

PAPER – 'B'
WRITTEN TEST PAPER FOR SELECTION OF TEACHERS : CSB 2012
COMPUTER SCIENCE / I P – PGT: SUBJECT CODE: (P51)

1. Virtual functions in C++, allows you to

- (a) Use the same function call to execute member Function of objects from different class.
- (b) Creat functions that nno body.
- (c) Group objects from different classes
- (d) Create an array of type pointer-to-base class That can hold pointers to derived classes.

2. Find the output

```
#include<iostream.h>
void main( )
```

```
{
cout<<√';
```

- (a) J (b) √ (c) Compiler Error (d) Single Beep

3. Find the output

```
#include<istream.h>
```

```
int func(int z)
```

```
{
returnz+2;
```

```
void main ( )
```

```
{intx,y;y=5;
```

```
X=func (y);
```

```
count<<(x> 1 ?"true":"false");
```

```
}
```

- (a) True (b) False (c) false (d) None of these

4. Find the output:

```
#include<isotream.h>
```

```
void main ( ) {
```

```
for (int i=0;i<18;=i+2)
```

```
{ witch(i)
```

```
{ case 1:
```

```
i+=2;
```

```
default: i+=4
```

```
break;} }cout<<I;
```

```
}
```

- (a) 18 (b) 21 (c) 24 (d) 15

5. Find the output

```
#include<iostream.h>
```

```
void main ( )
```

```
{ int a [ 5 ] = {3,6,12,24,48};
```

```
int *b;
```

```
b=&a [ 4 ];
```

```
}
```

- (a) 12 (b) 13 (c) 23 (d) Non of these

6. Which of following is not true about pointers?

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

7. Which of the following correctly describes the meaning of 'namespace' feature in C++?

- (a) Namespaces refer to the memory space allocated for names used in a program
- (b) namespaces provide facilities for organizing the names in a program to avoid name clashes.
- (c) Namespaces refer to space between the names in a program.
- (d) Namespaces refer to space between the names in a program

8. What will be the output of this code segment?

```
#incluse<iostream.h>
```

```
void main ( )
```

```
{
```

```
char arr [ ] = "PIYUSH";
```

```
char*aptr=arr;
```

```
char=*+++aptr;
```

```
cout<<val;
```

```
}
```

- (a) H (b) U (c) P (d) Y

21. What will be the value of X in the following?

$$(10110101.11001)_2 = (X)_8$$

- (a) 265.62 (b) 551.51 (c) A1.C1 (d) B5.C1

22. `int z,x=5,y=10,a=4,b=2;`

What number will z in the sample code above contain?

- (a) 5 (b) 6 (c) 10 (d) 11

23. Which one of the following is valid for opening a read-only ASCII file?

- (a) `fileOpen(filename,"r");`
(b) `fileOpen (filename."ra");`
(c) `fileOpen(filename,"read");`
(d) `fopen (filename,"r");`

24. `#include <iostream.h>`

`void main()`

`{ int x = 0;`

`for (;;)`

`{ if (x++==4)`

`Break;`

`continue;} cout <<x;}`

What will be printed when the code above is executed?

- (a) compilation error (b) 5 (c) 0 (d) 4

25. Operator overloading is

- (a) making C++ operators work with C operators
(b) giving C++ operators more than they can handle
(c) giving new meaning to existing C++ operators
(d) making new C++ operators

26. Which of the following operation is commutative but not associative?

- (a) NAND (b) AND (c) OR (d) XOR

27. 8 bit 2's complement of number 27 is

- (a) 11101110 (b) 00000101
(c) 00011011 (d) 11111001

28. Assume a class c with objects ob1,ob2 and ob3. For the statement `ob3=ob1-ob2` to work correctly, the overloaded operator must

- (a) return a value
(b) create a named temporary object
(c) use the object of which it is member as an operand.
(d) both (a) & (c)

29. A function that changes the state of the cout object is called _____

- (a) member (b) manipulator
(c) adjuster (d) operator

30. Predict the output of following code segment:

```
#include<iostream.h>
```

```
Void main ( )
```

```
{
```

```
int x { } = {1,2,3,4,5};
```

```
int *p,**q,*t;
```

```
p=x;
```

```
cout<<*p;
```

```
t=x+2;
```

```
q=&t;
```

```
cout<<*++p <<**q <<**q <<*t;}
```

- (a) 1233 (b) 1223 (c) 1234 (d) 2345

31. Which of the following is not a comment in java?

(a) `//-----`

(b) `/*.....*/`

(c) `<!—`

(d) `/**-- */`

32. In order for a source code file, containing the public class Test, to successfully compile, which of the following must be true ?

