CAMEROON GENERAL CERTIFICATE OF EDUCATION BOARD

General Certificate of Education Examination / Technical and Vocational Education Examination

0795 COMPUTER SCIENCE 1

JUNE 2020 **ADVANCED LEVEL**

Centre Number	GCE REVISION
Centre Name	
Candidate Identification No.	http://www.gcerevision.com
Candidate Name	

Mobile phones are NOT allowed in the examination room

MULTIPLE CHOICE QUESTION PAPER

One and a half hours

INSTRUCTIONS TO CANDIDATES

Read the following instructions carefully before you start answering the questions in this paper. Make sure you have a soft HB pencil and an eraser for this examination.

1. USE A SOFT HB PENCIL THROUGHOUT THE 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 "**Advanced Level – 0795 Computer Science 1**"
4. Fill in the information required in the spaces above.
5. Fill in the information required in the spaces provided on the answer sheet using your HB pencil: **Candidate Name, Exam Session, Subject Code and Candidate Identification Number.** 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 instruction.

How to answer the questions in this examination

6. Answer **ALL** the **50** questions in this Examination. All questions carry equal marks.
7. Each question has FOUR suggested answers: **A, B, C** and **D**. Decide which answer is appropriate. 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:
   [A] [B] [~~C~~] [D]
8. Mark only one answer for each question. If you mark more than one answer, you will score a zero for that question. If you change your mind about an answer, erase the first mark carefully, then mark your new answer.
9. Avoid spending too much time on any one question. If you find a question difficult, move on to the next question. You can come back to this question later.
10. Do all rough work in this booklet using the blank spaces in the question booklet.
11. **At the end of the examination, the invigilator shall collect the answer sheet first and then the question booklet. DO NOT ATTEMPT TO LEAVE THE EXAMINATION HALL WITH IT.**

1. Computer organisation is how:
   - A The computer hardware logic is organised to carry out its operations.
   - B Computer hardware is organised into functional units and subsystems.
   - C The computer is set up so as to carry out tasks people want done.
   - D The computer hardware is designed to provide services and facilities for use.

2. In this classification, each instruction is executed using its own input data, independently of how other instructions get their data. We are using a(n):
   - A Multiple Instruction Multiple Data.
   - B Multiple Instruction Multiple Data.
   - C Single Instruction Single Data.
   - D Single Instruction Multiple Data

3. It is used for long-term storage of information, but also as an overflow area for executing programs:
   - A Hard disk.
   - B CD ROM.
   - C CMOS.
   - D ROM.

4. What is the result of the following in sign-absolute notation? 01 110 100 – 01 001 100.
   - A 00 101 000.
   - B 10 101 000.
   - C 00 010 100.
   - D 10 011 000.

5. What is R in the following circuit diagram?

   - A $A \cdot B + \overline{A + B}$.
   - B $\overline{A \cdot B} \cdot A + B$.
   - C $\overline{A} + \overline{B} + \overline{A} \cdot B$.
   - D $\overline{A \cdot B + \overline{A} \cdot \overline{B}}$

6. It looks for an instruction, uses circuits to interpret it, and then carries out the instruction in a process known as the:
   - A Program Instruction Cycle.
   - B Machine Instruction Cycle.
   - C Machine Execution Cycle.
   - D Program Execution Cycle.

7. When the processor receives a signal, it stops what it is doing in order to attend to the request. The mechanism exploited here is:
   - A Interrupt signal
   - B Spooling.
   - C Interrupt handling.
   - D Polling.

8. The following is true of indirect operand addressing mode:
   - A The data occupies the address just after the instruction.
   - B The data occupies two memory cells of the instruction.
   - C One needs to read two more memory cells to get the data.
   - D One needs to index memory cells to get the data..

9. Which of the following is NOT true of machine instruction code?
   - A It has an instruction format.
   - B Its bit pattern is for specific machines.
   - C It has clear addressing formats.
   - D All machines have same instructions format.

10. Its software directly controls the hardware components in order to carry out tasks they are designed for but, essentially, it acts as a computer and is seen as such. It is:
   - A A monitoring system.
   - B An embedded system.
   - C An automated system.
   - D A control system.

11. We use them to manipulate and disseminate information among individuals and organisations, possibly over long distances.
   - A Management Information Systems.
   - B Information & Communication Systems.
   - C Geographic Information Systems.
   - D Data Communication Systems.

