

SOUTH WEST REGIONAL MOCK EXAMINATION GENERAL EDUCATION

The Teachers' Resource Unit (TRU) in collaboration with the Regional Pedagogic Inspectorates and the Subject Teachers' Association (STA)	Subject Code 0595	Paper Number 1
CANDIDATE NAME CANDIDATE NUMBER CENTRE NUMBER	Subject Title COMPUTER SCIENCE	
ORDINARY LEVEL	DATE 23/03/2023 (AFTERNOON)	

Time Allowed: One hour thirty minutes

INSTRUCTIONS TO CANDIDATES:

1. USE A SOFT HB PENCIL THROUGHOUT THIS EXAMINATION.
2. DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
Before the Examination begins:
3. Check that this question booklet is headed "**Ordinary Level – 0595 Computer Science, Paper 1**".
4. Insert the information required in the spaces provided above.
5. Without opening the booklet, pull out the answer sheet carefully from inside the front cover of this booklet. Take care that you do not crease or fold the answer sheet or make any marks on it other than those asked for in these instructions.
6. Insert the information required in the spaces provided on the answer sheet using your HB pencil:
Candidate Name, Centre Number, Candidate Number, Subject Code Number and Paper Number.
How to answer questions in this examination:
7. Answer ALL the 50 questions in this examination. All questions carry equal marks.
8. Non-programmable calculators are allowed.
9. For each question there are four suggested answers, A, B, C, and D. Decide which answer is correct. Find the number of the question on the Answer sheet and draw a horizontal line across the letter to join the square brackets for the answer you have chosen. For example, if C is your correct answer, mark C as shown below:

$\left[A \right] \left[B \right] \left[\underline{C} \right] \left[D \right]$
10. Mark only one answer for each question. If you mark more than one answer, you will score zero for that question. If you change your mind about an answer, erase the first mark carefully, and then mark your new answer.
11. Avoid spending much time on any question. If you find a question difficult, move to the next question. You can come back to this question later.
12. Do all rough work in this booklet using, where necessary, the blank spaces in the question booklet.
13. Mobile phones are **NOT ALLOWED** in the examination room.
14. You must not take this booklet and answer sheet out of the examination room. All question booklets and answer sheets will be collected at the end of the examination.

1. All of the following are search engines except?
 - A. Google
 - B. Bing
 - C. Yahoo
 - D. Internet Explorer

2. Which language translator translates source code to machine code one line at a time?
 - A. Compiler
 - B. Interpreter
 - C. Assembler
 - D. Decoder

3. A nibble is equivalent to:
 - A. 2 bytes
 - B. 8 bits
 - C. 2 bits
 - D. Half a byte

4. A good algorithm should be "unambiguous". This means
 - A. It should be able to tell when an error is made
 - B. It should be consistent in what it does
 - C. It should have the same interpretation by everyone
 - D. It should have a starting and an ending instruction.

5. A printer prints normally on one computer but fails to be recognized when connected to a second running computer. What should the user look out for?
 - A. The power supply to the second computer
 - B. The content that is to be printed
 - C. Verify if the driver of the printer is installed on the second computer
 - D. The ink in the printer is insufficient.

6. When is a software said to be portable?
 - A. If it is small in size
 - B. If it works on different platforms
 - C. If it can be stored on diskettes
 - D. If it can be carried from place to place

7. The communication mode that supports two-way traffic but operates only in one direction at a time is said to be:
 - A. Simplex
 - B. Asynchronous
 - C. Half-duplex
 - D. Full-duplex

8. The process of converting signals from a computer to a form that can be transmitted over a telephone line is called.
 - A. Modulation
 - B. Demodulation
 - C. Multiplexing
 - D. Demultiplexing

9. The Boolean data type has:
 - A. Only one value
 - B. Only two values
 - C. Only three values
 - D. As many values as the programmer deems necessary

10. The most efficient software that can be used to store students' information is:
 - A. Word processor software
 - B. Spreadsheet software
 - C. Presentation software
 - D. Database software

11. Paul buys a piece of software for his computer. He then duplicates the software without authorization. Which crime is he committing?
 - A. Software scam
 - B. Software piracy
 - C. Unauthorized access
 - D. Information theft

