

CET 2009

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Code No.: 209101

Important : Please consult your Admit Card / Roll No. Slip before filling your Roll Number on the Test Booklet and Answer Sheet

Roll No.

In Figures

In Words

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O.M.R. Answer Sheet Serial No.

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Signature of the Candidate : _____

Paper : VI

Subject : Computer Science

Time : 70 minutes

Number of Questions : 60

Maximum Marks : 120

DO NOT OPEN THE SEAL ON THE BOOKLET UNTIL ASKED TO DO SO

INSTRUCTIONS

1. Write your Roll No. on the Question Booklet and also on the OMR Answer Sheet in the space provided and nowhere else.
2. Enter the Subject and Code No. of Question Booklet on the OMR Answer Sheet. Darken the corresponding bubbles with **Black Ball Point / Black Gel pen.**
3. Do not make any identification mark on the Answer Sheet or Question Booklet.
4. To open the Question Booklet remove the paper seal (s) gently when asked to do so.
5. Please check that this Question Booklet contains **60** questions. In case of any discrepancy, inform the Assistant Superintendent within 10 minutes of the start of test.
6. Each question has four alternative answers (A, B, C, D) of which only one is correct. For each question, darken only one bubble (A or B or C or D), whichever you think is the correct answer, on the Answer Sheet with **Black Ball Point / Black Gel pen.**
7. If you do not want to answer a question, leave all the bubbles corresponding to that question blank in the Answer Sheet. No marks will be deducted in such cases.
8. Darken the bubbles in the OMR Answer Sheet according to the Serial No. of the questions given in the Question Booklet.
9. Negative marking will be adopted for evaluation i.e., 1/4th of the marks of the question will be deducted for each wrong answer. A wrong answer means incorrect answer or wrong filling of bubble.
10. For calculations, use of simple log tables is permitted. Borrowing of log tables and any other material is not allowed.
11. For rough work only the sheets marked "Rough Work" at the end of the Question Booklet be used.
12. The Answer Sheet is designed for **computer evaluation**. Therefore, if you do not follow the instructions given on the Answer Sheet, it may make evaluation by the computer difficult. **Any resultant loss to the candidate on the above account, i.e., not following the instructions completely, shall be of the candidate only.**
13. After the test, hand over the Question Booklet and the Answer Sheet to the Assistant Superintendent on duty.
14. In no case the Answer Sheet, the Question Booklet, or its part or any material copied/ noted from this Booklet is to be taken out of the examination hall. Any candidate found doing so would be expelled from the examination.
15. A candidate who creates disturbance of any kind or changes his/her seat or is found in possession of any paper possibly of any assistance or found giving or receiving assistance or found using any other unfair means during the examination will be expelled from the examination by the Centre Superintendent / Observer whose decision shall be final.
16. **Telecommunication equipment such as pager, cellular phone, wireless, scanner, etc., is not permitted inside the examination hall. Use of calculators is not allowed.**

1. **The word 'Computer' usually refers to the Central Processing Unit plus :**
(A) External memory (B) Internal memory
(C) Input devices (D) Output devices
2. **The Computer device primarily used to provide hardcopy is the :**
(A) CRT (B) Line Printer
(C) Card Reader (D) Computer Console
3. **A source program is the program written in _____ language.**
(A) English (B) Symbolic
(C) High-level (D) Machine
4. **Which of the following is not a type of Operating System ?**
(A) Multi-programming (B) Time-sharing
(C) Real-time (D) Concurrent Programming
5. **The mechanical, magnetic, electronic and electrical devices from which a computer is fabricated is called :**
(A) Magnetic Core (B) Firmware
(C) Hardware (D) Software
6. **Operating System is :**
(A) A collection of Hardware routines (B) A collection of memory components
(C) A collection of software routines (D) A collection of Input-Output devices
7. **The step-by-step instructions that solve a problem are called :**
(A) an algorithm (B) a list
(C) a plan (D) a sequential structure
8. **The rules of a programming language are called :**
(A) Code (B) Guidelines
(C) Procedures (D) Syntax
9. **The most efficient data-type for a variable that stores the number 4.6×10^{20} is the _____ data-type.**
(A) Character (B) Float
(C) Long integer (D) Short integer
10. **Which loop always processes its instruction at least once ?**
(A) do-while (B) If loop
(C) for loop (D) while
11. **Which of the following is not a mathematical function ?**
(A) $\log ()$ (B) $\sin () \rightarrow \sin ()$
(C) $\text{islower} ()$ (D) $\text{abs} ()$
12. **Which of the following is a logical OR operator ?**
(A) $\&\&$ (B) \parallel
(C) $?:$ (D) $\&$

