

REPUBLIQUE DU CAMEROUN  
Ecole - Travail - Patrie  
MINISTERE DES ENSEIGNEMENTS SECONDAIRES  
LES INSPECTIONS DES PEDAGOGIES  
REGION DU SUD-OUEST  
P.M.G. 10015, GUEA

REPUBLIC OF CAMEROON  
Ecole - Work - Fatherland  
MINISTRY OF SECONDARY EDUCATION  
INSPECTORATES OF PEDAGOGY  
SOUTH WEST REGION  
P.M.G. 10015, GUEA

THE TEACHERS' RESOURCE UNIT (TRU)  
Cellule d'appui à l'action Pédagogique

IN COLLABORATION WITH  
En collaboration avec

SUBJECT TEACHERS' ASSOCIATIONS (STA)

SOUTH WEST REGIONAL MOCK EXAMINATION

WEDNESDAY 24/03/2021 - AFTERNOON

ORDINARY LEVEL

Subject Title	COMPUTER SCIENCE
Paper Number	Paper 2
Subject Code Number	0595

Two hours

INSTRUCTIONS TO CANDIDATES:

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 are NOT allowed

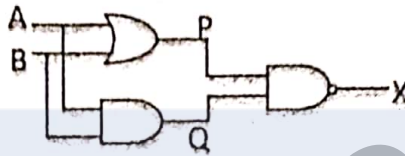
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1. a) Information processing is concerned with input, processing, output and storage.
- i) Describe briefly, what happens at each stage. (4 marks)
  - ii) Draw a labeled diagram with arrows, showing how signals move from one stage to another. (4 marks)
- b) i) Distinguish between data verification and data validation methods. (2 marks)
- ii) Given the list: proof reading, check digit, presence check, and double entry. Copy and complete the table below. (2 marks)

Data validation	Data verification

- c) i) Define a network topology. (2 marks)
- ii) Using a diagram with five nodes, describe a mesh topology and a star topology. (6 marks)

2. a) Consider the logic circuit below:



- i) Write down the logic expression of the output X in terms of P and Q and in terms of A and B. (4 marks)
- ii) Complete the truth table below using the above circuit diagram (4 marks)

A	B	P	Q	X
0	0			
0	1			
1	0			
1	1			

- b) State any two positive impacts of computers peculiar to each of the following:
- i) Banking
  - ii) Education (4 marks)
- c) Study the algorithm below and answer the questions that follow:

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1. Begin
2. Get X, Y
3. If X > Y,
4.     Z ← X
5. Else
6.     Z ← Y
7. End If
8. Display Z
9. End
    
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- i) State any two qualities of a good algorithm. (2 marks)
- ii) State any construct used in the algorithm, stating clearly the line numbers. (2 marks)
- iii) Determine the output of the algorithm when X = 2 and Y = 4. (2 marks)
- iv) State clearly what the algorithm is designed to do. (2 marks)

3. a) i) Write out the full meaning of the acronyms: SDLC, BIOS, DVD. (3 marks)
- ii) State the roles of the following CPU components: ALU, CU, Registers. (6 marks)
- b) i) Draw a clear diagram showing the data communication cycle. (3 marks)
- ii) Give the role of each of the components of the data communication cycle. (4 marks)
- c) Briefly describe any two user interfaces. (4 marks)



4. a) Perform the following using binary arithmetic
- i)  $1010 + 1101$
  - ii)  $1100 - 11$
- (4 marks)
- b) i) Draw a circuit diagram for the Boolean expression
- $$C = A + \overline{A} \cdot B$$
- (4 marks)
- ii) Give a reason for referring to the NOT gate as an INVERTER, (2 marks)
- c) i) Briefly describe any two phases in a system development life cycle. (4 marks)
- ii) To implement a new system, the strategies used can be: Direct Changeover, Phased implementation or Pilot implementation. Briefly describe each of these strategies. (6 marks)
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5. a) i) Define an operating system and give an example. (3 marks)
- ii) Give any two main functions of an operating system, (2 marks)
- iii) Give two differences between an operating system and an application software. (4 marks)
- b) State the main differences between the following:
- i) www and Internet
  - ii) Intranet and Extranet
  - iii) Web browser and search engine
- (6 marks)
- c) Perform the following conversions
- i) The hexadecimal number EA3 to a binary number (3 marks)
  - ii) The binary number 11110011 to an octal number (2 marks)
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6. a) A 4GB flash drive contains three sets of files of sizes 512kB, 1024MB and 1.2GB.
- i) Give the sizes of the first and last files in MB (3 marks)
  - ii) Determine the total size of all the files in MB. (1 mark)
  - iii) Determine then the remaining capacity in the USB flash in MB (2 marks)
- b) Differentiate between the following as used in data communication
- i) Serial and parallel transmissions
  - ii) Synchronous and asynchronous data transmissions
  - iii) Full duplex and half duplex
- (6 marks)
- c) i) What is an information system? (2 marks)
- ii) Describe briefly the role of any three components of an information system. (6 marks)
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7. a) i) Give two advantages and two limitations of social media over the electronic mail. (4 marks)
- ii) Give two examples of social media platforms. (2 marks)
- b) i) What is a programming language? (2 marks)
- ii) State two differences between high level and low level languages. (4 marks)
- c) i) Define a malware. (1 mark)
- ii) State three examples of computer malware. (3 marks)
- iii) State and explain two ways to prevent a malware from attacking your computer, (4 marks)
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