

High Order Thinking Skill Questions
Subject : Computer Science
Class: XII

Programming in C++

2 Marks Questions

Programming in C++

1. What is wrong with the following while loop:
 - a.

```
int counter = 1;
while ( counter < 100)
{
cout << counter << "\n";
counter - -;
}
```
 - b.

```
int counter = 1;
while ( counter < 100)
    cout << counter << "\n";
counter + +;
```
2. What will be the output of following:

```
void main ( )
{
int val = 10;
cout << val ++ << val << ++ val;
}
```

3. Given the following code fragment:

```
int ch = 20;
cout << ch << ++ ch << ch << "\n";
```

 (i) The output of the code fragment.
 (ii) What is the effect of replacing ++ ch with ch + 1?
4. Differentiate between the output of following code fragments:
 (i)

```
int f = 1, i = 2;
while (++ i < 5)
    f *= i;
cout << f;
```

 (ii)

```
int f = 1, i = 2;
do {
    f *= i;
} while (++ i < 5);
cout << f;
```
5. Give output:

```
#include<iostream.h>
int global = 20;
void fun (int &x, int y)
{
    x = x - y; y = x * 10;
    cout << x << ', ' << y << '\n';
}

void main()
{
    int global = 8;
    fun (:: global, global);
    cout << global << ', ' << :: global << '\n';
    fun (global, :: global);
    cout << global << ', ' << :: global << '\n';
}
```
6. Give output:

```
#include<iostream.h>
int fun ( int &a, int b = 0)
{
    if (a % b == 0) return ++ a;
    else return b - - ;
}

void main()
{
    int x = 20, y = 23;
    y = fun (x, y);
    cout << x << ', ' << y << '\n';
    x = fun (y);
    cout << x << ', ' << y << '\n';
    y = fun (x);
    cout << x << ', ' << y << '\n';
}
```
7. Find output

```
#include<iostream.h>
void fun (int &A, int &B)
```

```

{
    A = A + B;
    B = A - B;
    A = A - B;
}
void main ()
{
    int a = 4, b = 18;
    fun (a, b);
    cout << a << ", " << b;
}

```

8. Give output:

```

void Change (int x[4], int i)
{
    x[i] = x[i] * I;
}
void main ()
{
    int x[ ] = {11, 21, 31, 41};
    for (int i = 0; i < 4; i++)
    {
        Change (x, i);
        cout << x[i] << '\n';
    }
}

```

9. Rewrite the following codes after removing errors, if any, in the following snippet. Explain each error.

```

#include<iostream.h>
void main()
{
    int x[5], *y, z[5]
    for (i = 0; i < 5; i ++
    {
        x[i] = i;
        z[i] = i + 3;
        y = z;
        x = y;
    }
}

```

10. Rewrite the following codes after removing errors, if any, in the following snippet. Explain each error.

```

void main()
{
    const int i = 20;
    const int * const ptr = &i;
    (*ptr)++;
    int j = 15;
    ptr = &j;
}

```

11. Give the output of the following program:
- ```
void main()
{
 char *p = "Difficult";
 char c;
 c = ++ *p ++;
 printf ("%c",c);
}
```
12. Give the output of the following program:
- ```
void main()
{
int x [] = { 10, 20, 30, 40, 50};
    int *p, **q, *t;
    p = x;
    t = x + 1;
    q = &t;
    cout << *p << "," << **q << "," << *t++;
}
```
13. In the following program, if the value of N given by the user is 20, what maximum and minimum value the program could possibly display ()?
- ```
#include<iostream.h>
#include<stdlib.h>
void main()
{
 int N, Guessme;
 randomize();
 cin>>N;
 Guessme = random(N-10) + 10 ;
 cout<<Guessme<<endl;
}
```
14. Rewrite the following program after removing the error(s), if any. Underline each correction.
- ```
#include <iostream.h>
void main()
{
    int x, sum =0;
    cin>>n;
    for (x=1;x<100, x+=2)
    if x%2=0
    sum+=x;
    cout<< "sum=" >>sum;
}
```
15. What will be the output of the following program?
- ```
#include <iostream.h>
void main()
{
 int A[5]={0, 3, 4, 2, 1};
 int b[5]= {0};
 int n =4;
```

```

 for (int i=0; i<5;++i)
 b[a[i]]=a[i];
 cout<< b[0]<<b[1]<<b[2]<<b[3]<<b[4];
 }

```

16. What will be the output of the following program

```

#include<iostream.h>
void main()
{
 int var1=5,var2=10;
 for(int i=1;i<=2;i++)
 {
 cout << var1++ << "\t" << --var2<< endl;
 cout << var2-- << "\t" << ++var1<< endl;
 }
}

```

17. Find the output of the following program

```

#include<iostream.h>
void main()
{
 long NUM = 1234543;
 int F = 0, S = 0;
 do
 {
 int Rem = NUM% 10;
 if (Rem % 2 !=0)
 F+=R;
 else
 S+= R;
 NUM/=10;
 } while(NUM>0);
 cout<<F-S;
}

```

18. Find the output of the following program:

```

#include<iostream.h>
void main()
{
 long Number = 7583241;
 int First=0, Second=0;
 do
 {
 int R=Number%10;
 if (R%2==0)
 First+=R;
 else
 Second+=R;
 Number /=10;
 } while (Number > 0);
 cout<<First-Second;
}

```

19. Rewrite the following program after removing the syntactical error(s), if any Underline each correction:

```
#include <iostream.h>
void main()
{
 struct TV
 {
 char Manu name[20];
 char Tv Type;
 int Price = 17000;
 } New Tv;
 gets(Manu name);
 gets(Tv Type);
}
```