- 13. Which of the following is not a valid declarations for a C++ character string ?**
- (A) char S[6]; (B) char S[6] = "Hello";
 (C) char * S; (D) char S[];
- 14. Which of the following symbols enclose the body of the main () function and are required for every C++ program ?**
- (A) << and >> (B) { and }
 (C) // and // (D) [and]
- 15. Which of the following is a valid identifier ?**
- (A) y²d² (B) H₂O
 (C) second_list (D) 2nd list
- 16. The header file required to be included in any C++ program that uses "Cin" and "Cout" functions is :**
- (A) <iomanip.h> (B) <iostream.h>
 (C) <ctype.h> (D) <math.h>
- 17. Construct a logical expression for n is even but not 8 :**
- (A) (n% 2 == 0 && n != 8) (B) (n%2 == 0 || n! = 8)
 (C) (n/2 == 0 || n! = 8) (D) (n%2 == 0 && n == 8)
- 18. Write a declaration for an array of 8 floats :**
- (A) float a [8]; (B) float a (8);
 (C) float a 8; (D) float * a [8]
- 19. Element array [7] is which element of the array in C++ ?**
- (A) The sixth (B) The seventh
 (C) The eighth (D) The last element
- 20. A function's single most important role is to :**
- (A) give a name to a block of code (B) reduce program size
 (C) accept arguments and provide a return value (D) help in organizing a program into conceptual units
- 21. A search method based on examining each item in a sequence until the desired item is found or the sequence is exhausted is :**
- (A) Sequential search (B) Minimax search
 (C) Hill-Climbing search (D) Heuristic search
- 22. Hexadecimal means :**
- (A) Six (B) Ten
 (C) Sixteen (D) Eight
- 23. Which of the following is not an encoding scheme ?**
- (A) ASCII (B) IEEE
 (C) ISCII (D) UNICODE
- 24. Which of the following is not a register ?**
- (A) Accumulator (B) Stack Pointer
 (C) Buffer (D) Program Counter

25. Which of the following 4-bit number equals its 2's Complement ?
- (A) 1010 (B) 1000
(C) 0101 (D) 1100
26. Pick-out the correct statement :
- (A) ROM is a read/write memory (B) PC points to the last instruction to be executed
(C) CPU has a single numerical processor (D) RAM is a read/write memory
27. If a particular idea is to be implemented in hardware or software, the factor that favours hardware implementation is :
- (A) cost-effectiveness (B) speed of operation
(C) frequent changes expected (D) facilitates easy implementation of new instruction
28. The basic unit of measurement used for measuring opposition to current flow in a circuit is :
- (A) volt (B) ampere
(C) ohm (D) watt
29. Programming in a language that actually controls the path of signals or data within a computer is called :
- (A) Micro-programming (B) System programming
(C) Assembly programming (D) Machine programming
30. Which of the following is not a port/connection ?
- (A) PS-2 (B) COM
(C) SMPS (D) LPT
31. What is the correct definition for a string variable ?
- (A) string mystr; (B) string mystr [20];
(C) char mystr; (D) char mystr [20];
32. The sentence "Hello world !" uses _____ elements in a character array.
- (A) 10 (B) 11
(C) 12 (D) 13
33. What is the output of the following code ?
- ```
for (int a = 1; a <= 1; a++) cout << a++; cout << a;
```
- (A) 22 (B) 12  
(C) 13 (D) 23
34. Assume there are three boolean variables: a =false, b=false, c=true. What is the value of the following statement ?
- a || b && c
- (A) True (B) False  
(C) Something other than true and false (D) -1
35. Inheritance is a way to :
- (A) organize data  
(B) pass arguments to objects of classes  
(C) add features to existing classes without rewriting them  
(D) improve data-hiding and encapsulation

