

CAMEROON GENERAL CERTIFICATE OF EDUCATION BOARD
General Certificate of Education Examination

0795 COMPUTER SCIENCE 1

JUNE 2016

ADVANCED LEVEL

Centre Number	
Centre Name	For more papers www.alstug.com is always ready to serve.
Candidate Number	
Candidate Name	

Mobile phones are NOT allowed in the examination room.



MULTIPLE CHOICE QUESTION PAPER

One and 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 "**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, Centre Number and Candidate 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 instructions.

How to answer the questions in this section?

6. Answer **ALL** the **50** questions in this Examination. All questions carry equal marks.
7. Electronic calculators are not allowed.
8. 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]
9. 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.
10. Avoid spending too much time on one question. If you find a question difficult, move on to the next question. You can come back to this question later.
11. Do all rough work in this booklet using the blank spaces in the question booklet.
12. **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.**

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Turn Over

1. It is a machine type which is analogous to parallel processing.
A RISC
B SIMD
C CISC
D MIMD
-
2. Virtual memory can be implemented with
A Segmentation
B Paging
C Segmentation with paging
D All of the above
-
3. The Cache memory is between
A CPU and RAM
B RAM and REGISTERS
C CPU and ACCUMULATORS
D RAM and HARD DISK
-
4. The cost of accessing information in computations is minimum when using a
A Cache
B Register
C Secondary memory
D Magnetic tape
-
5. Floating point representation is used to store
A Boolean numbers
B Natural numbers
C Fractional numbers
D Complex numbers
-
6. Logic XOR operation of $(11101010)_2$ & $(10101010)_2$ has as result
A 10010001
B 01100000
C 01000000
D 10100000
-
7. A storage device is classified as RAM if
A The memory locations are accessed rapidly
B The time taken to access any of its memory locations is the same.
C Data cannot be retrieved randomly.
D The access mechanism is stored in a random location.
-
8. The simplified form of the Boolean expression $(X+Y+XY)(X+Z)$ is
A $X+Y+ZX+Y$
B $XY+YZ$
C $X+YZ$
D $XZ+Y$
-
9. Interrupt driven input/output leads to
A Wastage of CPU time
B Optimum use of CPU time
C Adequate execution of real time processes
D Non-execution of priority processes
-
10. What will be the 6-bit word of the 2's complement of the number 1010 ?
A 111010
B 110110
C 110111
D 101100
-
11. Program pre-emption is
A Forced withdrawal of CPU from a program which is executing.
B Release of CPU by a program due to an interrupt.
C Forceful allocation of CPU by a program to itself.
D Program termination due to detection of an interrupt.
-
12. Which scheduling strategy is most suitable for a time sharing operating system?
A Shortest Job First
B First come first served
C Round Robin
D Longest job first.
-
13. An operating system contains 3 user processes, each process requiring 2 units of the resource R. The minimum number of units of R required such that there is no possibility of deadlock on R is
A 6
B 3
C 5
D 4
-
14. To avoid a race condition, the maximum number of processes that may be in their critical section simultaneously is
A Zero
B One
C Two
D Two or less
-
15. A program in execution is called
A A process
B An instruction
C A procedure
D A function
-
16. The program counter (PC) is
A A CPU register that indicates the address of the instruction currently being executed.
B A CPU register that indicates the address of the next instruction in a program.
C A CPU register which stores the state of a process
D A CPU register that signals a change of context
-
17. If data is processed as it arrives, this type of data processing is called
A Real time processing
B Batch processing
C synchronous processing
D parallel processing

