Candidate Name	Centre Number	Candidate Number

ZIMBABWE SCHOOL EXAMINATIONS COUNCIL

General Certificate of Education Ordinary Level

COMPUTER SCIENCE 4021/2

PAPER 2 Structured

NOVEMBER 2020 SESSION 2 hours 30 minutes

Candidates answer on the question paper

No additional materials are required.
Calculators must not be used in the examination.

Allow candidates 5 minutes to count pages before the examination.

This booklet should not be punched or stapled and pages should not be removed.

Time 2 hours 30 minutes

INSTRUCTIONS TO CANDIDATES

Write your name, centre number and candidate number in the spaces at the top of this page.
Write your centre and candidate number in the box on the top right corner of every page of this paper.

Check that all the pages are in the booklet and ask the invigilator for a replacement if there are duplicate or missing pages.

Answer **all** questions.
Write your answers in the spaces provided on the question paper using **black** or **blue** pens.

INFORMATION FOR CANDIDATES
The number of marks is given in brackets [ ] at the end of each question or part question.
The total number of marks for this paper is 100.

This question paper consists of 10 printed pages and 2 blank pages.

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For Examiner's Use

Answer all questions.

1 Draw and label a block diagram of a computer system, showing the **five** basic hardware components of a computer.

[10]

For Examiner's Use

2 **(a)** A real time stock control system is used in a supermarket. Describe what happens when an item is purchased.

[6]

(b) State any **four** advantages of using point of sale terminals in transactions.

1

2

3

4

[4]

(c) Draw and label any network topology.

[3]

For Examiner's Use

3 (a) Explain the term **protocol**.

[2]

(b) Name any **one** computer networking model besides the Open System Interconnection (OSI) model, that exists.

[1]

(c) State any **four** levels of the OSI model, in their order.

1

2

3

4

[4]

(d) Define the term **network topology**.

[1]

(e) Differentiate the following terms.

simplex and duplex transmission mode

For Examiner's Use

email and ordinary mail

[4]

4 **(a)** Define the term **data protection legislation**.

[2]

(b) Write down any **five** points under the Data Protection Act.

1

2

3

4

5

[5]

(c) List any **three** ways that data can be accidentally lost.

1

2

3

[3]

For Examiner's Use

5 **(a)** Define the term **algorithm**.

_____

_____

[2]

(b) Draw and name the stages in systems development life cycle.

[7]

(c) State any **three** tools that are used in the design stage of the systems development life cycle.

1 _____

2 _____

3 _____

[3]

6 Write an algorithm that inputs a set of numbers and outputs the number of positive numbers and the number of negative numbers.

For Examiner's Use

[8]

7 **(a)** Write down the **three** types of programming constructs.

1 _____

2 _____

3 _____

[3]

(b) Using a diagram, illustrate any **one** type of programming construct.

[2]

For Examiner's Use

8 (a) Write a statement to display a title when designing a web.

_____

_____

_____

[3]

(b) Define

(i) a tag;

_____

_____

[1]

(ii) an element.

_____

_____

[1]

9 (a) Convert the following binary numbers to octal.

(i) 1010010

Answer _____

[2]

(ii) 10010001

Answer _____

[2]

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(iii) 111011001

Answer _____

[2]

(b) Convert the following hexadecimal numbers to denary.

(i) AF5

Answer _____

[2]

(ii) 67B

Answer _____

[2]

10 Write SQL commands to select data from the table and delete a row.

[5]

For Examiner Use

11 **(a)** Explain the meaning of **Database Management System (DBMS)**.

_____

_____

_____

_____

[2]

(b) State any **three** functions of a Database Management System.

1 _____

2 _____

3 _____

[3]

12 **(a)** Identify any **two** factors that affect marketing strategy.

1 _____

2 _____

[2]

(b) State any **three** elements of intellectual property.

1 _____

2 _____

3 _____

[3]