

Centre Number				Examination Number							



97000473



EXAMINATIONS COUNCIL OF ZAMBIA

Examination for School Certificate Ordinary Level

Computer Studies

Paper 1



7010/1

2020

Candidates answer on the question paper
No additional materials are required

Time: 2 hours 40 minutes

Marks: 70

Instructions to Candidates

- 1 Write the **centre number** and your **examination number** on every page of this question paper.
- 2 There are **two (2)** sections in this paper. **Section A** and **B**.
Section A: There are **twelve (12)** questions. Answer all.
Section B: There are **three (3)** questions. Question **one (1)** is compulsory. Choose any other question from either question **two (2)** or **three (3)**.
- 3 Write your answers in the **spaces** on the question paper.
- 4 Tick (✓) the question you have attempted in **Section B** in the grid provided below.

Information for Candidates

- 1 The number of marks is given in brackets [] at the end of each question or part question.
- 2 **Section A** has 50 marks and **Section B** 20 marks.
- 3 **Cell phones are not allowed in the Examination Room.**

For Examiner's Use Only		
		Mark
Section A		
Section B Tick (✓)	Q1	
	Q2	
	Q3	
Total		

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Section A [50 Marks]

1 (a) State the purpose of a Personal Digital Assistant (PDA).
 [1]

(b) State **two** advantages of using a PDA.
 1 [1]

2 [1]

2 Use the picture below to answer the questions that follow.



(a) Name the device shown.
 [1]

(b) State **two** drawbacks of using this device.
 Drawback 1 [1]

Drawback 2 [1]

(c) A user entered a password on the device above. Explain the meaning of the term Password.
 [1]

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- 3 The memory of a computer contains data and instructions in binary. The following instruction is stored in a location of the memory.

0	0	1	0	1	1	1	1
---	---	---	---	---	---	---	---

- (a) Convert the binary instruction to hexadecimal.

.....
 [2]

- (b) Give **two** other systems that use binary.

- 1 [1]
 2 [1]

- 4 Computer related crimes have increased due to misuse of computers.

- (a) State **one** crime that may be committed

- 1 resulting in damage to hardware or software;

 [1]
 2 which may affect users.

 [1]

- (b) Give **one** measure to prevent crime that

- 1 results in damage to hardware or software;

 [1]
 2 may affect users.

 [1]

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- 5 The diagram below shows a logic gate.



- (a) Identify the logic gate.
..... [1]

- (b) State the main function of this logic gate.
..... [1]

- (c) State **two** gates that could be used to construct the **NOR** gate.
1 [1]
2 [1]

- 6 (a) Name **two** methods of data verification.
Method 1 [1]
Method 2 [1]

- (b) Describe how each method mentioned in (a) can be used to verify data.
1 [1]
2 [1]

- 7 An estate agent keeps a file of properties for rent in a city. Some of the records kept are shown in the following table.

REF	AREA	TYPE & DESCRIPTION	FEATURE	RENT(K)
H002	Kitwe	Semi-detached 2 x 3 bedroom flat	Common car park	2 500
H007	Solwezi	4 bedroomed house stand alone	Swimming pool	6 500
H0026	Mansa	2 x 2 bedroomed houses on same plot	Common garden court	800
H0172	Lusaka	Bungalow 5 bedroom	Swimming pool	10 000

- (a) Give a reason why **REF** should be used as a key field.
..... [1]

- (b) State **one** validation check that should be made on data in the **REF** field.
..... [1]

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- (c) Give the **RENT (K)** data that would be listed if the following search condition is input:

[Feature = "Swimming Pool"] AND [Type "Semi-detached"]

..... [1]

- (d) Write down a search condition to find properties costing less than K3 000.

..... [2]

- 8 (a) Explain the meaning of the term Data-Protection-Act.

..... [1]

- (b) Give **two** other authorities allowed by law to check personal data.

1 [1]

2 [1]

- (c) State **two** reasons why most users may be worried to have their personal details kept on a computer file of other people or organisations.

1 [1]

2 [1]

- 9 The picture below shows a system used to determine the exact location of a vehicle.



- (a) Name the system illustrated.

..... [1]

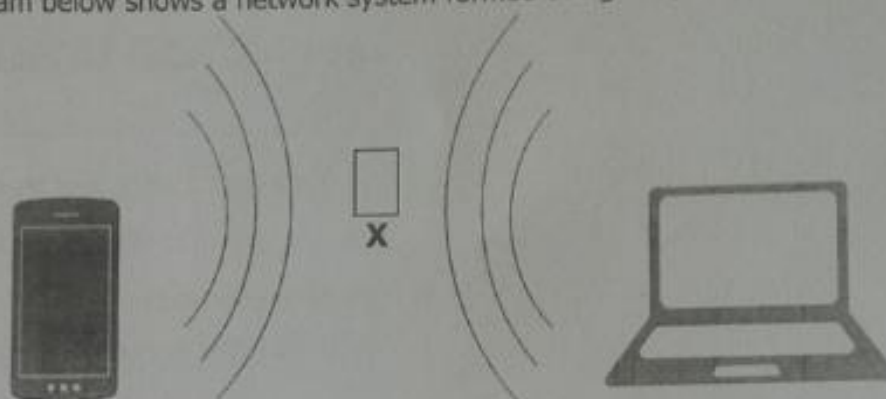
- (b) State **two** other applications that use this system.