20. Identify error in the following program segment:

```
class ABC{
public:
 int read();
 char display val();
private:
 int x;
 char ch;
}
```

21. Write the output of the following program:

```
#include<iostream.h>
class Test{
 int a, b;
public:
 void set(int I, int j) { a = I; b = j;}
 void show() {cout << a << “ ” << b << endl;}
};

void main()
{
 Test t1, t2;
 T1.set(10,4);
 t2 = t1;
 t1.show()
 t2.show()
}
```

22. Answer the questions after going through the following class

```
class Exam
{
 int year;
public:
 Exam(int y) {year=y;} //Constructor 1
 Exam(Exam & t); //Constructor 2
};
```

- i. Create an object, such that it invokes Constructor I.
- ii. Write complete definition for Constructor 2.

23. Answer the questions after going through the following class.

```
class Exam
{
 char Subject[20] ;
 int Marks ;
public :
 Exam() // Function 1
 {
 strcpy(Subject, "Computer") ;
 Marks = 0 ;
 }
 Exam(char P[]) // Function 2
 {
 strcpy(Subject, P) ;
 Marks=0 ;
 }
 Exam(int M) // Function 3
 {
 strcpy(Subject, "Computer") ;
 Marks = M ;
 }
 Exam(char P[], int M) // Function 4
 {
 strcpy(Subject, P) ;
 Marks = M ;
 }
};
```

- a) Which feature of the Object Oriented Programming is demonstrated using Function 1, Function2, Function 3 and Function 4 in the above class Exam?
- b) Write statements in C++ that would execute Function 3 and Function 4 of class Exam.
24. Rewrite the following program after removing all the syntax error(s), if any. Underline each correction.

```
#include<iostream.h>
struct Pixels
{
 int Color, Style ;
}
void ShowPoint(Pixels P)
{
 cout<<P.Color,P.Style<<endl;
}
void main()
{
 Pixels Point1 = (5,3);
 ShowPoint(Point 1);
 Pixels Point2 = Point1
 Color.Point1 +=2;
```

```

 ShowPoint(Point2);
 }

```

25. Write a function in C++ to count the number of uppercase alphabets present in a text file "STORY.TXT".
26. Write a function in C++ to count the number of lowercase alphabets present in a text file "STORY.TXT".
27. Write a function in C++ to count the number of alphabets present in a text file "XY.TXT".
28. Write a user defined function in C++ to read the content of a text file "JOKE.TXT", count and display the number of blank spaces present in it.
29. Write a function in C++ to count and display the number of lines starting with alphabet 'A' in a text file "MYFILE.TXT".
30. Write a function in C++ to print the count of the word "and" in the text file "Myfile.txt".
31. Write a function in C++ to write the characters entered through the keyboard into the file "myfile.txt", until a '#' character is entered.
32. Write a function in C++ to count the number of words present in the text file "MyFile.txt". Assume that each word is separated by a blank space and no blank space appears in the beginning and at the end of the file.
33. Write a function in C++ to count and display the number of student records stored in the binary file "Student.dat". Assume that student is a structure and 10 bytes of memory is required to store each student record.
34. How many stream objects would you need to manage the following situations:
  - (a) To process three files sequentially.
  - (b) To merge two sorted files into third file.
35. Observe the program segment carefully and answer the question that follows:

```

class item
{
 int item no;
 char item name[20];
public:
 void enterDetail();
 void showDetail();
 int getItem no(){ return item no;}
};
void modify(item x)
{
 fstream File;
 File.open("item.dat", ios::binary|ios::in|ios::out);
 item i;
 while(File .read((char*) & i , sizeof(i)))
 {
 if(x . getItem no() == i . getItem no())
 {
 File.seekp(File.tellg() - sizeof(i));
 File.write((char*) &x , sizeof(x));
 }
 }
}

```

```

 File.close() ; //Statement 1
 }

```

The function modify() modifies a record in the file “ item.dat “.State whether statement 1 is mandatory? Give explanation.

36. Write a function in C++ to calculate the average word size in the text file “MyFile.txt”.

37. Given the binary file STUDENT.DAT , containing the records of the following class:

```

class student
{
 int roll no;
 char name[20];
 float percent;
public:
 void getData();
 void show();
 float returnPercent()
 {
 return percent;
 }
};

```

Write a function BELOW75() in C++ , that would count and display the records of those students whose score is below 75 percent.

38. Write a function which takes pointers to two strings as parameter and compare these strings. The function should return 1 if two strings are same otherwise return 0.

39. Give the output of the following program( Assume all necessary header files are included) :

```

void main()
{
 char * x = “teAmIndia”;
 char c;
 c = ++ *x ++;
 cout<<c;
}

```

40. Give the output of the following program(Assume all necessary header files are included) :

```

void main()
{
 char *x = “teAmIndia”;
 char c;
 c = (*(x+1)) ++ ;
 cout<<c;
}

```

41. Give the output of the following program( Assume all necessary header files are included) :

```

void main()

```

```
{
 char * x = "teAmIndia";
 char c;
 c = ++(*(x+1));
 cout<<c;
}
```

42. What will be the output of the program( Assume all necessary header files are included) :

```
#include<iostream.h>
void print (char * p)
{
 p = "pass";
 cout<<"value is "<<p<<endl;
}
void main()
{
 char * x = "Best of luck";
 print(x);
 cout<<"new value is "<<x<<endl;
}
```