## GENERAL CERTIFICATE OF EDUCATION BOARD

#### General Certificate of Education Examination

### **COMPUTER SCIENCE 2**

0595

#### **JUNE 2022**

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Subject Title	COMPUTER SCIENCE
Paper No.	ີ <b>2</b> ວັນຄວາມ ແລະ ເຄົາດີ ສະພາຕິ ແລະຄອນວິນເສເຕີນທີ່ ວັນສຳຄັນ ປອກການກຸ່ວການ ຂອງ ການ ຂອງ ຄວາມຄວາມ ຄວາມຄວາມ ຄວາມຄວາມ
Subject Code No.	0595

# Two Hours

Answer any FIVE questions.

All questions carry 20 marks each. For your guidance, the approximate mark for each part of a question is indicated in brackets.

You are reminded of the necessity for good English and orderly presentation in your answers.

In calculations, you are advised to show all the steps in your working, giving your answer at each stage.

Calculators or Phones are NOT allowed.

Fremperature is greater than 37,5°C Display: "go for Covid-19 test"

Displays, "you are okay, the door is open"

In intercapan transport company carries out the following activities amongst other

clients pay the order entry decreors inconvertunister
clients make nevel receivations;

correspondences are sent to purities of the transport company;

buses and their respective drivers are scheduled on weekly basis.

correspondences are sent to purities of the transport company;

buses and their respective drivers are scheduled on weekly basis.

(a) Stock four (1) transmetions of the company.

(b) Carlie type of application software that can be used for each transaction.

(c) Carlie an example of an application software that can be used for each transaction.

(d) Trew can example of an application software that can be used for each transaction.

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(d) Leve the transaction of the computer systems.

(i) unanthorised access to the computer systems.

Turn Over

1. (5)	(a)	(i) Give the full meaning of the following coding schemes: - BCD - EBCDIC	
		<ul> <li>(ii) State the length of bits used to represent a character in each of these coding schemes.</li> <li>(iii) With the aid of an example, explain why different lengths of bits are used to represent</li> </ul>	(3 marks) (3 marks) (4 marks)
	(b)	A new computerised system that supplies oxygen to a life-supporting system in a hospital has beed developed to replace the old system.	en
		(i) Describe four methods of the implementation phase of an information system that can be used to replace the old system with the new system.	(8 marks)
Salar 1		(ii) Which of the methods is best suited for this replacement? Justify your answer.	(2 marks)
2.	(a)	(ii) Briefly describe how the components of the CPU carry out the fetch-decode-execute	(3 marks)
	(b)	cycle. Consider the Boolean expression: $P = (A + B) \cdot \overline{B}$	(3 marks)
		(i) Construct the logic circuit diagram for the expression P.	(3 marks) (3 marks)
		Represent the algorithm written in pseudocode using a flow chart.  Start  Check for face mask  If absent  Display: "put on your face mask"  Else  Get temperature  If temperature is greater than 37.5°C  Display: "go for Covid-19 test"  Else  Display: "you are okay, the door is open"	
			(8 marks)
3.	An into	<ul> <li>r-urban transport company carries out the following activities amongst others:</li> <li>cash office collects transport fares from clients;</li> <li>clients pay fare online using electronic money transfer;</li> <li>clients make travel reservations;</li> <li>workers are paid every two weeks;</li> <li>correspondences are sent to partners of the transport company;</li> <li>buses and their respective drivers are scheduled on weekly basis.</li> </ul>	5
	(a) (b) (c) (d) (e) (f)	State four (4) transactions of the company.  State the <b>type</b> of application software that can be used to computerize each transaction.  Give an example of an application software that can be used for each transaction.  How can graphics software be used to improve upon the business?  Explain two ways that the company can use the Internet to improve upon the business.  Briefly describe one method each that this company could apply to combat:  (i) unauthorised access to the computer systems.	(4 marks) 4 marks) (2 marks) (2 marks) (4 marks)

- 4. (a) Storage devices could be classified in terms of:
  - data storage technologies as solid state, magnetic or optical storage technologies and
  - data access mode as random or serial access. Given the following storage devices: CD-ROM, Hard drive, USB key;
  - (i) Copy and complete table I.

(6 marks)

Table I

Device	Storage Technology	Data access mode
CD-Rom		C
Hard drive		
USB	30	

(ii) Briefly describe the data access modes mentioned above.

(4 marks)

- (b) Carry out the following using binary Arithmetic.
  - (i)  $1101011_2 + 1101_2$
  - (ii)  $110010_2 1011_2$

(4 marks)

- (c) Mary's office computer system is connected to the Internet. At shut down the screen reads "update and shutdown" or "shutdown". She chooses "update and shutdown". The next day the computer is powered on but fails to complete the booting process, rather it sends out beeps.
  - (i) Identify the possible fault(s) with Mary's computer.

(2 marks) (2 marks)

- (ii) Propose a preventive measure to the fualt(s) identified.
- (iii) Briefly explain the meaning of the following as used in the passage
  - Update
  - Boot process.

(2 marks)

5. (a) Study the html tags carefully and answer the questions that follow:

```
<html>
1.
2.
      <title>
             <h1> WELCOME TO 0595 CSC </h1>
3.
4.
      </title>
5.
   <body>
6.
             <h2> MY BELIEF </h2>
7.
   <hr/>
8.
             9.
                    Modesty 
                    Honesty 
10.
11.
                    Pragmatism 
12.
             13.
             <h2> My favourite Subjects </h2>
14.
15.
             <01>
                    Mathematics 
16.
                    Physics 
17.
18.
                    Computer Science 
             19.
20. </body>
21. </html>
```

(i) Write in full the abbreviation html.

(1 mark)

(ii) Explain the roles of the tags <hr/> and .

- (3 marks)
- (iii) Write down the result of the codes in lines 9 to 11 and lines 16 to 18.
- (6 marks)

- (b) Describe and give an example for each term
  - (i) Utility software.

(3 marks)

(ii) Device driver.

(3 marks)

	(c)		the differ											Storage devices or	(Th)
	0													ogna ez alab	(2 marks)
01611	MUM	(ii)	Sequence	and c	hoice	cons	ructs	in alg	orithn	i desig	gn.	nk# 21		data access drivicalistica	(2 marks)
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		(iii)	Router			1		306 6	2					Dovice	(6 marks)
	(b)	Based o	n the geog	graphic	c cate	gorisa	ation c	of netv	vorks,	expla	in bri	efly tl	ie type	of network best	
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	(c)	Justify y	our answ	ers in	(b) ab	ove.								Carry on the	(3 marks)
	(d)	Figure 1	shows a	file pa	th.								1-11		
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		(ii)	Determin	ne the	critic	al pat	ofth	e abo	ve pro	ject.			16.		(3 marks)
		(iii)	Define th	he tern	ı 'slac	ck tin	e' of	a task.	11-				17		(2 marks)
		(iv)	Identify	activit	ies in	the p	roject	that h	ave sl	ack ti	ne an	d calc	ulate tl	neir respective	
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