

Sl. No. : 050322

P.G. ENTRANCE TEST, MAY 2013.

Test Name : COMPUTER SCIENCE

HALL TICKET No. :

.						
---	--	--	--	--	--	--

Signature of the Candidate

Signature of the Invigilator

**INSTRUCTIONS TO CANDIDATES**

This question paper booklet consists of THREE Sections A, B and C. Sections A and B contain 30 multiple choice questions each. Section C contain 40 Multiple choice questions.

Clearly write your Hall Ticket Number in the space provided on the question paper booklet (if necessary on the OMR answer sheet) without corrections or overwriting. If any correction is made, get it certified by the invigilator.

You are prohibited from writing your name or Hall Ticket No. on any part of the Question paper booklet or on the OMR answer sheet except in the space provided.

No paper should be detached from the question paper booklet and it should be returned to the invigilator along with the OMR answer sheet.

You are supplied with OMR answer sheet for answering the questions.

Before you start answering, please read the instructions given in the OMR answer sheet.

Do not toil/mutilate/scribble the OMR answer sheet.

For answering the questions darken the appropriate circle completely with HB pencil only.

If you wish to change your answer, erase already darkened circle and then darken the appropriate circle.

Do not make any stray marks/scribble on the bar code of the OMR answer sheet.

Any rough work should be done in the space provided at the end of the question paper booklet.

Test Name : COMPUTER SCIENCE

Time : 90 minutes

Maximum : 100 marks

Answer ALL questions.

Each question carries ONE mark.

SECTION — A

1. C programs are converted into machine language with the help of
  - (a) An Editor
  - (b) A compiler
  - (c) An operating system
  - (d) None of the above
2. A C variable cannot start with.
  - (a) An alphabet
  - (b) A number
  - (c) A special symbol other than underscore
  - (d) Both (b) and (c)
3. The binary equivalent of 5.375
  - (a) 101.011
  - (b) 111.000
  - (c) 101.111
  - (d) None of the above
4. The range of int type constant
  - (a) 00000 to 65535
  - (b) -32768 to +32767
  - (c) -65535 to 65535
  - (d) -32768 to 0
5. In C language value of an expression  $14\% 4 =$ 
  - (a) 1
  - (b) 2
  - (c) 3
  - (d) 4
6. Variables that are declared, but not initialized, contain
  - (a) Blank spaces
  - (b) Zero
  - (c) Garbage value
  - (d) None of these
7. The name of a variable is known as its
  - (a) Identifiers
  - (b) Constant
  - (c) Data type
  - (d) Base

8. The brain of any computer system is  
(a) ALU (b) Memory  
(c) CPU (d) Control Unit
9. The Number of Bits in ASCII code  
(a) 6 (b) 7  
(c) 8 (d) 4
10. Which of the following is the 1's complement of 10?  
(a) 01 (b) 110  
(c) 11 (d) 10
11. Which of the following special symbol allowed in a variable name?  
(a) \* (asterisk) (b) | (pipeline)  
(c) - (hyphen) (d) \_ (underscore)
12. ASCII stands for  
(a) American standard code for information interchange  
(b) All-purpose scientific code for information interchange  
(c) American security code for information interchange  
(d) American scientific code for information interchange
13. By default a real number is treated as a  
(a) Float (b) Double  
(c) Long double (d) Far double
14. Compiler is  
(a) Device (b) Software  
(c) Communication channel (d) None of the above
15. A pointer is  
(a) A keyword used to create variables  
(b) A variable that stores address of an instruction  
(c) A variable that stores address of other variable  
(d) All the above
16. The fastest memory is  
(a) Hard Disk (b) Virtual Memory  
(c) Cache Memory (d) Magnetic tape