12. How many cells are in the range A1:C4?
 - A. 10
 - B. 15
 - C. 2
 - D. 12

13. What is the binary equivalence of the hexadecimal number A3
 - A. 10101101
 - B. 10100011
 - C. 10110011
 - D. 10110101

14. Given the Boolean expression $\bar{A} \cdot \bar{B} + \bar{A} B$. How many logic gates are required to construct the circuit for this Boolean expression?
 - A. 3
 - B. 2
 - C. 4
 - D. 5

15. How are data accessed on a magnetic tape drive?
 - A. Random access
 - B. Direct access
 - C. Sequential access
 - D. associate access

16. Which of the following is a peripheral device?
 - A. CPU
 - B. External Hard Drive
 - C. Cache
 - D. RAM

17. Arrange the following in descending order of access speed: 1. RAM, 2. Hard disk, 3. Registers, and 4. Cache
 - A. 1 - 2 - 4 - 3
 - B. 4 - 3 - 2 - 1
 - C. 1 - 3 - 2 - 4
 - D. 3 - 4 - 1 - 2

18. What do you understand by the term Ergonomics?
- A game which requires certain hand exercises
 - The science of designing equipment so that it improves the user's experience
 - A type of Bespoke software
 - The science of interactive activity
-
19. What could you do to reduce the risk of RSI (Repetitive Strain Injury)?
- Use ergonomic equipment
 - Take regular breaks
 - Exercise your fingers
 - All of the above
-
20. One advantage of solid-state drives (SSD) over traditional hard disk drives (HDD) is that:
- Fragmentation is faster with SSD than HDD
 - SSDs have a large storage capacity than HDDs
 - SSDs are faster in read/write operations than HDDs
 - HDDs are energy efficient, whereas SSDs are not.
-
21. Which of the following is not a pointing device?
- Touch pad
 - Light pen
 - Trackball
 - Joystick
-
22. The quality and clarity of an image on the monitor (computer screen) is measured in
- Bits
 - Inches
 - Pixels Per Inch
 - Megahertz.
-
23. Which user interface is used in MS DOS?
- Menu Driven interface
 - Graphical user interface
 - Voice recognition interface
 - command Line Interface
-
24. Which software below is most suitable for producing invitation cards, brochures, magazines, newspapers, and calendars?
- Word processors
 - Graphic software
 - Desktop publishers
 - Presentation software
-
25. _____ is a network device that selects the best path for signals travel across a network
- Hub
 - Repeater
 - Router
 - Switch
-
26. The domain name for the website **www.minesec.gov.cm** is
- www
 - .gov.cm
 - minesec
 - www.minesec
-
27. Gaining access in someone's computer without authorization just for fun is known as:
- Phishing.
 - Cracking.
 - Hacking.
 - Spying.
-
28. The term softcopy means:
- Electronic output
 - Information magazines
 - Information spoken in soft tone.
 - Information not hand written.
-
29. The acronym GIS stands for:
- Geographic Interaction System.
 - Geographic Interchange System.
 - Geographic Information Science.
 - Geographic Information System.
-
30. Google Chrome is an example of a/an:
- System software.
 - Utility software.
 - Application software.
 - Internet tools.
-
31. In an information system design, a _____ writes the software to be used by different users.
- Database administrator.
 - Computer programmer.
 - Computer specialist.
 - System analyst.
-
32. Which application software is associated to a file with extension ".xls"?
- MS Word.
 - MS Access.
 - MS Excel.
 - MS PowerPoint.
-
33. A company uses "what if analysis as a guide to business management. This is an example of:
- Monitoring
 - Modeling.
 - Simulation.
 - Control.
-
34. A set of rules that governs the transmission of data across a network is called:
- Topology
 - Protocol
 - Controller
 - Transceiver.

35. Which network is likely to be used in a school's multimedia resource center?

- A. PAN
- B. WAN
- C. MAN
- D. LAN

36. In word processing, the process of underlining a text is known as.

- A. Editing
- B. Correcting
- C. Formatting
- D. Spell check.

