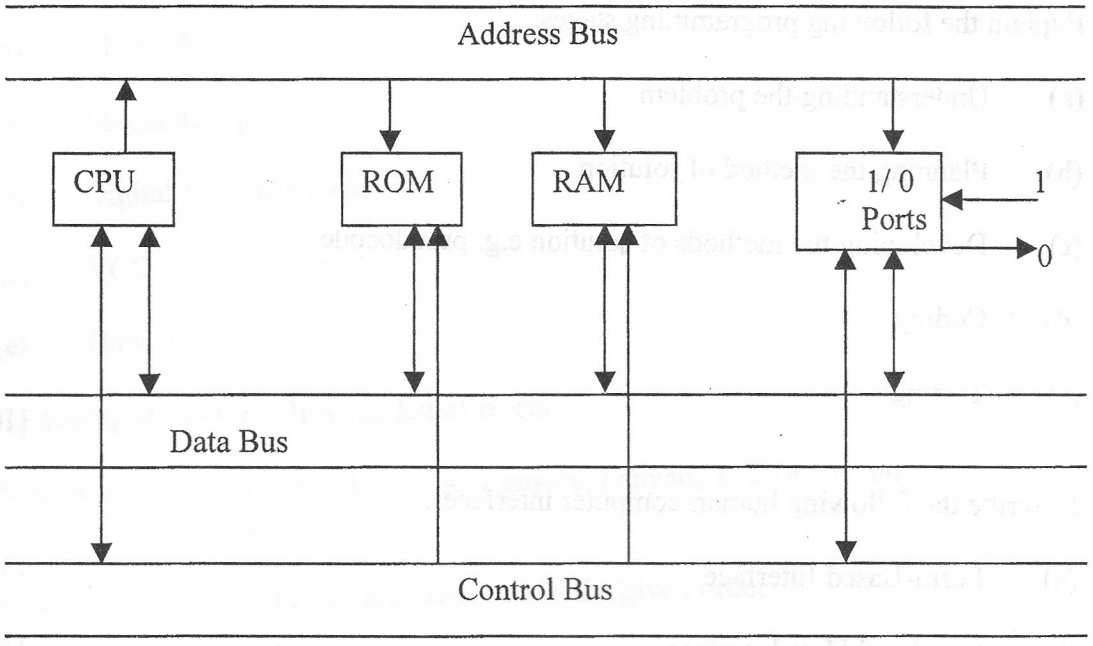
(ii) Network Management programs

(iii) Database Management System

(iv) System utility programs

[8]

4 The following diagram shows the architecture of a basic microcomputer.



Use the diagram to explain how the microcomputer works by making reference to the following components.

(a) ROM

(b) RAM

(c) CPU

(d) Address Bus

(e) Control Bus

[10]

5 Describe the following terms as applied to relational database:

(a) Foreign Key [2]

(b) Secondary Key [1]

(c) Primary Key [1]

(d) Tuple [1]

(e) Record [1]

6 Explain the following programming stages:

(a) Understanding the problem

(b) Planning the method of solution

(c) Developing the methods of solution e.g. pseudocode

(d) Coding

(e) Testing

[10]

7 Describe the following human-computer interfaces.

(a) Form-Based Interface [3]

(b) Graphical User Interface [3]

8 Excessive exposure to VDU radiations has health implications for users.

(i) State and explain any two health hazards associated with over exposure to this radiation. [4]

(ii) Suggest a solution for each health hazard stated in **(i)**. [2]

9 **(a)** Explain the following types of machine instructions.

(i) Input-Output

(ii) Arithmetic

(iii) Branch

(iv) Logic

(v) Data handling

[5]

(b) Despite their inefficiency, interpreters are more popular than compilers.

Give the reasons for this popularity. [5]

10 Give a description of the operation of each of the following storage devices:

(a) CD-ROM

(b) Magnetic tape

(c) Digital Versatile Disk

(d) VCD

(e) Hard disk [10]

11 An ecologist has the following list of rivers:

Mutirikwi, Zambezi, Save, Limpopo, Pungwe, Sanyati, Tokwe, Gwaai, Mukuvisi, Manyame

It is required that the names are presented in the given order.

(a) Draw a binary tree for the order. [4]

(b) Describe how river Tokwane would be inserted into this tree. [6]