



SAMPLE PAPER, 2017-18

CLASS- XI

SUBJECT- COMPUTER SCIENCE

Time:3 hrs.

Max. Mark 70

General Instructions:

- (1) All Questions are compulsory.
 - (2) Please write down the serial number of the question before attempting it.
 - (3) Programming language : C++
-

- Q1.** a) What is the difference between typedef and a reference variable in C++? [1]
b) Write the related library function name based upon the given information in C++ and also specify the header file to which function belongs [2]
(i) To convert character into lowercase
(ii) To copy one string into another string.
c) Observe the following C++ code: [1]

```
#include <iostream.h>
#include <stdio.h>
#include <string.h>
#include <math.h>
void main()
{
char STR[80];
cout<< "Enter any string";
cin>>STR;
cout<<strlen(STR);
getch();
}
```

Name the header file which is not necessary to run the above program and name the header file which is necessary for the successful compilation of the above program.

- d) Rajat has just started working as programmer in the WORLD SOFTWARE Company. In the company, he has got his first assignment to develop a small C++ module to find the smallest number out of a given set of numbers stored in a one dimensional array. Somehow he has committed a few logical mistakes while writing this code and so he is not getting the desired result from the code. Find out the mistakes and correct this C++ code so that it provides the desired result (do not add any new statement in the code). Underline each correction made: [1]

```
void SMALLFIND (int ARR[], int Size) //Statement 1
{
int SMALL = ARR[1]; //Statement 2
for (int C=2;C<Size;C++) //Statement3
if (ARR[C]>SMALL) // Statement4
```



```
ARR[C]=SMALL;           //Statement 5
cout<< SMALL; }        // Statement 6
```



e) Rewrite the following code after removing all the syntax error(s) if any present in the code. Make sure that you underline each correction done by you in the code. [2]

Important Note:

- Assume that all required header files are already included, which are essential to run this code
- The correction made by you should not change the logic of the program.

```
# include<iostream.h>
void main( )
{
const MAX = 0 ;
int a, b;
cin<<a>>b;
if(a > b )
MAX = a;
for(x=0;x<MAX; x++)
cout<<x;
}
```

f) Consider the following declarations : [2]

- i. int X[15];
- ii. long Y[5][10];
- iii. char Z[2][6]={“Hello”,”Dad”};
- iv. struct film


```
{
int code;
char title[30];
long collection;
};
struct Race[3];
```

Give the number of elements in each array and the total number of bytes required to store each array.

g) In the following C++ program what is the expected value of myscore from options i) to iv) given below.

Justify your answer.

[2]

```
void main( )
{
randomize( );
int score[ ] = {25,20,34,56,72,63}, myscore;
myscore = score[2 + random( 2 )];
cout<<myscore<<endl;
}
```

- i. 25 ii. 20 iii. 34 iv. 63

h) Observe the following program and find out, which output(s) out of (i) to (iv) will not be expected from the program? What will be the minimum and the maximum value assigned to the variable chance?



[2]

```
#include<iostream.h>
#include<stdlib.h>
void main( )
{
    randomize( );
    int Arr[ ]={9,6},N;
    int Chance=random(2)+10;
    for(int I=0; I<2;I++)
    {
        N=random(2);
        cout<<Arr[N]+Chance<<"*";
    }
}
```

Possible Output

- i. 9*6*
- ii. 19*17*
- iii. 19*16*
- iv. 20*16*

Q.2.a) Write differences between logical errors and syntax errors. Give Example.

[2]

b) Write output for following code:

[2]

```
void main( )
{
    int val,n=1000;
    cin>>val;
    res=n+val>1500?100:200;
    cout<<res;
}
```

- i) If the input is 1000.
- ii) If the input is 200.

c) Write difference between keyword and identifier. Give example.

[2]

d) Differentiate between switch case and if...else. Give example.

[2]

e) Find out how many times will the loop run in each of the following program code and why?