37. Before a program is run, it must first of all be loaded in the:

- A. Virtual memory.
- B. RAM.
- C. Hard disk
- D. ROM

38. _____ is an example of a picture file format.

- A. .jpg.
- B. .wav
- C. .mp3
- D. .html

39. Which device below is capable of converting hardcopy data into softcopy

- A. Printer.
- B. Keyboard.
- C. USB stick.
- D. Scanner.

40. Desktop computer are examples of _____?

- A. Supercomputer.
- B. Minicomputers.
- C. Mainframe computer.
- D. Microcomputers.

41. The hexadecimal number system has ___ symbols

- A. 16
- B. 8
- C. 10
- D. 15

42. Which storage device below holds data only when it is powered?

- A. Hard drive.
- B. ROM.
- C. USB Flash.
- D. RAM.

43. All of the following are components of the CPU except

- A. RAM.
- B. Control unit.
- C. ALU
- D. Register.

44. A webcam is a (an) _____?

- A. Processing device.
- B. Output device.
- C. Input device.
- D. Input/output device.

45. Assuming that TRUE is represented by 1, and FALSE by 0. The truth table below is for the logic gate.

INPUT		OUTPUT
X	Y	Z
0	0	0
0	1	1
1	0	1
1	1	0

- A. NOT.
- B. OR.
- C. AND
- D. XOR

46. Software is said to be user friendly if:

- A. It is easy to use and make friends.
- B. It is easy to learn and use.
- C. It can be used for other things by a user
- D. It contains mainly pictures

47. How many characters are found in the phrase "Computer Science 1"?

- A. 18
- B. 16
- C. 17
- D. 20

48. Which computer generation made use of punched cards for data input?

- A. 2nd Generation
- B. 5th Generation
- C. 4th Generation
- D. 3rd Generation

49. Which is the most fault tolerant network topology?

- A. Bus topology
- B. Star topology
- C. Mesh Topology
- D. Tree topology

50. What would you do with computers that do not work anymore?

- A. Keep for decoration at home
- B. Throw them away in a trash can
- C. Recycle them properly
- D. Burn them

STOP

GO BACK AND CHECK YOUR WORK

**SOUTH WEST REGIONAL MOCK EXAMINATION
GENERAL EDUCATION**

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

IN COLLABORATION WITH
En collaboration avec

**THE REGIONAL INSPECTORATES OF PEDAGOGY AND
THE SUBJECT TEACHERS' ASSOCIATIONS (STA)**

THURSDAY, 23/03/2023

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.

Work on the question paper, showing your answer at each stage.

Calculators are NOT allowed

1. i) a). What is computer generation?

(2 marks)

b) For each of the following computer generations, state the technology used.

(3 marks)

Generation	Technology
2 nd	
5 th	
1 st	

ii) Consider the algorithm below

```
1: Start
2: Get a positive integer, X
3: Set counter = 1
4: while counter <= X do
5:     Set P = X + counter
6:     counter = counter + 1.
7: end while
8: Display P
9: Stop
```

a) List two control constructs in the algorithm and enumerate their line code respectively

(4 marks)

b) Dry run the algorithm for x=5. Hence complete the trace table below.

(4 marks)

X	counter	P
5	1	/
5	2	6

c) Explain what the program is designed to do?

(3 marks)

d) Represent the above algorithm using a flowchart.

(4 marks)

2. i). Define the following terms as used in computer, given an example in each case.

a) Primary Storage

(3 marks)

b) Secondary Storage

(3 marks)

c) I/O Device

(2 marks)

ii) Use binary arithmetic to evaluate the following

a) $1101101 - 1110$

(2 marks)

b) $1010101 + 1101$

(2 marks)

iii) Consider the database table of students below.

StudentID	Name	Date_Of_Birth	Telephone	CLASS
045	Njam	08 th MAY 1999	77899800	5A
067	Lum	16 th June 2000	677787670	USA
046	Paul	13 th March 2001	647553676	5B

a) How many records and fields exist in the table?

(2 marks)

b) What is the most suitable primary key from the table? Justify your answer.