17. How will you print `\n` on the screen?  
(a) `printf("\n");` (b) `echo"\n";`  
(c) `printf('\n');` (d) `printf("\n\n");`
18. Which of the following is the correct order of evaluation for the below expression  $z=x+y*z/4\%2-1$ ?  
(a) `*/% + - =` (b) `= * / % + -`  
(c) `/ * % - + =` (d) `* % / - + =`
19. Which of the following is allowed in a C Arithmetic instruction?  
(a) `[]` (b) `{}`  
(c) `()` (d) None of the above
20. In switch statement, each case instance value must be \_\_\_\_\_.  
(a) Constant (b) Variable  
(c) Special Symbol (d) None of the above
21. What is the work of break keyword?  
(a) Halt execution of program  
(b) Restart execution of program  
(c) Exit from loop or switch statement  
(d) None of the above
22. Which one of the following sentences is true?  
(a) The body of a while loop is executed at least once  
(b) The body of a do...while loop is executed at least once  
(c) The body of a do...while loop is executed zero or more times  
(d) A for loop can never be used in place of a while loop
23. The output of the following program  

```
Void main ()  
{  
int a = 250;  
Printf("%d",a);  
}
```

  
(a) a (b) 250  
(c) 0000 (d) Garbage value
24. If the two strings are identical, then `strcmp()` function returns  
(a) -1 (b) 1  
(c) 0 (d) None of the above

25. Which of the following function is more appropriate for reading in a multi-word string?
- (a) printf( ) (b) scanf( )  
(c) gets( ) (d) puts( )
26. Which of the following function is used to find the first occurrence of a given string in another string?
- (a) strchr( ) (b) strrchr( )  
(c) strstr( ) (d) strnset( )
27. The default return type of main( )
- (a) int (b) void  
(c) char (d) float
28. Scope of the variable of automatic storage class is limited to the
- (a) Program in which it is defined  
(b) Block in which it is defined  
(c) Loop in which it is defined  
(d) Function in which it is defined
29. Booting of the system means
- (a) Loading the operating system  
(b) Running the application program  
(c) Physically clicking the computer  
(d) Dismissing the computer
30. Scope of the variable is
- (a) The region over which the variable declared has effect  
(b) The region where the function has effect  
(c) The return type of the variable  
(d) None of the above

SECTION - B

31. What will be output if you will execute following c code?

```
#include<stdio.h>
int main( )
    { for (;NULL;)
      Printf ("cquestion bank");
      return 0;
    }
```

- (a) C (b) Bank  
(c) Cquestionbank (d) Infinite loop

32. What is the right way to access value of structure variable book{ price, page}?

- (a) printf("%d%d", book.price,book.page);  
(b) printf("%d%d", price.book, page.book);  
(c) printf("%d%d", price::book, page::book);  
(d) printf("%d%d", price->book, page->book);

33. The value of EOF is :

- (a) 1 (b) 0  
(c) Infinity (d) -1

34. The preprocessor directive #include is required if

- (a) Console output is used (b) Console input is used  
(c) Both (a) and (b) (d) None of these

35. Declaration of the function in calling program is known as

- (a) Prototype (b) Passing argument  
(c) Reference (d) None of the above

36. How many bytes are occupied by near, far and huge pointers (DOS)?

- (a) near=2 far=4 huge=4 (b) near=4 far=8 huge=8  
(c) near=2 far=4 huge=8 (d) near=4 far=4 huge=8

37. In C, if you pass an array as an argument to a function, what actually gets passed?

- (a) Value of the function  
(b) Value of elements in array  
(c) Base address of the array  
(d) Address of the last element of array

38. What is the similarity between a structure, union and enumeration?

- (a) All of them let you define new values  
(b) All of them let you define new data types  
(c) All of them let you define new pointers  
(d) All of them let you define new structures

39. What is right way to Initialization array?  
(a) `int num [6] = {2, 4, 12, 5, 45, 5};` (b) `int n {} = {2, 4, 12, 5, 45, 5};`  
(c) `int n {6} = {2, 4, 12};` (d) `int n(6) = {2, 4, 12, 5, 45, 5};`
40. Bit wise OR operator is  
(a) Logical Operator (b) Binary Operator  
(c) Arithmetic Operator (d) None of the Above
41. What is the final value of x when the code `int x; for (x=0; x<10; x++) { }` is run?  
(a) 10 (b) 9  
(c) 0 (d) 1
42. What will be the output of the program?  
`int main ()  
{  
char str 1[20] = "Hello",str2[20]="World";  
printf("%s\n",strcpy(str2,strcat(str1,str2)));  
return 0;  
}`  
(a) Hello (b) World  
(c) Hello World (d) WorldHello
43. Input/output function prototypes and macros are defined in which header file?  
(a) `conio.h` (b) `stdlib.h`  
(c) `stdio.h` (d) `dos.h`
44. What will the function `rewind()` do?  
(a) Reposition the file pointer to a character reverse  
(b) Reposition the file pointer stream to end of file  
(c) Reposition the file pointer to beginning of that line  
(d) Reposition the file pointer to beginning of file.
45. What is `stderr`?  
(a) Standard error (b) Standard error code  
(c) Standard error streams (d) Standard error definitions
46. The maximum combined length of the command-line arguments including the spaces between adjacent arguments is  
(a) 128 characters  
(b) 256 characters  
(c) 67 characters  
(d) It may vary from one operating system to another