- (a) It must be named Test.java
(b) It must have a package statement
(c) It must import java.lang
(d) It must declare a public class named Test

33. Which of the following operators are used in conjunction with the this and super references?

- (a) The new operator
(b) The instance of operator
(c) scope resolution operator
(d) The dot operator

34. Which of the following is a keyword in Java?

- (a) NULL (b) extends
(c) sizeof (d) friend

35. An interface contains _____ methods

- (a) Non-abstract (b) Implemented
(c) Unimplemented (d) abstract

36. Because finalise () belongs to the java.lang.Object class, it is present in all_____.

- (a) objects (b) classes
(c) methods (d) functions

37. If you run the code below, what gets printed out?

```
String s=new String ("Bicycle");  
int iBegin=1;  
char iEnd=3;  
System.out.println(s.substring (iBeginiEnd));
```

- (a) Bic (b) error: no method matching substring(int.char) (c) icy (d) ic

38. What of the following statement is true.

- (a) Strings are a primitive type in Java that overloads the + operator for concatenation.
(b) The String class is implemented as a char array, elements are addressed using the stringname [] convention.
(c) Strings are a primitive type in Java and the String Buffer is used as the matching wrapper type.
(d) The size of a string can be retrieved using the length property.

39. What will be the output of the program?

```
Public class Foo  
{  
    Public static void main(String[] args)  
    {  
        try  
        {  
            Return:  
        }  
        Finally  
        {  
            System.out.println("Finally");  
        }  
    }  
}
```

- (a) Compilation fails with no output (b) The code runs (c) Finally (d) An exception is thrown at runtime.

40. What will be the output of the program?

```
Try  
{  
    int x = 0;  
    int y = 5 / x;  
}  
catch (Exception e)  
{  
    System.out.println("Exception");  
}  
catch (ArithmeticException ae)  
{  
    System.out.println("Arithmetic Exception");  
}  
System.out.println("finished");
```

- (a) finished (b) Compilation Fails
(c) Exception (d) Arithmetic Exception

41. Which of the following is wrong default values for array elements of the types indicated?

- (a) String->"null" (b) int-.0
(c) char-.\u0000' (d) float-.0.0f

42. Which of the following statements correctly describes an interface?

- (a) It's concrete class (b) It's a superclass
(c) It's a type of abstract class.
(d) It's type of method

43. Which of the following are true about the Error and Exception classes?

- (a) Both classes extend Throwable.
(b) The Error class is final and the Exception class is not.
(c) The Exception class is final and the Error is not.
(d) Both classes implement Throwable

44. Which one of these is not Java programming language keyword?

- (a) strictfp (b) constant (c) super (d) do

45. Which is a reserved word in the Java programming language?

- (a) method (b) reference
(c) array (d) native

46. Which three are valid declarations of a char?

1. char c1 = 064770;
2. char c2 = 'face';
3. char c3 = 0xbeef;
4. char c4 = \u0022;
5. char c5 = '\iface';
6. char c6 = '\uface';

(a) 1,2,4 (b) 1,3,6 (c) 3,5 (d) 5 Only

47. What is the numerical range of a char?

- (a) 0 to 65535 (b) -128 to 127
(c) -(2¹⁵)- 1 (d) None of the above

48. What will be the output of the program?

```
public class Test
{
    Public static void leftshift(int I, int j)
    {
        i<<=j;
    }
    int I = 4, j = 2;
    leftshift(i,j);
    System.out.println(i);
}
}
```

(a) 2 (b) 4 (c) 8 (d) 16

49. consider the following

```
public class Test { }
```

What is the prototype of the default constructor?

- (a) Test () (b) Test (void)
(c) Public Test () (d) public Test(void)

50. What is the narrowest valid return Type for method A in line 3?

```
public class ReturnIt
{
    return Type method A(byte x, double y)/*
Line 3*/
{
    Return (long)x/y * 2;
}
}
```

(a) int (b) byte (c) long (d) double

51. Which of the following class level (nonlocal) variable declarations will not compile ?

- (a) private synchronized int e; (b) protected int a :
(c) transient int b = 3; (d) volatile int d;

52. Which class does not override the equals () and hash Code() methods, inheriting them directly from class Object?

- (a) java.lang.string (b) java.lang.double
(c) java.lang.string buffer (d) java.lang.character

53. Which method registers a thread in a thread scheduler?

- (b) run (); (b) start ();
(c) construct (); (d) register ();

54. What is the value of "d" after this line of code has been executed?

```
Double d = Math.round(2.5 +
Math.random( ));
```

(a) 2 (b) 4 (c) 2.5 (d) 3

55. If raf is a randomAccessFile, what is the result of compiling and executing the following code?

```
Ref.seek (raf.length( ));
```

- (a) The file pointer will be positioned immediately after the last character of the file.
(b) The code will not compile.
(c) An IOException will be thrown.
(d) The file pointer will be positioned immediately before the last character of the file.