1 [1]

2 [1]

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- 10 The diagram below shows a network system formed using a laptop and a smartphone.



- (a) State the type of network shown.

..... [1]

- (b) Name the device labelled X.

..... [1]

- (c) State **two** other ways in which a laptop and smartphone can share files.

1 [1]

2 [1]

- (d) Give **one** reason why some users may not prefer this network.

..... [1]

- 11 Marked test scripts are stored in stack or job queue until the computer is ready to process them.

- (a) Name this method of processing.

..... [1]

- (b) List **two** advantages of this method of processing.

1 [1]

2 [1]

(c) Name **two** other areas where this processing can also be applied.

1 [1]

2 [1]

12 The algorithm below checks whether the entered PIN is correct or wrong. Study it carefully and answer the question that follows.

C = 0

Input PIN

X = PIN

REPEAT

X = X/10

C = C + 1

UNTIL X < 1

IF C <> 5 THEN

PRINT "Wrong PIN entered"

ELSE

PRINT "PIN ok"

END IF

Dry run the above algorithm and complete the missing values of **X** in the table given below.

X = 2560 is the input data and count **C** starting with 0.

Input (PIN)	X	C
2560	2560	0
	256	1
	_____	2
	_____	3
	_____	4

Output [4]

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SECTION B [20 Marks]

There are **three** questions in this section. Question **1** is compulsory. Choose the other **one** from the remaining **two** questions.

- 1** Mwabombeni Clinic uses a manual system to process patient records. The management has proposed a new computer based (semi-automatic) records management system. The description of the current system is as follows:

Description of the existing system

A patient comes in with a member's card and hands it over to the clerk. Using the card, the clerk locates the record (book) which contains the following details;

- (A) Details on the first page:
- Card Number
 - Patient's Names
 - Patient's Age
 - Patient's Residential address
 - Date of Birth
 - National Registration card/Passport Number
- (B) Other pages will have the following details:
- Date visited the clinic
 - Vitals taken
 - Complaints from the patient
 - Doctor/medical officer's name
 - Drugs prescribed/administered

Every time the patient visits the clinic, the data in (B) is updated on the next page of the book and when the book is completely filled, a new book is bought and the old one is stored away in the archive room.

- (a) State **one** problem of the manual system identified in the description.

.....

.....

[2]

- (b) Write **two** objectives of the new semi-automatic patient record system.

1

.....

[1]

2

.....

[1]

- (c) Name **one** planning tool the system analyst could use to ensure that the proposed system is completed on time and within the budget.

.....

[1]

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(d) To open patient's medical reports, the analyst proposes to use biometric scanning of patient finger print.

(i) Give **two** disadvantages of this proposal.

Disadvantage 1 [1]

Disadvantage 2 [1]

(ii) Apart from a computer, state **two** other devices needed for the new system.

Device 1 [1]

Device 2 [1]

(e) State **one** method that the analyst can use to implement the new system.

..... [1]

2 Study the C++ programme below and use it to answer questions that follow.

```
#include <Iostream.h >
Int main ()
{
Int number, answer;
Cont << "Enter a Number:";
Cin>>number;
answer=number%2;
If (answer == 0)
{
Cont<< "Number entered is even";
}
Else
{
Cont<< "Number entered is odd";
}
Return 0;
}
```

(a) Explain the purpose of the C++ programme.

..... [3]

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(b) State the functions of #include <Iostream.h >

..... [3]

(c) Explain the use of the two lines of code given below.
n = 0 and n = = 0

n = 0 [2]

n = = 0 [2]

3 Use the HTML code shown below to answer the questions that follow.

1 <html>

2 <title> Test Page </title>

3

4

5

6 </body>

7 <html>

(a) Identify **two** errors in the HTML code.

1 [1]

2 [1]

(b) (i) Write a tag in line 4 to display the image called tulips.gif.

..... [1]

(ii) Write a tag in line 5 that can link this page to another page called registration.html.

..... [2]

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- (c) State **two** ways that can be used to write HTML code. [2]
.....
- (d) Name **two** programmes that can be used to view web pages. [2]
.....
- (e) State a file extension for an HTML page. [1]
.....