47. What do the 'c' and 'v' in *argv* stands for?
- (a) 'c' means argument control 'v' means argument vector
  - (b) 'c' means argument count 'v' means argument vertex
  - (c) 'c' means argument count 'v' means argument vector
  - (d) 'c' means argument configuration 'v' means argument visibility
48. What function should be used to free the memory allocated by *calloc()* ?
- (a) `dealloc()`
  - (b) `malloc(variable_name,0)`
  - (c) `free()`
  - (d) `memalloc(variable_name, 0)`
49. To round the variable, x, float to integer correct way to do so is:
- (a) `y=(int)(x+0.5)`
  - (b) `y=(float)(x+0.5)`
  - (c) `int y=(int)(x+0.5)`
  - (d) None of the above
50. What does the following declaration mean `int (*ptr) [10]`?
- (a) ptr is pointer to integer
  - (b) ptr is pointer to array of 10 integer
  - (c) ptr is array of 10 elements
  - (d) None of the above
51. What does the following declaration signify?  
`char**argv;`
- (a) *argv* is a pointer to pointer
  - (b) *argv* is a pointer to a *char* pointer
  - (c) *argv* is a function pointer
  - (d) *argv* is a member of function pointer
52. In C language '3' represents:
- (a) Digit
  - (b) Integer
  - (c) Character
  - (d) String
53. `*ptr++` equivalent to
- (a) `ptr++`
  - (b) `*ptr`
  - (c) `++*ptr`
  - (d) None of the above
54. In which stage the following code `#include<stdio.h>` gets replaced by the contents of the file *stdio.h*
- (a) During editing
  - (b) During linking
  - (c) During execution
  - (d) During preprocessing





SECTION - C

61. Number of binary trees formed with 5 nodes are  
(a) 30 (b) 36  
(c) 108 (d) 42
62. The postfix expression for  $* + a b \cdot c d$  is?  
(a)  $ab + cd - *$  (b)  $ab cd + - *$   
(c)  $ab + cd * -$  (d)  $ab + - cd *$
63. A data structure where element can be added or removed at either end but not in the middle?  
(a) Queue (b) Stack  
(c) Dequeue (d) Linked-list
64. The situation when in a linked list  $START=NULL$  is?  
(a) Underflow (b) Overflow  
(c) Stack-full (d) Stack-null
65. Which of the following operations is performed more efficiently by doubly linked list than by singly linked list?  
(a) Deleting a node whose location is given  
(b) Searching of an unsorted list for a given item  
(c) Inverting a node after the node with given location  
(d) Traversing a list to process each node
66. Which one of the following is not a linear data structure?  
(a) Array (b) Binary Tree  
(c) Queue (d) Stack
67. A queue has configuration a, b, c, d. To get configuration d, c, b, a. One needs a Minimum of  
(a) 2 deletions and 3 additions (b) 3 deletions and 2 additions  
(c) 3 deletions and 3 additions (d) 3 deletions and 4 additions
68. Number of possible ordered trees with 3 nodes A, B, C is  
(a) 16 (b) 12  
(c) 6 (d) 10
69. Average successful search time for sequential search on 'n' item is  
(a)  $n/2$  (b)  $(n-1)/2$   
(c)  $(n+2)/2$  (d)  $\log(n)+1$
70. A binary tree that has n leaf nodes. The number of nodes of degree 2 in this tree is  
(a)  $\log_2 n$  (b)  $n-1$   
(c) n (d) 2