56. Which of the following describe the sequence of method calls that result in a component being redrawn?

- (a) invoke paint () directly
(b) invoke update which calls paint ().
(c) invoke repaint () which invokes update (), which in turn invokes paint ().
(d) Invoke paint () which invokes update (), which in turn invokes repaint ().

57. java.awt.Component class method getLocation () returns Point (containing x and y coordinate).

What does this x and y specify

- (a) Specify the position of components lower-left component in the coordinate space of the component's parent.
- (b) Specify the position of components upper-left component in the coordinate space of the component's parent.
- (c) Specify the position of components upper-left component in the coordinate space of the screen.
- (d) Specify the position of components lower-left component in the coordinate space of the screen.

58. Name the event which gets generated when a button is clicked. Select the one correct answer.

- (a) KeyEvent (b) MouseEvent
- (c) ItemEvent (d) ActionEvent

59. Select the one most appropriate answer. A top level class without any modifier is accessible to :-

- (a) any class (b) any subclass of this class
- (c) any class within the same package
- (d) any class within the same file.

60. What happens when the following class is compiled and run. Select one correct answer.

```
public class test {
public static void main(String args[] ) {
    int x = 0, y= 1, z;
    if (x)
        z=0;
    else
        z=1;
    if (y)
        z=2;
    else
        z = 3;
    System.out.println(z);
}
}
```

- (a) The program prints 0 (b) The program prints 1
- (c) The program prints 2 (d) The program does not compile because of problems in the if statement.

61. What is Error 403 mean on the Internet ?

- (a) Access denied/forbidden
- (b) Payment Required
- (c) Unauthorized
- (d) Proxy Authentication Required

62. Ajax is a

- (a) Software that is distributed without charge in exchange for the user's consent to view advertisements.
- (b) technique whereby a website can update part of a page without refreshing the whole content.
- (c) series of computer program distribution and runtime technologies
- (d) network of zombie computers controlled by a single entity.

63. Ogg Vorbis an open standard for

- (a) Video Containers (b) Video Compression
- (c) Audio Compression (d) Graphic file format

64. The maximum speed of USB 3.0 is

- (a) 4.1 Gbps (b) 480 Mbps
- (c) 4.8 Gbps (d) 320 Mbps

65. Where is the headquarters of Microsoft located ?

- (a) Richmond, Washington
- (b) Santa Clara, California
- (c) Tucson, Arizona
- (d) Richmond, Virginia

66. In which year was the "@" chosen for its use in e-mail address?

- (a) 1969 (b) 1992
- (c) 1972 (d) 1982

67. A program that neither replicates nor copies itself, but causes damage or compromises the security of the computer.

- (a) Virus (b) Trojan horse.
- (c) adware (d) Worm

68. Which of the following products was an early implementation of the relational model developed by E.F. Codd of IBM?

- (a) DB2 (b) dBase-II (c) R:base (d) IDMS

69. A functional dependency is a relationship between or among:

- (a) tables (b) rows (b) relations (d) attributes

70. A _____ is a program that performs some common action on database data and that is stored in the database.

- (a) Trigger (b) Stored procedure
(c) cursor (d) join

71. The following SQL is which type of join :
SELECT CUSTOMER T.CUSTOMER_ID
ORDER_T.CUSTOMER_ID, NAME,
ORDER_ID FROM
CUSTOMER_T,ORDER_T;

- (a) Cartesian join (b) Equi-join
(c) Natural join (d) Outer join

72. A station in a network forwards incoming packets by placing them on its shortest output queue. What routing algorithm is being used ?

- (a) hot potato routing (b) flooding
(c) tatic routing (d) delta routing

73. Frames from one LAN can be transmitted to another LAN via the device

- (a) Router (b) Bridge
(c) Repeater (d) Modern

74. Satellite-Switched Time-Division Multiple Access (SS/TDMA) is

- (a) Satellite-Switched Time-Division Multiple Access (SS/TDMA) is
(b) a form of TDMA in which circuit switching is used to dynamically change the channel assignments
(c) All of the above
(d) None of the above

75. What part of 192.168.10.51 is the Network ID, assuming a default subnet mask?

- (a) 192 (b) 192.168.10 (c) 0.0.10 (d) 51

76. What is the port number for NNTP?

- (a) 80 (b) 79 (c) 73 (d) 119

77. What device separates a single network into two segments but lets the two segments appear as one to higher protocols?

