Sample Paper(2014)
CLASS-XI
Subject : Computer Science (083)

Time: 3Hours   **Max. Marks: 70**

Note. (i) All questions are compulsory.
(ii) Programming Language: C++

Q1.

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 between Data and 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) EPROM   iii) MICR   iv) DVD-RW

Q2

a) What is the difference between Local Variable and Global Variable?   2
b) What is the difference between entry control and exit control loop
   and give the example of each ?   2
 c) What will be the size of following constants?   0.5x2=1
  i) "class11tha1"   ii) '\n'
d) Write the corresponding C++ expressions for the following mathematical
  expressions: 0.5x2=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.   0.5x2=1
    The value of a=16, b=4 and d=5
    i)   f = a * b + a/b   ii) c = d+a + b % a

Q3
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>   2
```
void main()
    {
        int  j=1,s=0;
         while(j<10)
        {
                cout<<j<<"+";
                s=s+j;
                j=j+j%3;
        }
        cout<<"="<<s;
    }
```

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

Q4.

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

```
# include<iostream.h>
#include<stdio.h>
 void  main ( )
     {
        struct Movie
           {    char movie_name[20];
                char movie_type;
                int cost=100;
           }M;
     gets(movie_name);
     gets(movie_type);
     }
```

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

```
void main( )
  {
      int ch;
      cin>>ch;
      if(ch = = 'p')
        {
          cout<<" Physics";
        }
      else if(ch = = 'e')
        {
          cout<<"English ";
        }
      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,sum=0;
      for(i=1;i<=10;++i)
        {
          sum=sum+i;
          cout<<"\n"<<i;
        }
      cout<<"sum of all numbers:"<<sum<<endl;
    }
```

Q5

a)Which header files are required for the following?　　2

i)puts ()　　ii) sqrt( )　　iii) isalpha( )　　iv) strlen( )

b)Evaluate(with verification): 4
   i) $(200)10 = (X)2$
   ii) $(1010001)2 = (X)10$
   iii) $(0100111010)2 = (X)8$
   iv) $(266)8 = (X)2$

Q6

  a) Write a C++ program to calculate the simple interest using function. 2
  b) Write a C++ program to check a number for Armstrong or not. 2
  c) Write a C++ program to enter any 20 number and find the sum of only
     odd number by using array 2
  d) Write a C++ program to design a menu for calculator and calculate the
     following operations : 3
     1 for addition, 2 for subtraction,3 for multiplication, 4 for division,
     5 for exit the program.
  e) What is difference between structure and union. 2
  f) An array stores details of 20 students(rollno,name and marks in five
     subjects).Write a program to create such an array and print out a list
     of students who failed in more than one subjects.
     Assume 40% as pass marks 2

Q7.

  a)What do you mean by syntax error and semantics errors? 2
  b)Why are logical errors harder to locate? 2
  c)Define source code and object code? 2
  d). What is bug in program? 1
  e)What is prettyprinting ? 1
  f)What is the significance of documentation in program? 1
  g)What do you understand by run time error and give example? 1

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