**PGT Computer Science**

1. What will be the output of the program?

```cpp
#include <iostream.h>
void main()
{
    int n=0;
    do { n++; cout << n << "\t"; } while (n <= 100);
}
```

Will print natural numbers (both inclusive) from:-

a. 0 to 101  
b. 0 to 99   
c. 1 to 100  
d. 1 to 101

2. ____________ allows that a section of a program is compiled only if the defined constant that is specified as the parameter has been defined, independently of its value.

a. #if   
b. #define   
c. #typedef   
d. #ifdef

3. ____________ marks the end of the string.

a. '"0'   
b. '"!=0'   
c. '"a'   
d. '"!'    

4. The arguments that are given during the function call are known as:-

a. Actual parameters  
b. Manipulators  
c. Default parameters  
d. Formal parameters

5. The statement int num[][3]={1,2,3,4,5,6};

a. Assigns a value 3 to num[2][2]  
b. Assigns a value 6 to num[2][2]
c. Gives an error message
   d. Assigns a value 3 to num[0][2]

6. The output of following code is:-

```
#include "iostream.h"
void main()
{
    char *a="UNA";
    char c; c=--*++a;
    cout<<endl<<c;
}
```

a. U  
b. N  
c. O  
d. M

7. Which one of the given answers is correct?

```
#include "iostream.h"
void main()
{
    int a,b=3; cin>>a;
    if(a)
        b=a+-1;
    cout<<a<<","<<b<<endl;
}
```

if value of 'a' entered by user is -1.

a. -1,-2  
b. -1,2  
c. 0,-2  
d. 0,2

8. Which of the following formulas can be used to generate random numbers in the range 0-10? (including 0 and 10)

a. 1 + rand()% (10 - 1 + 1)
   b. random(10)+1
   c. rand()%10+1-1
   d. 1 + (10 - 1 + 1) % random()
9. How many times is the following loop executed?

```c
int s=0, i=0;
do
    { s+=i; cout<<"hi"<<endl; }
while(i++<=5);
```

a. Infinite
b. 7
c. 5
d. 6

10. A member function can be declared static if does not access __________ members.

a. Global
b. Private
c. Non static
d. Public

11. A function abc is defined as:-

```c
void abc( int x=2, int y=3)
    { cout<<x<<","<<y; }
```

Which of the following function calls is illegal? (Assume m and n are declared as integers.)

a. abc( int m,int n);
b. abc();
c. abc(m,n);
d. abc(n);

12. When an argument is passed by value:-

a. The function accesses the argument's original value in the calling program
b. The function cannot access the argument's value
c. The function copies the value of argument to its own variable
d. Arguments reference is used in function definition

13. A variable with static storage specifier has:-

a. default initial value : 0(zero)
b. default initial value : 1(one)
c. default initial value : garbage
d. default initial value : 32767
14. Which of the following is not true about pointers?

   a. In C++ classes & structures may contain data members that are pointers to their own type
   b. In C++, a pointer to a base class can point to objects of a derived class
   c. The contents of two pointers that point to adjacent variables of type float differ by 4 bytes
   d. A pointer to void cannot hold pointers to any data type

15. getch() library function belongs to header file __________.

   a. conio.h
   b. stdlib.h
   c. stdio.h
   d. string.h

16. If function with same name exists in both the derived class and base class, the compiler decides the function call as:-

   a. The function in the base class is executed, if it is called by an object of the base class
   b. The function in the base class is executed, if it is called by an object of the derived class
   c. The function in the derived class is executed, if it is called by an object of the base class
   d. None of the above

17. ____________ keyword is used to de-allocate memory.

   a. Delete
   b. Undo
   c. New
   d. Release

18. Which of the following function is used to check invalid I/O operations and unrecoverable errors that may occur during file input/output operations?