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18. A page fault means that we referenced a page
- Outside the memory boundaries
 - With an incorrect I/O request
 - That was not in secondary storage
 - That was not in main memory
19. Several processes access and manipulate the same data concurrently and the outcome of the execution depends on the particular order in which the access takes place; this is called a/an
- Shared memory condition
 - Race condition
 - Multi- processing
 - Process synchronization
20. The search for an element on a binary search tree has an average complexity which is
- Linear
 - Logarithmic
 - Polynomial
 - Exponential
21. Given the function for $f(n) = n!$, n a natural number and defined EITHER as in $f_1(n) = n(n-1)!$ With $0! = 1$ OR $f_1(n) = 1 \times 2 \times 3 \times \dots \times n$
- f_1 is an iterative definition of the factorial function
 - f_1 executes with no internal stack while f does
 - f_2 and f_1 will have the same runtime efficiency
 - f_1 is more efficient than f_2
22. A programming paradigm that packages data and functions and manipulates the data into one structure, is known as
- Imperative programming
 - Modular programming
 - Object oriented programming
 - Functional programming
23. A piece of software, possibly incomplete, that is meant to facilitate agreement on system specifications between software producer and customer is
- User interface
 - System prototype
 - Pseudocode
 - System model.
24. In debugging a program,
- We are searching for availability of errors
 - We want to see whether a program executes with errors
 - We want to prove that the program is working without errors
 - We are correcting errors
25. The postfix form of the expression; $A*B+C/D$ is:
- $AB/CD+$
 - $A*BC+/D$
 - $AB*GD/+$
 - $ABCD+/*$
26. A binary search algorithm on an array of N elements has an average complexity in the order of
- $N \log_2 N$
 - $\log_2 N$
 - $N-1$
 - 2^N
27. The operation of processing each element in a list is known as
- Sorting
 - Searching
 - Indexing
 - Traversal
28. Generally a variable defined within a block is visible
- From the point of definition onward in a sub routine
 - From the point of definition onward in the function
 - From the point of definition onward in the block
 - Throughout the function
29. A linear collection of data elements where its elements are accessed by means of a pointer is called a (an)
- Linked list
 - 1-D Array
 - Record
 - Sorted list.
30. Locking was introduced into databases so that
- Keys Can be provided to maintain security
 - All simultaneous transactions are prevented
 - Passwords can be provided to maintain security
 - Consistency can be enforced
31. A data model is a collection of conceptual tools for describing
- Data and data relationships
 - Data semantics and consistency constraints
 - Data, data relationship, data semantics and consistency constraints
 - Encryption and decryption
32. Modifying software to respond to changes in its environment is called
- Adaptive maintenance
 - Corrective maintenance
 - Pre-emptive maintenance
 - Preventive maintenance
33. The mechanism of deriving a class from another derived class is known as
- Polymorphism
 - Single Inheritance
 - Multilevel Inheritance
 - Message Passing





34. An ASCII character is said to be coded in one byte, how many bits are needed to code the word CODING.
A. 42
B. 6
C. 48
D. 64
35. For deadlock to occur,
A. There must be mutual exclusion in resource allocation to processes
B. There must be hold and wait of resources by processes
C. There must be circular waiting
D. All of the above.
36. A program that makes one kind of computer act as if it was another kind is called a(n)
A. Virus
B. Object code
C. Virtual machine
D. Source code
37. The protocol CSMA/CD is used in a
A. Shared media
B. Dedicated media
C. Giga Ethernet (optical fibres)
D. Radio waves
38. One negative effect of the digital divide is
A. Increase in money laundry
B. Rise in unemployment worldwide
C. Further impoverishment of the poor
D. Hunger.
39. The following transmission media are ranked in increasing order of their transmission rates and effectiveness.
A. Optical fibres, UTP Cables, Micro-Waves
B. Optical fibres, Micro-Waves, UTP Cables
C. Micro-Waves, Optical fibres, UTP Cables
D. Micro-Waves, UTP Cables, Optical fibres.
40. The rules that govern how entities communicate or interact in a network are
A. Network topology
B. OSI model
C. Protocols
D. Standards and Protocols
41. A network interface card (NIC) is found
A. In every network data terminal equipment (host)
B. In the server only
C. In the Application layer of OSI model
D. At the terminal of every transmission media.
42. In Round Robin CPU scheduling, as the time quantum increases, the average turnaround time
A. Increases
B. Decreases
C. Remains constant
D. Varies Unpredictable
43. If a computer in a network that shares resources for others to use is called
A. A server
B. A Router
C. A Switch
D. A Hub
44. Given the database relation CUSTOMER (Customer ID, Name, Address, Customer- Status, Customer type). A suitable primary key for CUSTOMER is:
A. Name
B. CustomerID
C. Customer status
D. Customer-type
45. A data structure may be considered as:
A. Method for formatting the components of data input.
B. A format for organising and sorting data for algorithmic efficiency
C. A representation of data in the computer
D. A way of classifying data for better accessibility.
46. An interpreted programming language that works within another application to perform tasks and used by web designers to build interactive features in a web page is known as:
A. Scripting language
B. Compiled language
C. Machine language
D. Mark-up language
47. In the initial phase (phase 1) of the SDLC, which of the following aspects are usually analysed?
A. Requirements
B. Inputs
C. Controls
D. All of the above
48. A field in the database table that uniquely identifies a record in the table is known as
A. Secondary key
B. Foreign key
C. Primary key
D. Candidate key
49. A database table is in 2nd Normal form if it is in 1st normal form and
A. All non-key fields depend on a unique key
B. All non-key fields depend on all key fields
C. Most non-key fields depend on a unique key
D. Most non-key fields depend on all key fields
50. Given that a student must have a class. If class has as primary key ClassID, what foreign key field(s) is (are) found in the entity student?
A. Class
B. ClassID, StudentID
C. Class cycle
D. ClassID

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