**SAMPLE PAPER-2013**

**CLASS-XI**

**Subject : Computer Science (083)**

**Time: 3Hours Maximum Marks: 70**

**Note. (i) All questions are compulsory.**

 **(ii) Programming Language: C++**

**1** a) What is computer? What are the characteristics of Computers? 2

 b)What is an operating system? What are its functions? 2

 c) What is the difference b/w Data & Information? 2

 d) (i) Storage of 2 MB means the following number of kilobytes : 2

 1) 2000 2) 1964 3) 2082 4) 2048

 (ii) One Terabyte (TB) is equivalent to

 1) 210 Bytes 2) 220 Bytes 3) 230 Bytes 4) None of these.

 e) What is difference between RAM and ROM? 2

 f) Define System Software and what are its two main types? Give examples. 2

 g) What is Booting? 1

 h) Which of the following are hardware and software?  1
 (i) Transistor (ii) Internet Explorer (iii) Compiler (iv) FORTRAN 1

 i) Expand the following: 2

 i) CPU ii) ROM iii) MICR iv) CD-RW

**2** a) What is the difference between Local Variable and Global Variable? 2

 b) What is the difference b/w **“while”** & “**do while**” loop? 2

 c) What will be the size of following constants? 1

 **”Computer”, ’\”’**

 d) Write the corresponding C++ expressions for the following mathematical expressions: 1

 i) ut+$\frac{1}{2}$ ft2  (ii) v-w/(a+b)9

 e) Evaluate the following, where a, b, c are integers and d, f are floating point numbers.

 The value of a=16, b=4 and d=4.5

1. f = a \* b + a/b
2. c = d+a + b % a 2

**3** a) What is the output of the following? 2

 i) # include<iostream.h>

 void main ( )

 {

 int i=0;

 for (i=1; i<=30;i++)

 {

 cout<<i<<endl;

 i=i+2;

 }

}

 ii) # include<iostream.h>

 void main( )

 {

 a=8;

 a=a+6;

 if (a>15)

 cout<<a;

 else

 cout<<(a+9);

} 2

 iii) What will be the output of the following program segment? 2

 If input is as: (a) u (b) s (c) a (d) v

 cin >>ch;

 switch (ch)

 { case ‘u’: cout<<”Computer Science”;

 case ‘s’: cout<<”Mathematics”;

 break;

 case ‘a’: cout<<”Accoutant”;

 break;

 default: cout<<” wrong choice”;

 }

 iv) Determine the output:

 2

 for(i=10;i<=100;i+=10)

 {

 j=i/2;

 cout<<j<<””;

 }

 v) What output will be the following code fragment produce?

 void main( )

 {

 int val, res, n=2000;

 cin>>val;

 res = n+val >2750 ? 1400:1200;

 cout<<res;

 }

 (i) if val=3000 (ii) if val=2000 (iii) if val=1500 3

**4** a) Find the error from the following code segment and rewrite the corrected code underlining the correction made. 2

 # include(iostream.h)

 void Main ( );

 int a,b;

 cin>>a;

 for(b=0,b<10,b++)

 if a= =b

 cout<<b+a;

 else

 cout>>a;

 }

 b) Convert the following code segment into switch case construct. 2

 int ch;

 cin>>ch;

 If(ch = = ‘A’)

 { cout<<“ Accountant”;

 }

 else If(ch = = ‘B’)

 {

 cout<<“Business Studies ”;

 } else if(ch= =’C’)

 {

 cout<<“Computer Science”;

 } else

 {

 cout<<“Invalid Choice”;

 }

 }

 }

c) Convert the following code segment into do while loop. 2

 #include<iostream.h>

 void main()

 { int i;

 for(i=1;i<=10;++i)

 cout<<”\n”<<i;

 **}**

**5** a) Which header files are required for the following?

1. puts ( )
2. sqrt( )
3. isalpha( )
4. strlen( ) 2

 b) Evaluate(with verification): 4

1. (200)10 = ( X)2

ii) (1010001)2 = (X)10

 iii) (0100111010)2 = (X)8

 iv) (266)8 = (X)2

**6** a) Write a C++ program to calculate the simple interest using function. 3

 b) Write a C++ program to check a number for Armstrong or not. 3$\frac{1}{2}$

 c) Write a C++ program to calculate and print roots of a quadratic equation

 ax2 +bx+c=0(a$\ne 0$). 3$\frac{1}{2}$

 d) Write a C++ program to design a menu for calculator and calculate the following operations :

 1 for addition, 2 for subtraction,3 for multiplication, 4 for division, 5 for exit the program. 4

 e) Write a C++ program to print square, cubes and square root of integers from 1 to 20 using mathematical functions. 2

**7.** Explain the following terms: (Give answer any six) 6

 i) Variable

 ii) Token

 iii) Array

 iv) Debugging

 v) Comment

 vi) Keyword

 vii) Function

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