   a. clear()
   b. rdstate()
   c. bad()
   d. fail()
19. What is the output of the following code?

```cpp
#include <iostream.h>
void main()
{
    static double i;
    i=20.5;
    cout<<sizeof(i); }
```

a. 20.5  
b. 4  
c. 8  
d. Error, I undefined

20. By default, data members of a structure are: -

a. A long double  
b. Private  
c. Public  
d. Depends upon memory model that you are using


a. 2055  
b. 2059  
c. 2049  
d. 2035

22. A linear list in which elements can be added or removed at either end but not in middle, is known as:-

a. deque  
b. priority queue  
c. linked queue  
d. queue

23. In C++ programming language, which of the following operators has the lowest precedence?

a. ||  
b. &&  
c. ,  
d. ! equals
24. The average number of comparisons in sequential search:
   a. \( \frac{n+2}{2} \)
   b. \( \log_2 n \)
   c. \( \frac{n+1}{2} \)
   d. \( \frac{n(n+2)}{2} \)

25. Student's t-Distribution was discovered by:
   a. Laplace
   b. Karl Pearson
   c. Gosset
   d. Fisher

26. A relational model which allows non-atomic domains is:
   a. Hierarchical data model
   b. Nested relational data model
   c. Non-atomic data model
   d. None of the above

27. The way a particular application views the data from the database that application uses is:
   a. Subschema
   b. Schema
   c. Relational model
   d. Module

28. The employee salary should not be greater than ₹ 2000. This is:
   a. Over-defined
   b. Referential constraint
   c. Integrity constraint
   d. External constraint

29. Versatile report generator can provide:
   a. Subtotals
   b. Columnar totals
   c. Calculations
   d. All of the above
30. Which of the following is the correct statement to create an object of Data class?
   a. Data d=new Data();
   b. Data d(n)=new Data();
   c. Data d=new object();
   d. Data d()=new Data();

31. Which of the following commands permanently delete the record marked for deletion from the database filed?
   a. SEEK
   b. PACK
   c. SKIP
   d. ZAP

32. A default constructor ______.
   a. Has one argument
   b. Has no return type
   c. Has one argument but no return type
   d. Has no argument

33. Which of the following statement is true?
   a. DDL commands are committed by savepoint
   b. DDL commands are committed by commit command
   c. DDL commands are automatically committed
   d. All of the above

34. While using functions in views __________ is must.
   a. Check
   b. Index
   c. Primary key
   d. Alias name

35. The ________ allows for automatic deletion of child records when a parent record is deleted.
   a. On erase cascade
   b. On delete cascade
   c. On demand delete
   d. On priority delete
36. What was the name of network architecture that was developed by IBM?

   a. XNS
   b. Novell
   c. DECNET
   d. SNA

37. Which organisation draws up standards for modem?

   a. CCITT
   b. AT and T
   c. Hayes
   d. BELL

38. Which one of following is not a class of LAN?

   a. Token bus
   b. CSMA/CD
   c. Token ring
   d. Broad band

39. In a broad sense, a railway track is an example of:-

   a. Full-duplex
   b. Simplex
   c. Half-duplex
   d. All of the above

40. Which topology requires a multipoint connection?

   a. Ring
   b. Mesh
   c. Bus
   d. Star

41. Frequency range at which the land coaxial cables are used, is:-

   a. $10^{16}$ to $10^8$ Hz
   b. $10^6$ to $100^8$ Hz
   c. $10^6$ to $10^{16}$ Hz
   d. $10^6$ to $10^9$ Hz
42. Which of the following program is used to copy files to and from another using timesharing system over a single link?

a. UART  
b. TFTP  
c. VMTP  
d. UUCP

43. Non-polling system is:-

a. Stop and wait  
b. TDMA  
c. Continuous ARQ  
d. None of the above

44. Poll / select line discipline requires what to identify the packet recipient?

a. Address  
b. Dedicated  
c. Buffer  
d. Timer

45. A packet switching network (highly loaded) has the following characteristics:

Propagation delay = 2 sec/hp  
Data transmission rate = 1  
Packet size = r bit = 512 bits  
Number of the hopes = 10

At what time the last bit of the last packet will reach the receiver?