(2 marks)

c) State whether or not the DBMS should allow you to carry out the following actions. Give a reason in each case

- Add a student to the table with the following attributes

StudentID= 067, Name= Chi, Date_of_Birth=16th March 1999 Class= USS

(2marks)

- Add a student to the table with the following attributes

StudentID= 066, Name= Emmanuel, Date_of_Birth=16th May 2000 Class= 5A

(2marks)

3. i) Software can be classified as either System software or Application software.
- State and briefly explain any two attributes of a good software. (4 marks)
 - Differentiate between System software and Application software, given an example in each case. (4 marks)
- ii) Every system is expected to have a very friendly user interface for better user experience.
- What is a user interface? (2 marks)
 - State and briefly explain any 2 types of user interfaces (4 marks)
 - Which system software is responsible for providing a user interface? (1 mark)
- iii) a) What is a programming paradigm? (2 marks)
- Differentiate between procedural programming and declarative programming (2 marks)
 - Give one example of an object-oriented programming language. (1 mark)

4. i) A bank decides to link all its branches nationwide by setting up a computer network.
- State two benefits of computer network to the bank. (2 marks)
 - List three network components that are required to setup this network and their role (6 marks)
 - With the aid of well labeled diagrams in each case, distinguish between parallel transmissions and serial transmissions. (4 marks)
- ii) a) What is an information system? (2 marks)
- Differentiate between validation and verification, given an example in each case (4 marks)
- iii) A school decides to replace old computers in their computer laboratory with newly purchased ones. Which conversional method is best suited to be used and why? (2 marks)

5. i) Consider the Boolean expression $\overline{AB} + (A + B)$
- How many input variables make up this expression? (1 mark)
 - Construct a Boolean circuit (Logic diagram) for this Boolean expression (3 marks)
 - Complete the truth table below for this expression. (4 marks)

A	B	\overline{AB}	AB	A+B	$\overline{AB} + (A+B)$
0	1				
1	1				
0	0				
1	0				

- ii) Given that $X=01110101_2$
- What is X in Octal (2 marks)
 - What is X in Decimal (2 marks)
 - What is X in BCD (2 marks)
- iii) a) What is computer security? (2 marks)
- Briefly explain the following concepts in relation to computer security. (5 marks)
 - Confidentiality
 - Authentication
 - Integrity
 - Encryption
 - Password

6. i) A student wants to purchase a quality laptop for studies. Two laptops are proposed to the student with the following specifications :

DELL	HP
Processor: 2 GHz dual core	Processor: 3 GHz
HDD: 160 GB	HDD: 100 GB
DVD-RW	DVD-R

- a) Which of the laptop has the fastest processing speed. Justify your answer (2 marks)
- b) Which of the laptop can be used to transfer information on a compact disc. Justify your answer (2 marks)
- c) Determine the laptop he will choose and give a reason (2 marks)
- ii) An ISP provides internet services to a school. The students in the school mostly work with social media platforms.
- a) What is an internet service? (2 marks)
- b) Give three examples of internet services that can be provided by the ISP (3 marks)
- c) Give two advantages and two disadvantages of social media in education. (4 marks)
- iii) A file of size 5 GB is to be stored on CDs of size 700 MB each.
- a) Convert 5 GB to MB (2 marks)
- b) How many CD's are required to store this file? (3 marks)

7. i) Consider the Gantt chart below

TASK	DURATION	Week1	Week2	Week3	Week4	Week5	Week6	Week7
A	1 Week							
B	2 Weeks							
C	1 Week							
D	4 Weeks							

- a) What is a critical path? (1 mark)
- b) State the critical path of the Gantt chart above and hence determine the duration of the project (3 marks)
- c) If the project started on the 2nd March 2021, what will be the earliest completion date? (2 marks)
- ii) The Minister of Secondary Education wants to introduce a school management system in all the Secondary schools in Cameroon. To achieve her goal, she decides to **implement** this software in one region at a time.
- a) What is system implementation? (2 marks)
- b) State and give an advantage of the implementation strategy used by the Minister. (2 marks)
- c) State any two activities that take place during system implementation (2 marks)
- iii) a) What is a file format? (2 marks)
- b) Give the full meaning of the following acronym:
 - JPEG
 - HTML (4 marks)
- c) Differentiate between a file and a folder. (2 marks)

END