- 36. What is a Constructor ?**
- (A) A function called when an instance of a class is initialized  
 (B) Function that is called when an instance of a class is deleted  
 (C) A special function to change the value of dynamically allocated memory  
 (D) A function that is called in order to change the value of a variable
- 37. Which of the following gives the value stored in pointer a ?**
- (A) a; (B) val(a);  
 (C) \*a; (D) &a;
- 38. Array passed as an argument to a function is interpreted as :**
- (A) Address of the array (B) Value of the first element of the array  
 (C) Address of the first element of the array (D) Number of elements of the array
- 39. Which of the following is the feature of stack ?**
- (A) All operations are at one end (B) It cannot reuse its memory  
 (C) All elements are of different data types (D) Any element can be accessed from it directly
- 40. What is the Postfix Expression for the following Infix (Inorder) expression ?**  
 $2*3-4/5$
- (A)  $23*45/-$  (B)  $23*-45/$   
 (C)  $23*45- /$  (D)  $*23/45-$
- 41. Binary search requires data to be in what order ?**
- (A) Increasing (B) Decreasing  
 (C) Random (D) Sorted
- 42. You are making your own database so that you can organize information about your 'Top 100' movies. You want to include information like Title, Actor (s), Director, Year etc. Each record in your database will represent :**
- (A) An actor (B) A director  
 (C) A year (D) A movie
- 43. What will be a suitable criterion that should be entered for a query to search for Employee Names beginning with M ?**
- (A) Start with M (B) Like M  
 (C) Like M\* (D) Like 'M\*'
- 44. A field that is a primary key in another table is called a \_\_\_\_\_ .**
- (A) special key (B) foreign key  
 (C) simple key (D) composite key
- 45. This aggregate SQL function will return the number of rows in a database table :**
- (A) COUNT (\*) (B) Rows (\*)  
 (C) NUM (\*) (D) SUM (\*)

46. INSERT INTO \_\_\_\_\_ VALUES (value 1, value 2) :  
What belongs in the blank ?
- (A) the table name (B) the database name  
(C) the column (s) name (D) the row number
47. Convert the hexadecimal number 59 into binary :
- (A) 1001101 (B) 1010101  
(C) 1011001 (D) 1101101
48. For a three inputs (A, B, C) OR gate, what inputs are needed if output = 0 ?
- (A) A = 0, B = 0, C = 1 (B) A = 0, B = 1, C = 0  
(C) A = 1, B = 1, C = 1 (D) A = 0, B = 0, C = 0
49. Given  $F = A'B + (C'E)(D+F')$ , use de Morgan's theorem to find  $F'$ .
- (A)  $ACE' + BCE' + D'F$  (B)  $(A+B')(CE'D'F)$   
(C)  $A+B+CE'D'F$  (D)  $ACE' + AD'F + B'CE' + B'D'F$
50. Which of the following functions equals the function:  $f = x + yz'$  ?
- (A)  $x(y'+z)$  (B)  $(y+x)(z'+x)$   
(C)  $(y+x')(x'+z')$  (D)  $(y+x)(x+z)$
51. Which topology requires a central controller or hub ?
- (A) Mesh (B) Star  
(C) Bus (D) Ring
52. In \_\_\_\_\_ transmission, the channel capacity is shared by both communicating devices at all times :
- (A) Simplex (B) Half-duplex  
(C) Full-duplex (D) Half-simplex
53. \_\_\_\_\_ is the protocol suite for the current Internet.
- (A) TCP/IP (B) NCP  
(C) UNIX (D) ACM
54. In C++, to write data containing variables of type float, to an object of type of stream, you should use :
- (A) The insertion operator (B) seek ()  
(C) write () (D) put ()
55. A message from device A consists of packet X and packet Y. In the virtual circuit approach to packet switching, packet Y's path \_\_\_\_\_ packet X's.
- (A) is the same as (B) is dependent on  
(C) is independent of (D) is always different from
56. There are n devices arranged in a ring topology. A device is deleted. There are now \_\_\_\_\_ links of cable.
- (A) n - 1 (B) n - 2  
(C) n (D) n + 1
57. Which factor makes twisted-pair cable superior to fiber-optic cable ?
- (A) signal attenuation (B) noise resistance  
(C) bandwidth range (D) cost

**58. What is the class of the address 227.78.19.21 ?**

- (A) A
- (B) B
- (C) C
- (D) D

**59. What is a URL ?**

- (A) a computer software program
- (B) an address of machine
- (C) the address of a document or page on the World Wide Web
- (D) an acronym for Unlimited Resources for Learning

**60. A \_\_\_\_\_ is a software program used for viewing various kinds of Internet resources found on the World Wide Web :**

- (A) Bookmark
- (B) Browser
- (C) Domain
- (D) Intranet

# **ROUGH WORK**



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