a. 1038.7 sec  
b. 1024.5 sec  
c. 2048.5 sec  
d. 512.5 sec

46. The latest HTML standard is:-

a. XML  
b. HTML 5.0  
c. HTML 4.0  
d. SGML

47. The map definition file is generally stored in:-

a. BIN  
b. CGI-BIN
c. RECYCLE BIN
   d. All of the above

48. <DIR> tag can have only:-
   a. 22 characters
   b. 12 characters
   c. 18 characters
   d. 24 characters

49. The MIME text is saved with:-
   a. THM extension
   b. HTML extension
   c. HMT extension
   d. None of the above

50. How DOM differs from SAX?
   a. DOM is event driven and builds up the whole memory
   b. DOM and SAX are packages
   c. SAX is event driven and requires less space
   d. None of the above

51. _____ tag defines how to divide the window into frames.
   a. <iframe>
   b. <frameset>
   c. <frame>
   d. <frame src>

52. __________ is the incoming e-mail server.
   a. SMTP
   b. SMIP
   c. PPP
   d. POP

53. What is the correct HTML code for adding a background color?
   a. <body bgcolor="yellow">
   b. <background> yellow </background>
   c. < body color="yellow"> 
   d. <body backcolor="yellow">
54. Which of the following objects can be used in expressions and scriplets in JSP without explicitly declaring them?

   a. Session, request and response
   b. Session and request only
   c. Request and response only
   d. Response and session only

55. Any part of the graphic that is not included in another hot zone is considered to be part of:-

   a. Rect
   b. Default
   c. Point
   d. Polygon

56. A digital gate can respond to an input signal in:-

   a. About a second
   b. A few milliseconds
   c. About a hundredth of a second
   d. A few billionth of second

57. What logic function is produced by adding an inverter to the output of an AND gate?

   a. XOR
   b. OR
   c. NAND
   d. NOR

58. Java does not support ______________ inheritance.

   a. Multilevel
   b. Multiple
   c. Hierarchical
   d. Single

59. Odd parity of word can be conveniently tested by:-

   a. AND gate
   b. OR gate
   c. NOR gate
   d. XOR gate
60. A logic circuit which is used to change a BCD number into an equivalent decimal number is:-
   a. Code converter
   b. Decoder
   c. Multiplexer
   d. Encoder

61. The expression for sum of A, B in the half adder is given by:-
   a. A eXclusive B
   b. AB
   c. A+B
   d. None of the above

62. In 2's compliment representation, a certain negative number -N is 1011. The representation of +N is:-
   a. 0011
   b. 0110
   c. 0100
   d. 0101

63. The decimal equivalent of octal number 0.34 is:-
   a. 0.4375
   b. 0.0625
   c. 0.4222
   d. 0.375

64. A decimal number has 30 digits. Approximately how many digits would the binary representation have?
   a. 60
   b. 120
   c. 30
   d. 90

65. What is the 2's compliment representation of -5/8?
   a. -0.1101
   b. 0.0110
   c. 0.1010
   d. 1.0010
66. A system program that set-up an executable program in main memory ready for execution is:-
   a. Linker
   b. Text editor
   c. Assembler
   d. Loader

67. The most powerful parser is:-
   a. SLR
   b. Canonical LR
   c. Operator-precedence
   d. LALR

68. In an absolute loading scheme, which loader function is accomplished by Assembler?
   a. Allocation
   b. Loading
   c. Linking
   d. Reallocation

69. In an absolute loading scheme, which loader function is accomplished by Loader?
   a. Allocation
   b. Loading
   c. Linking
   d. Reallocation

70. At a particular time, the value of a counting semaphore is 10. It will become 7 after:-
   a. 3 V operations
   b. 5 V operations and 2 P operations
   c. 13 P operations and 10 V operations
   d. 3 P operations

71. A system has 3 processors sharing 4 resources. If each process needs a maximum of 2 units, then:-
   a. Deadlock has to occur
   b. Deadlock can never occur
   c. Deadlock may occur
   d. None of the above
72. Dirty bit is used to show the:-
   a. The wrong page in the memory
   b. The page that is modified after loaded into cache memory
   c. The page that is less frequently accessed
   d. Page with corrupted data

