

KENDRIYA VIDYALAYA PANGODE
MONTHLY TEST I JUNE 2015
CLASS XII COMPUTER SCIENCE

Time allowed: 1^{1/2} Hours

Max. Marks: 50

General Instructions:

1. All questions are compulsory.
2. Marks for each question are indicated against it.
3. Programming language – C++

1. Name the header file(s) that is needed for successful compilation of the following C++ code :-
(2 Mark)

```
void main( )
{
    char String[20];
    gets(String);
    strcat(String, "CBSE");
    puts(String);
}
```

2. Find the output of the following program: (2 Marks)

```
void main( )
{
    int x = 5, y = 6;
    cout << x++;
    cout << ", ";
    cout << ++x;
    cout << ", ";
    cout << y++ << ", " << ++y;
}
```

3. In the following program: (2 Marks)

- (i) How many times will the while loop run?
- (ii) What would be the last value of A displayed out?

```
#include< iostream.h >
void main()
{
    int A = 10;
    while(++A<15)
    {
        cout << A++;
    }
}
```

4. Why is main function special? Give two reasons. (2 Marks)

5. In the following program, if the value of Guess entered by the user is 65, what will be the expected output(s) from the following options (i), (ii), (iii) and (iv)? (2 Marks)

```
#include <iostream.h>
#include <stdlib.h>
void main( )
{
    int Guess;
    randomize();
    cin>>Guess;
    for (int l=1;l<=4;l++)
    {
```

```

New=Guess+random(I);
cout<<(char)New;
}
}
(i) ABBC
(ii) ACBA
(iii) BCDA
(iv) CABD

```

6. Difference between Procedural programming paradigm and Object Oriented Programming paradigm? (2 Marks)
7. WAP to compute the area of rectangle, area of square and area of circle using function overloading. (3 Marks)
8. How is matching done in case of overloaded functions? (2 Marks)
9. How would you compare default arguments and function overloading? (2 Marks)
10. Write the output of the following C++ code. Also, write the name of feature of Object Oriented Programming used in the following program jointly illustrated by the functions [I] to [IV]. (2 Marks)

```

#include<iostream.h>
void Print ( ) // Function [I]
{
    for (int K=1;K<=60; K++) cout<< "-";
    cout<<endl;
}
void Print (int N) //Function[II]
{
    for (int K=1;K<=N; L++) cout<<"*";
    cout<<endl;
}
void Print(int A, int B) //Function[III]
{
    for(int K=1;K<=B;K++) cout<<A*k;
    cout<<endl;
}
void Print(char T, int N) // Function[IV]
{
    for (int K=1;k<=N;K++) cout<<T;
    cout<<endl;
}
void main( )
{
    int U=9,V=4,W=3;
    char C ="@";
    Print(C,V);
    Print(U,W);
}

```

11. Write a C++ function SUMFUN() having two parameters X of type double and n of type integer with a result type as double to find the sum of the series given below:
 $X + X^2/3! + X^3/5! + \dots + X^n/(2n-1)!$ (3 Marks)
12. What is polymorphism? Give an example in C++ to show its implementation in C++. (2 Marks)
13. How do abstraction and encapsulation complement each other? (2 Marks)
14. Write the overloaded function definitions of add()- on adds two numbers and other concatenates two strings. (2 Marks)

15. Find the output of the following program:

(3 Marks)

```
#include <iostream.h>
#include<conio.h>
void Secret(char Str[ ])
{
for (int L=0;Str[L]!='\0';L++);
for (int C=0;C<L/2;C++)
if (Str[C]=='A' || Str[C]=='E')
Str[C]='#';
else
{
char Temp=Str[C];
Str[C]=Str[L-C-1];
Str[L-C-1]=Temp;
}
}
void main( )
{
char Message[ ]="SteveJobs";
Secret(Message);
cout<<Message<<endl;
getch();
}
```