- (a) Bridge (b) Switch (c) Gateway (d) Router

78. The ASCII

- (a) is a subset of 8-bit EBCDIC
(b) is used only in Western Countries
(c) is version II of the ASC Standard
(d) has 128 characters, including 32 control characters

79. Which DOS command will format a floppy disk and transfer the system files

- (a) SYS C:A
(b) SYS A:
(c) FORMAT A:/S
(d) FORMAT A:/T

80. What DOS program can you run to see which serial ports are detected ?

- (a) comdiag (b) MSD
(c) command.com (d) serial.chk

81. Terminals are required for

- (a) real-time, batch processing & time-sharing
(b) real time, time-sharing & distributed message processing
(c) real-time, time sharing & message switching
(d) real time, distributed processing & manager inquiry

82. The channel in the data communication model can be

- (a) postal mail services
(b) telephone lines
(c) radio lines
(d) Any of the above

83. Which of the following transmission systems provide the highest data rate to in individual device ?

- (a) computer bus
(b) telephone lines
(c) voice and mode
(d) lease lines

84. A protocol is a set of rules governing a time sequence of events that must take place
(a) between an interface.
(b) between peers
(c) between moderns.
(d) across an interface.

85. Telephone systems may be classified as :

- (a) duplex and asymmetrical
- (b) simplex and symmetrical
- (c) duplex and symmetrical
- (d) simplex and asymmetrical

86. A network that provides a constant bandwidth for the complete duration of a message transfer is a :

- (a) circuit switched network
- (b) cell switched network.
- (c) packet switched network
- (d) none of the above

87. A router:

- (a) forwards a packet to all outgoing links
- (b) forwards a packet to all outgoing links, except the link upon which the packet originated
- (c) determines on which outgoing link a packet is to be forwarded.
- (d) forwards a packet to the next free outgoing link.

88. The internet is an example of a :

- (a) packet switched network
- (b) cell switched network
- (c) circuit switched network
- (d) all the above

89. Which of the following correctly describes C++ language?

- (a) Dynamically typed language
- (b) both statically and dynamically typed language
- (c) type-less language
- (d) statically typed language

90. Which of the following keyword in C++ supports dynamic method resolution?

- (a) abstract (b) Virtual (c) Dynamic (d) Typed

91. Which of the following language is not supported by C++?

- (a) Exception Handling
- (b) Operator Overloading
- (c) Reflection
- (d) Namespaces

92. In C++, what does STL stand for ?

- (a) Simple Template Library
- (b) Standard Template Library
- (c) Static Type Library
- (d) Single Type-based Library

93. Which of the following is the most common way of implementing C++

- (a) C++ programs are directly compiled into native code by a compiler
- (b) C++ programs are first compiled to intermediate code by a compiler and then executed by a virtual machine
- (c) C++ programs are interpreted by an interpreter
- (d) A C++ editor directly compiles and executes the program

94. What is the implicit pointer that is passed as the first argument for nonstatic member functions in C++?

- (a) 'self' pointer
- (b) std::auto_ptr pointer
- (c) 'Myself' pointer
- (d) 'this' pointer

95. Which of the following operators can be overloaded in C++?

- (a) . (b) & (c) sizeof (d) ?:

96. How do we declare an abstract class ?

- (a) By providing at least one pure virtual method (function signature followed by ==0;) in a class
- (b) By declaring at least one method abstract using the keyword 'abstract' in a class
- (c) By declaring the class abstract with the keyword 'abstract'.
- (d) It is not possible to create abstract classes in C++

97. How many copies of a class static member are shared between objects of the class ?

- (a) A copy is created only when at least one object created from that class
- (b) A copy of the static member is created for each instantiation of the class.
- (c) A copy of the static member is shared by all objects of a class
- (d) No memory is allocated for static members of a class

98. Which of the following correctly describes the meaning of 'namespace' feature in C++?

- (a) Namespaces refer to the memory space allocated for names used in a program
- (b) Namespaces refer to space between the names in a program.
- (c) Namespaces refer to space between the names in a program
- (d) namespaces provide facilities for organizing the names in a program to avoid name clashes.

99. Which of the following is the most general exception handler that catches exception of any type ?

- (a) catch (std::exception)
- (b) catch(std::any_exception)
- (c) catch (...)
- (d) catch ()

100. What type of hard disk formatting creates FAT (File Allocation Table)?

- (a) High Level
- (b) Low Level
- (c) both (a) & (b)
- (d) none of the above