

COMPUTER SCIENCE 2
0595

CAMEROON GENERAL CERTIFICATE OF EDUCATION BOARD
General Certificate of Education Examination / Technical and Vocational Education Examination

JUNE 2020

GCE REVISION

ORDINARY / INTERMEDIATE LEVELS

Subject Title	COMPUTER SCIENCE
Paper No.	2
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 and phones are NOT allowed.

<http://www.gcerevision.com>

Turn Over

1. (a) Give the role of each of the following types of system buses:
- (i) Address bus (2 marks)
 - (ii) Control bus (2 marks)
 - (iii) Data bus (2 marks)
- (b) Briefly describe the characteristics of a compact disc (CD) in terms of:
- (i) How data is stored (3 marks)
 - (ii) The physical layout of tracks and sectors on the CD. (2 marks)
- (c) (i) Sketch and label a block diagram of a simplified computer system, that shows the stages of information processing. (3 marks)
- (ii) Describe the main activity of each stage and give one example of a device used. (6 marks)

2. (a) State the main difference between
- (i) A Server and a Client in a Client-Server network. (2 marks)
 - (ii) Synchronous and asynchronous data transmission. (2 marks)
 - (iii) Parallel and serial data transmission. (2 marks)
- (b) Give the main role of the following networking devices:
- (i) Repeater (2 marks)
 - (ii) Bridge (2 marks)
 - (iii) Router (2 marks)
 - (iv) Modem (2 marks)
- (c) Convert the following numbers to the indicated bases showing clearly the steps involved:
- (i) FD_{16} to binary (3 marks)
 - (ii) 305_8 to hexadecimal (3 marks)

3. (a) Differentiate between system software and application software. Name an example in each case. (4 marks)
- (b) Explain the following features of a word processor:
- (i) Editing
 - (ii) Mail merging
 - (iii) Cropping
 - (iv) Formatting (4 marks)
- (c) (i) Briefly describe the differences between Manual Information System and an Automated Information System. (4 marks)
- (ii) Give two examples of Computerised Information Systems. (2 marks)
- (d) (i) Name any four components of a Data Transmission System. (4 marks)
- (ii) Briefly describe the role of any two of the components listed above. (2 marks)

4. (a) Study the lines of codes written in HTML below and answer the questions that follow:

```

1. <html>
2. <head>
3. <title> Computer Science </title></head>
4. <body>
5. <marquee><font size = "16" color = "red"><q><u> THANK YOU
   </u></q></font></marquee>
6. <br>
7. <hr size = 16 width "50%" align = "center" color = "blue">
8. <ol type = "I" start = "3">
9. <li> English Language</li>
10. <li> Computer Science</li>
11. <li> Arithmetic </li>
12. </ol>
13. </body>
14. </html>
    
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- (i) State the role of the HTML code in relation to the webpage. (2 marks)
- (ii) Give the general name of software commonly used to interpret codes written in HTML. (1 mark)

Briefly explain the output

- (iii) In lines 8 to 12 (4 marks)
- (iv) In line 7 (5 marks)
- (v) Write HTML code that will generate a hyperlink to a web page called CSC595. (3 marks)

(b) Evaluate the following in binary arithmetic:

- (i) $1101011_2 + 10111_2$ (2 marks)
- (ii) $101100_2 - 111_2$ (3 marks)

5. (a) Table 1 is used to register student's information in a certain school.

Table 1

ADMISSION NUMBER	NAME OF STUDENT	DATE OF BIRTH	CLASS	FEES PAID

- (i) What do you understand by the term key field? (2 marks)
- (ii) Which of the fields in Table 1 is suitable to used as a key field? Give a reason for your answer. (2 marks)
- (iii) Give appropriate data types for the entries in the following fields: ADMISSION NUMBER, NAME OF STUDENT, DATE OF BIRTH, CLASS. (4 marks)

(b) Briefly explain what you understand by each of the following:

- (i) Bootstrap (2 marks)
- (ii) Ergonomics (2 marks)
- (iv) A milestone in project management (2 marks)
- (v) A biometric system (2 marks)

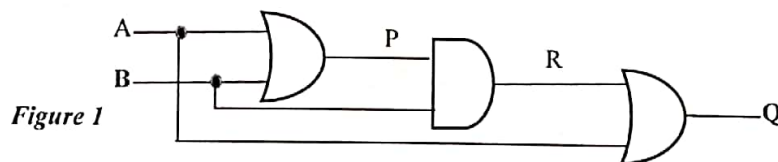
(c) Distinguish briefly between data verification and data validation. (4 marks)

- 6. (a) (i) What do you understand by the term social media ? (2 marks)
- (ii) Briefly explain one positive and one negative impact of social media in the Cameroon Education sector. (4 marks)
- (iii) Give two examples of social media platforms. (2 marks)

- (b) Briefly explain two ways by which
- (i) a computer can be affected by a virus
 - (ii) a computer can be protected against viruses
 - (iii) a computer system may malfunction when infected by a virus

(6 marks)

(c) Determine the logic expression that corresponds to the output P, R and Q, in terms of A and B, on the logic circuit in Figure 1:



(6 marks)

7. (a) You are requested by a Principal to make recommendations for types and specifications of computers for the school computer laboratory.
- (i) Name three characteristics of the system unit you will recommend and say how these are important for proper functioning of the laboratory. **(6 marks)**
 - (ii) Name one characteristic of the monitor you will recommend and say how this is important for the laboratory. **(2 marks)**
- (b) A student gets up a 5:30 AM and performs the following activities shown in Table 2 within the indicated duration, in order to get to school.

Table 2

No.	Activity	Duration in Minutes
1.	Facial clean-up	10
2.	Heat water for shower	15
3.	Prepare breakfast	10
4.	Take a shower	15
5.	Clean shoes	5
6.	Dress up	15
7.	Take breakfast	10
8.	Walk to school	15

Assuming that activities 2 and 3 can start at the same time, as well as activities 5 and 6,

- (i) Draw a Gantt chart for the above activities. **(6 marks)**
- (ii) What do you understand by the terms:
 - Critical path **(4 marks)**
 - Slack time **(2 marks)**
- (iii) Determine the critical path for these activities. **(2 marks)**