16. Give output of following code. (3 Marks)

```
#include<iostream.h>
int m=5; void check();
void main( )
{ int m=20;
{
int m=10*::m;
cout<<"m="<<m<<"::m="<<::m<<endl;
} check();
cout<<"m="<<m<<"::m="<<::m<<endl;
check(); cout<<"::m="<<::m<<"m="<<m<<endl;
}
void check()
{ ++m; }
```

17. Rewrite the following program after removing the syntax error(s) if any. Underline each correction. (2 Marks)

```
#include<iostream.h>
void main()
{
One = 10, two=20;
callme(one;two);
callme(Two);
}
void callme(int arg1, it arg2=20)
{
arg1= arg1+arg2
cout<< arg1>>arg2;
}
```

18. Study the following program and select the possible output from it: (2 Marks)

```
#include<iostream.h>
#include<stdlib.h>
const int LIMIT = 4;
```

```

void main()
{
    randomize();
    int Points;
    Points= 100 + random(LIMIT);
    for(int P=Points; P>=100; P--)
        cout<<P<<'#';
    cout<<endl;
}

```

- (i) 103#102#101#100#
- (ii) 100#101#102#103#
- (iii) 104#103#102#101#
- (iv) 103#102#101#100

19. Convert the following code segment into switch case construct. (2 Marks)

```

int ch;
cin>>ch;
if(ch == 1)
    cout<<" Laptop";
else if(ch == 2)
    cout<<"Desktop ";
else if(ch == 3)
    cout<<"Notebook";
else
    cout<<"Invalid Choice";

```

20. What is the difference between **call by reference** & **call by value** method in a user defined function in C++? Explain it with suitable example. (3 Marks)

21. What is the difference between break and continue statements with respect to their usage inside a loop. Illustrate with examples. (2 Marks)

22. Define a structure INTERIOR with the following description (3 Marks)

```

Itemno of type int
Itemname of type string
itemtype of type string
price of type float
discount of type float

```

ANSWER KEY

1. #include<iostream.h>, #include<string.h>

2. 5,7,7,7

3. In the following program:

(2 Marks)

- (i) 2
- (ii) 13

4. a) the execution begins with main(). Without main() function will not be compiled.

5. (i) ABBC

- 6. a) procedural programming lays more emphasis on procedure than data
- b) Procedural program is susceptible to design changes.

7. a) search for an exact match is performed, if an exact match is found, the function is invoked
b) A match through promotion is searched for.
8. With default arguments, default values can be provided in the function prototype itself and the function may be called even if an argument is missing.
9. @@@@
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10. Write a C++ function SUMFUN() having two parameters X of type double and n of type integer with a result type as double to find the sum of the series given below:
 $X + X^2/3! + X^3/5! + \dots + X^n/(2n-1)$
11. Polymorphism. Give an example in C++ to show its implementation in C++.
12. How do abstraction and encapsulation complement each other
13. Write the overloaded function definitions of add()- on adds two numbers and other concatenates two strings.
14. sboJevets
15. m=50::m=5
m=20::m=6
::m=7m=20

16. Rewrite the following program after removing the syntax error(s) if any. Underline each correction.

```

#include<iostream.h>
void main()
{
  int one = 10, two=20;
  callme (one, two);
  callme(Two);
}
void callme(int arg1, it arg2=20)
{
  arg1= arg1+arg2;
  cout<< arg1>>arg2;
}

```

17. Output

(i) 103#102#101#100#

18. Convert the following code segment into switch case construct. (2 Marks)

```

int ch;
cin>>ch;
switch(ch) {
case 1:
    cout<<" Laptop";
case 2:
    cout<<"Desktop ";
case 3:
    cout<<"Notebook";
default:
    cout<<"Invalid Choice";
}

```

19. What is the difference between **call by reference** & **call by value** method in a user defined function in C++? Explain it with suitable example. Ans: Write appropriate code.

20. What is the difference between break and continue statements with respect to their usage inside a loop. Illustrate with examples. Ans: Write appropriate code.