[1]

```
i. void main( )
{
    int a=2;
    do
    {
        cout<<a++;
    }while(a<2);
}
```



ii.

```
void main( )
{
    int a=2;
    while(a<2)
    {
        cout<<a++; }
}
```

f) Rewrite the following program after removing syntactical errors, underline each Correction. [1]

```
#include<iostream.h>
void main()
{
    int sum[2,4];
    for(i=0;i<2;i++)
    for(j=0,j<=3;i++)
    {
        cout<<sum;
    }
}
```

g) Write a program to display the following series till N [2]
0,1,1,2,3,5,8,13,.....N

Q4.a) What are arrays? Name the different types. [2]

b) Find out the output for the following program, assuming all the required header file have been included.

```
void main( )
{
    char a[ ]={"MyFriend"};
    for (int x = strlen(s) - 1; x>= 0; x - -)
    {
        for(int y = 0; y<=x; y++)
            cout<< s[y];
        cout<<endl;
    }
}
```

c) Write a program to enter a two dimensional of size of M and N . The program should display which are exactly two-digit number. [3]

Eg. 12 34 156
 123 36 67
 78 129 89

The program should display 12,34,36,67,78,89

Q5 a) Explain the following functions:- [4]

- i) isalpha()
- ii) setw()
- iii) strcmp()
- iv) sqrt()

b) Differentiate between the following(Give example also) [4]

i) call by value and call by reference .



ii) actual parameters and formal parameters .



[1]

c) What do you mean by function prototypes ?

d) Find the output of following program

[3]

```
#include<iostream.h>
int g=20;
void func(int & x,int y)
{ x=x-y; y=x*10;
  cout<<x<< “,”<<y<< “\n”;
}
void main()
{
    int g=7;
    func(g,::g);
    cout<<g<< “,”<< ::g<< “\n”;
    func(::g,g);
    cout<<g<< “,” <<::g<<”\n”; }

```

e) Write an user defined function DOUBLE(), that takes an integer array, its size and an integer value to be searched from the array. If the integer value exist in the array, then the function should return double of the element and if the integer value does not exist in the array, then the function should return zero. [3]

f) Write an user defined function compare() that takes two string as argument and returns 0 if strings are equal and -1 if not equal. Attempt it without using string function [3]

g) Write an user defined function ascending() that takes integer array as argument .The function arranges the array in ascending order. [3]

h) Write a function in C ++, which accepts an integer array and its size as an arguments and swaps the element of every even location with its following odd location. [3]

Q6 a) What is the use of #define ? Explain with example. [2]

b) Define a structure Sports in C++ with following descriptions: [4]

- S_Code of type long
- S_Name of type character array (String)
- Fees of type integer
- Duration of type string

Write the following functions:-

a) Assignfee()-to initialize fees and duration as per the following criteria

S_Name	Fees	Duration
Table Tennis	2000	5months
Swimming	4000	3months
Football	3000	6months

b) A function NewSports() which allows user to enter S_Code, S_Name Also assign the values to Fees and duration by invoking assignfare()



c) A function DisplaySports() to display all the details.

Write the main function to call the above functions.

d) Give Output of the following code:

[3]

```
#include <iostream.h>

struct Game {

char Magic[20];int Score; };

void main( ) {

Game M={"JOCKER",500}; char *Choice; Choice=M. Magic; Choice[5]= 'A';

Choice[2]= 'M'; M.Score+=20;

cout<<M.Magic<<M.Score<<endl; Game N=M; N.Magic[0]='A';

N.Magic[3]='J'; N.Score - =100; cout<<N.Magic<<N.Score<<endl; }
```

Q7. Perform the following conversions.

[5]

(i) $(335)_{10} = (?)_2$

(ii) $(2C9)_{16} = (?)_8$

(iii) $(110001.101)_2 = (?)_{10}$

(iv) $(3674)_8 = (?)_2$

(v) $(FACE)_{16} = (?)_2$

-----X-----X-----X-----X-----X-----