12. Joe hacked into Dan's online bank account and withdrew and returned money Dan stole from Jane. Joe accessed the account by supplying the information Dan normally gives. Joe commit a computer crime.
   - A Joe illegally accessed an account, whether or not he used computers.
   - B No. Joe simply helped Jane to get what was rightfully hers.
   - C Joe used computing skills to access an account he shouldn't.
   - D No. Joe supplied all the information to legally access the account.

Go on to the next page

13. Which of the following controls the aspect the public can see or inquire about you, if stored in a computer system, but allows you to verify or correct the information so stored?
A Computer Security.
B Computer Privacy.
C Computer Correctness.
D Computer Ethics.

14. Given today's technology and his immediate access to resources all over the world, Ngene says he is a citizen of the world, not just a Cameroonian. We agree with him because:
A His computing skills are useful all over the world.
B He accesses facilities all over the world, as would one living in those countries.
C His computing skills gives him the same rights as citizens in other countries.
D His computing skills gives him extra advantages over ordinary citizens of the world.

15. Mojoko submitted many programs and their data at a Computing Centre, to later get her results online. Processing her work must have required:
A An online processing system.
B A real-time processing system.
C A transaction processing system.
D A batch processing system.

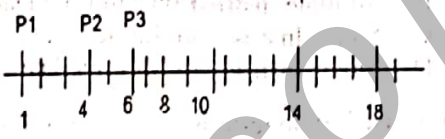
16. Cloud computing handles resources, data and information in certain ways:
A It provides them as services over the internet.
B It allows them to be transmitted to assorted machines across the internet.
C Allows them to be used over the internet, where they are found.
D Allows them to be used more efficiently than on stand-alone devices.

17. Certain programs facilitate the construction of other programs, and can be used over and over again rather than constructed. They are:
A Application programs.
B Systems programs.
C Library programs.
D Utility programs.

18. A _____ is used such that correct programs in a source programming language are possibly made more efficient while they are made ready for machine execution.
A An assembler.
B An optimiser.
C A translator.
D A compiler.

19. Bisi's computer Help Desk uses many software platforms. She has to quickly respond to frequently asked questions from her clients, so she most probably uses:
A A Graphical User Interface (GUI).
B A Command Line Interface (CLI).
C A Linux Interface.
D An MS Windows Interface.

20. Jobs P1, P2, and P3 need 6, 4 and 2 units of execution time respectively. They arrive at times 1, 4 and 6 as shown below. Which job is completed last if a Shortest Job First scheduling policy is used?



A P1.
B P2.
C P3.
D P2 and P3.

21. Which of the following is false for segmented paged memory allocation?
A Pages of a program can be in any order in memory.
B Segments are overlaid onto the physical address space.
C A page need not occupy a whole segment of memory.
D The address in a program requires an offset from its page address only.

22. What input device might a multi-choice questionnaire writer use to input completed forms into a computer.

A	Magnetic Ink Character Recognition (MICR)
B	Optical Mark Recognition (OMR).
C	Optical Character Recognition (OCR).
D	Hand-held computers

23. The number -17 translated into an 8-bits two's complement binary integer is:
A 11101111
B 11101101
C 10010011
D 11101100

Go on to the next page

24. The positive binary number 10101111 translated into hexadecimal is:
   A AE
   B AF
   C EF
   D FA

25. Two Components of the Von Neumann Architecture are:
   A Memory and Processor
   B Hard disk and RAM
   C Processor and CPU
   D ALU and processor

26. Location 600 contains 601, 601 contains 607 and 607 contains 613. What are the contents of register R after the following instruction? (The parentheses indicate indirect addressing)

LOAD R, (600)

   A 600
   B 607
   C 601
   D 613

27. A table in third normal form is one which:
   A Has only one primary key.
   B Is linked to another table by means of a foreign key.
   C Have no repeating fields.
   D Contains no non-key dependencies

28. In mesh topology, relationship between one device and another is:
   A Server to peer.
   B Peer to Server.
   C Client - Server
   D Peer to Peer.

29. The performance of data communications network depends on:
   A Number of users connected.
   B The hardware and software.
   C The transmission.
   D All of the above.

30. Which OSI layer has routers?
   A Network Layer.
   B Transport Layer.
   C Session Layer.
   D Presentation Layer.

31. When an entity has the primary key of another entity as an attribute, this creates:
   A Parent-Child relationship between the tables that connect them.
   B Many to many relationship between the tables that connect them.
   C Network model between the tables that connect them.
   D A one to many relation between the tables that connect them.