73. On receiving an interrupt from an I/O device, the CPU:-
   a. Branches off to the interrupt service routine after completion of the current instruction
   b. Halts it for a predetermined time
   c. Branches off to the interrupt service routine immediately
   d. Hands over control of address bus and data bus to the interrupting device

74. EBCDIC can code upto how many different characters?
   a. 8
   b. 256
   c. 132
   d. 16

75. Which type of file organization are supported by magnetic tape?
   a. Contiguous sequential file
   b. Random files
   c. Indexed sequential file
   d. All of the above

76. In MS-DOS, relocatable object files and load modules have extensions:-
   a. .DAS and .EXE respectively
   b. .OBJ AND .COM OR .EXE respectively
   c. .COM and >OBJ respectively
   d. .EXE and .OBJ respectively

77. CMOS stands for:-
   a. Complementary Metal Oxide Semiconductor
   b. Common Metal Oxide Semiconductor
   c. Common Metal Oxide Superconductor
   d. Common Mono Oxide Semiconductor
78. In a modem using dibit phase, encoding has the bit rate:-
   a. Independent of its baud rate
   b. Same as the baud rate
   c. Lower than its baud rate
   d. Higher than its baud rate

79. In electronic plotters, the term "resolution" refers to:-
   a. Dual axis tracking
   b. Speed per inch
   c. Number of dots per inch
   d. Accuracy to which plotter returns to a specific point

80. A class implements an interface but does not override all the methods of interface then ______.
   a. It should be declared as abstract class
   b. It should be declared as final class
   c. It must override all the methods of interface
   d. None of the above

81. ____________ mode is used whenever either end of a security association is gateway.
   a. Encapsulating
   b. Transport
   c. Tunnel
   d. Gateway

82. Binary search algorithm cannot be applied to:-
   a. Sorted linear array
   b. Sorted binary trees
   c. Pointer array
   d. Sorted linked list

83. ____________ is used to carry traffic of one protocol over network that does not support that protocol directly.
   a. Transferring
   b. Switching
   c. Tunneling
   d. Trafficking
84. Which collection class associates values with keys and orders the keys according to their natural order?
   a. java.util.HashSet
   b. java.util.SortedSet
   c. java.util.LinkedList
   d. java.util.TreeMap

85. ___________ are used in denial of service attacks, typically against targeted web sites.
   a. Virus
   b. Worm
   c. Trojan horse
   d. Zombie

86. The ______________ method is used when we simply want to retrieve data from a table without modifying the contents of the table.
   a. execute()
   b. queryexecute()
   c. query()
   d. executeQuery()

87. To execute SQL statements, you need to instantiate a ______ object using the ______ object.
   a. JDBC Driver, Statement
   b. JDBC DriverManager, Statement
   c. Connection, Statement
   d. Statement, Connection

88. Suppose a class has public visibility. In this class we define a protected method. Which of the following statements is correct?
   a. In a class, you can not declare methods with a lower visibility than the visibility of the class in which it is defined.
   b. From within protected methods you do not have access to public methods.
   c. This method is accessible from within the class itself and from within all classes defined in the same package as the class itself.
   d. This method is only accessible from inside the class itself and from inside all subclasses.

89. To set default priority of a thread which constant can be used?
   a. DEF_PRIORITY
   b. NORM_PRIORITY
   c. NORMAL_PRIORITY
d. DEFUALT_PRIORITY

90. What is garbage collection in the context of Java?

a. Any package imported in a program and not used is automatically deleted
b. When all references to an object are gone, the memory used by the object is automatically reclaimed
c. The operating system periodically deletes all of the java files available on the system
d. The JVM checks the output of any Java program and deletes anything that doesn't make sense

06 Feedback

91. How was the overall experience while giving the test?

a. Excellent
b. Very Good
c. Good
d. Average