71. Four algorithms A1, A2, A3, A4 solves a problem with order  $\log(n)$ ,  $\log \log(n)$ ,  $n \log(n)$ ,  $n$ . Which is best algorithm?  
(a) A1 (b) A2  
(c) A3 (d) A4
72. Number of swapping operations need to sort numbers 8,22,7,9,31,19,5,13 in ascending order using bubble sort.  
(a) 11 (b) 12  
(c) 13 (d) 14
73. Representation of data structure in memory is known as  
(a) Recursive (b) Abstract data type  
(c) Storage Structure (d) File structure
74. The minimum number of edges in a connected cyclic graph on  $n$  vertices is  
(a)  $n-1$  (b)  $n$   
(c)  $n+1$  (d) None of the above
75. The data structure required to check whether an expression contains balanced parenthesis is  
(a) Stack (b) Queue  
(c) Tree (d) Array
76. A database is a collection of  
(a) Information (b) Records  
(c) Data (d) None
77. The software designed to assist in maintaining and utilizing large collection of data  
(a) DBMS (b) SQL  
(c) RDMS (d) All of the above
78. SQL stands for  
(a) Standard Query Language (b) Structured Query Language  
(c) System Query Language (d) Software Query Language
79. DBMS allows many users to access data concurrently for  
(a) Concurrency and Robustness  
(b) Data Analysis  
(c) Efficiency and Scalability  
(d) DB design and Application Development
80. Most database management system today are based on the model  
(a) Data model (b) Relational data model  
(c) Semantic data model (d) None

81. A description of data in terms of a data model is called a  
(a) Attribute (b) Schema  
(c) Field (d) None
82. The conceptual schema sometimes called  
(a) Logical schema (b) Physical schema  
(c) Schema (d) None
83. An object in the real world that is distinguishable from other objects  
(a) Entity (b) Attributes  
(c) Entity sets (d) None
84. DBMS is often useful to identify a collection of entities. Such a collection is called  
(a) Entity (b) Attributes  
(c) Entity sets (d) None
85. An entity is described using a set of  
(a) Entity (b) Attributes  
(c) Entity sets (d) None
86. An association among two or more entities is a  
(a) Relationship (b) Relationship Set  
(c) Entity Set (d) None
87. Insert, Delete operations fall into which category  
(a) DML (b) DDL  
(c) DCL (d) Integrity Constraints
88. Which of the following is applicable for Creation, Deletion and Modification of Definitions for tables  
(a) DML (b) DDL  
(c) Integrity constraints (d) None
89. RDBMS stands for  
(a) Rational Database Management System  
(b) Relational Database Management System  
(c) Rapid Database Management System  
(d) None of the above
90. Which of the following function is used to find aggregation?  
(a) AVG (b) Distinct  
(c) SUM (d) DIV

91. Cross product symbol indicates.
- (a)  $R-S$  (b)  $R*S$   
(c)  $R \cap S$  (d) None
92. Which of the following indicates set difference?
- (a)  $R \cap S$  (b)  $R-S$   
(c)  $R*S$  (d) None
93. The column of a table is referred to as the
- (a) Tuple (b) Attribute  
(c) Entity (d) Degree
94. In an E-R diagram ellipse represent
- (a) Entity sets  
(b) Relationship among entity sets  
(c) Attributes  
(d) Link between attributes and entity sets
95. E-R modeling technique is
- (a) Top down Approach (b) Bottom Up Approach  
(c) Left Right Approach (d) None
96. Which Normal form is considered adequate for RDBMS design
- (a) 2NF (b) 3NF  
(c) 4NF (d) BCNF
97. If a relation schema is in BCNF then it is also in
- (a) 1NF (b) 2NF  
(c) 3NF (d) All the above
98. Choose the correct statement
- (a) An alternative is a candidate key, that is not a primary key  
(b) An alternative is a primary key, that is not a candidate key  
(c) An alternative key is a candidate key, that is also a primary key  
(d) None of the above
99. 3NF is in adequate when
- (a) Has multiple candidate keys  
(b) Has candidate keys that are composite  
(c) Both (a) and (b)  
(d) None
100. Let R be a relation schema, F be the set of FDs given to hold over U, X be a subset of the attributes of R, and A be an attribute of it R. R is in third normal form if, for every FD  $X \rightarrow a$  in F which one of the following statements holds good
- (a)  $A \in X$ , i.e., it is a trivial FD, or  
(b) X is a superkey, or  
(c) A is part of some key for R  
(d) All the above