32. Which of the following is not the required condition for binary search algorithm?
   A The list must be sorted.
   B There should be the direct access to the middle element in any sub list.
   C There must be mechanism to delete and/or insert elements in list.
   D Direct access to the middle element in any sub list.

33. In the database relation $R(a, b, d, e, f)$ attribute b and d are dependent only on a; e only on d; and f only on d. Which of these sets of relations is equivalent to R in third normal form (3NF), if key attributes are underlined?
   A $R1(\underline{a}, b)$, $R2(\underline{d}, e, f)$, $R3(\underline{a}, \underline{d})$.
   B $R1(\underline{a}, b, \underline{d})$, $R2(\underline{d}, e)$, $R3(\underline{e}, f)$.
   C $R1(\underline{a}, b, d)$, $R2(\underline{d}, e)$, $R3(\underline{e}, f)$
   D $R1(\underline{a}, b, d)$, $R2(\underline{d}, e, f)$.

34. When data goes through a network, data privacy is available when:
   A Only authorised people can control what information can be gathered or disclosed.
   B Individuals control what information can be collected or disclosed about them.
   C A system is always available to perform its intended functions on data.
   D Only authorised people can access and modify information through a network.

Go on to the next page

35. Which data type best holds for processing in the same fashion, the names of a number of plants?
A Record.
B Array.
C Strings.
D Characters.

36. How many distinct memory addresses can a processor access if its machine word has 8 bytes?
A 64.
B 2^{16}.
C 8^{8}.
D 2^{64}.

37. The design strategy that identifies subtasks based on the operations carried out in them to provide a service or feature is known as:
A Modular design.
B Functional design.
C Bottom-up design.
D Top-down design.

38. A binary tree whose every node has either zero or two children is called:
A Complete binary tree
B Binary search tree.
C Extended binary tree.
D B nary tree.

39. The post order traversal of a binary tree is DEBFCA. Find out the preorder traversal.
A ACBEDF
B ACBDFE
C ACBDEF
D ACBFDG

40. Which of the following sorting algorithms is of divide-and-conquer type?
A Bubble sort.
B Insertion sort.
C Quick sort.
D Algorithm.

41. Program Readability is typically understood to be:
A The comments and program instructions in a source code.
B The manual that shows people how to run the program.
C The book that explains to users the program's features and how they work.
D The document that describes how the program was constructed.

42. It is used to observe how values change in memory locations, without altering program instructions, or altering memory locations; during debugging
A Breakpoint.
B Watchpoint.
C Trace point.
D Print statement.

43. Some programs will always guarantee an answer if there is one, but may run for ever if there is none. Such problems are:
A Uncomputable.
B Partially computable.
C Undecidable.
D Semi-decidable.

44. Algorithms or problems they solve are sometimes described as hard or intractable. This is often a measure of:
A How much time a human needs to produce the program.
B How much time a computer needs to execute the program.
C How complex a program can be to a programmer.
D How complex a program can be to a computer.

45. Prototyping is a technique that:
A Permits one to design software quickly.
B Allows software to be quickly adapted to a user's needs.
C Allows developers to better understand a user's needs.
D Allows people to start using software before their complete implementation.

46. The space factor when determining the efficiency of algorithm is measured by counting the:
A Maximum memory needed by the algorithm.
B Minimum memory needed by the algorithm.
C Average memory needed by the algorithm.
D Maximum disk space needed by the algorithm.

47. To solve a certain problem, some of its procedures are executed on distinct machines, possibly across the world. We designed a(an):
A Parallel algorithm.
B Distributed algorithm.
C Internet algorithm.
D Serial Algorithm.

48. The following are in distinct classes of declarative languages:
A Logic and functional programs.
B Applicative and functional programs.
C Applicative and object-oriented programs.
D Object-oriented and logic programs.

Go on to the next page

49. Programming language (PL) functions are designed to return a value; the values returned by PL functions are often passed in other functions or procedures:
    A As output.
    B As parameter.
    C By value.
    D By reference.

50. We examine a program, executing and checking its instructions, so as to establish that it behaves as expected. We are doing:
    A Black box testing.
    B White box testing.
    C Code inspection.
    D Program review.

STOP

GO BACK AND CHECK YOUR WORK