

**KENDRIYA VIDYALAYA SANGATHAN SILCHAR REGION  
SESSION ENDING EXAMINATION (2017-18)**

**CLASS: XI**

**SUBJECT: COMPUTER SCIENCE (083)**

*Time allowed: 3 Hrs.*

*Maximum Marks: 70*

1. Attempt All Questions.

2. Programming language : C++.

3. In case of output based questions assume that all header files are included.

- |      |  |   |
|------|--|---|
| Q.1  | a) Expand the Following : IOP , ASCII  | 1 |
|      | b) What are two differences between Compiler and Interpreter?  | 2 |
|      | c) What is meant by throughput and what its significance   | 2 |
|      | d) Name two categories of Documentations with example?   | 1 |
|      | e) Convert the following.  | 4 |
|      | i. $(11011110101110)_2 = (?)_{16}$   |   |
|      | ii. $(EB4A)_{16} = (?)_{10}$   |   |
|      | iii. $(22.25)_{10} = (?)_2$  |   |
|      | iv. $(3674)_8 = (?)_2$   |   |
| Q. 2 | a) What do you mean by syntax errors and Run-Time errors?  | 2 |
|      | b) What are different type of comments supported by C++?   | 2 |
|      | c) Write the steps to write a good program..   | 3 |
|      | d) Explain three error checking methods of a program.  | 3 |
| Q. 3 | a) What is the difference between an OOP's and a Modular Programming?  | 2 |
|      | b) Explain following terms-  | 3 |
|      | 1. Polymorphism  |   |
|      | 2. Encapsulation   |   |
|      | 3. Abstraction   |   |
|      | c) What do you understand by 'Code Generation' ?   | 2 |
|      | d) What is the significance of Reference variable? Explain with suitable example.  | 2 |
|      | e) What is difference between Explicit Type Casting and Implicit Type Casting?<br>Also, give a suitable C++ to illustrate both | 2 |
| Q 4. | a) .Given the following expression:  | 1 |
|      | (i) $N = = 3$ (ii) $N +=3$   |   |
|      | What will be result of the two if the value of N is 50 initially?  |   |
|      | b) Identify the possible error(s) in the following code fragments .Discuss the<br>reason(s) of error(s) and correct the code:  | 2 |

```
cin>>i>>j;
while( i<j)
cout<<i * j;
i++;
```

- c) Given the following for loop: 2

```
constint N = 25;
for(int I =0,sum = 0;I<N;I++)
sum += I;
cout<<sum;
```

Write the equivalent do..while loop for the above code.

- d) What is the output of the program segment below: 1

```
int x = 0;
if (! x)
cout<< "Was equal\n";
else
cout<< "Not equal";
cout<< " Well Done";
```

- e) What will be the output produced by the following code : 1

```
for( I = 10 ; I<= 50 ; I+= 10)
j = I/2;
cout<< j << " ";
```

- (F) What will be the output produced by the following code : 2

```
int f=1 , I =2;
do {
f *=I;
} while(++ I < 5);
cout<< f;
```

- Q 5. a) Write a C++ Program that prints 1 2 4 8 16 32 64 128. 2

- b) Write a program to generate divisor of an integer. 2

- c) Evaluate the following arithmetic expression: 2

- a. `int I = 12, J = 20, K=7, Result;`
- b. `Result = 6 * ( ( I % 5 ) * ( 9 + ( J - 3 ) / ( K + 1 ) ) );`

- d) In the following program, if the value of N given by the user is 20, what 2

maximum and minimum values the program could possibly display?

```
#include <iostream.h>
#include <stdlib.h>
void main()
{
    int N, Guessnum;
    randomize();
    cin >> N;
    Guessnum = random(N-10)+10;
    cout << Guessnum << endl;
}
```

e) What is the difference between Local Variable and Global Variable ? Also give suitable C++ code to illustrate both. 3

Q 6. a) Find the Output of the following: 3

```
#include <iostream.h>
void Line( ) //Function (i)
{
for (int L=1; L<=80; L++) cout << "-";
cout << endl;
}
void Line(int N) //Function (ii)
{
for(int L=1; L<=N; L++) cout << "*"
cout << endl;
}
void Line(char C, int N) //Function (iii)
{
for(int L=1; L<=N; L++) cout << C;
cout << endl;
}
void Line(int M, int N) //Function (iv)
{
for(int L=1; L<=n; L++) cout << M*L;
cout << endl;
}
void main()
```

```
{
int A=9,B=4,C=3;
char K='#';
Line(K,B);
Line(A,C);
}
```

b) Write a program to print the Cube of a given number using function only. 3

c) Write a C++ statement to create an array names grade to store the following 1  
elements: 100,200,450,550,580,700

d) Consider the following array declarations: 2

```
int X[5][50];
```

```
long Y[5][10];
```

(i) Find the number of elements in each array.

(ii) Find the total number of bytes required to store each array

e) Find the output of the following program assuming all the required header 3  
files have been included:

```
#include <iostream.h>
void ChangeIt(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 Text[ ]="RajDhani";
ChangeIt(Text);
cout<<Text<<endl;
}
```

Q7 a) Write a program to print left and right diagonal element of an NxN matrix. 3

- b) Rewrite the following program after removing the syntactical errors (if any). 2

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(Point1);
    Pixels Point2=Point1;
    Color.Point1+=2;
    ShowPoint(Point2);
}
```

- c) Give the output of the following program: 2

```
#include <iostream.h>
struct Point
{
    int X, Y;
};
void Show (Point P)
{
    cout<<P.X<<':'<<P.Y<<endl ;
}
void main()
{
    Point U = {20, 10}, V, W;
    V=U;
    V.X += 20;
    W = V;
    U.Y += 10;
    U. X +=5;
    W.X- = 5;
    Show(U);
    Show(V);
    Show(W);
}
```



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