COMPUTER APPLICATIONS

(Class IX   Time : *Two hours)*

Answers to this Paper must be written on the paper provided separately.
You will not be allowed to write during the first 15 minutes.
This time is to be spent in reading the question paper.
The time given at the head of this Paper is the time allowed for writing the answers.
This Paper is divided into two Sections.
Attempt all questions from Section Aand any four questions from Section B.
The intended marks for questions or parts of questions are given in brackets [ ].

SECTION A
Attempt all questions

Question 1. [2x4=8]
   a) What is an Operator?
   b) Mention any 2 Differences between Prefix and Postfix.
   c) Give examples of any 2 arithmetic & 2 logical operator.
   d) What is ternary operator? Give one example.
   e) Write syntax of nested if .. else?

Question 2. [2x4=8]
   a) Write any 2 differences between if..else and switch..case?
   b) What is the difference between = and ==?
   c) What is fall through?
   d) What is case keyword?

Question 3. [2x4=8]
Write output of:
   a) int a=2, b=6, c=10;
   a+=a++ + ++b + --c + b + b++ + ++b + c;
   System.out.println(a+" "+b+" "+c);
   b) int k=1, m=6, r=4;
   k+=(--m%5)*(m++ * (10 + r++))
   System.out.println(k+" "+m+" "+r);
   c) int deposit=25000, interest=10;
    System.out.println (deposit>25000? deposit-=5000 : (interest>=10 ? deposit+=15000 : 30000));
   d) int a=3,b=4,c=5,x=1;
   switch(x)
   {
         case 1:
         a++;
         case 2:
         b--;
         case 3:
         c+=2;
   }
   System.out.println(a+ " "+b+" "+c);

Question 4. [2x4=8]
a) State true or false : 3-6 > -2 && 7+2<16 || 2>=4-2
b) Re-write the following code using switch code:
      if(opt==1)
      System.out.println("Java");
      e lse if (opt==2 || opt==3)
      System.out.println("C++";
      e lse
      System.out.println("Python");

c) Re-write the following code using if..else

```
switch(num)
{
        case 5:
        num++;
        System.out.print(num);
        case 6:
        System.out.print("six");
        case 0:  case 7:
        System.out.print("zero");
        break;
        case -1:
        System.out.print(num);
        default:
        System.out.print("case not matching");
}
```

d) Write expression of $(a+b)^3 + (m+n)^{\frac{1}{3}}$

SECTION B
(Attempt *any four* questions from this Section.)

The answers in this Section should consist of the Programs in either Blue J environmentor any program environment with Java as the base.
Each program should be written using <u>Variable descriptions</u>/Mnemonic Codes such that the logic of the program is clearly depicted.
Flow-Charts and Algorithms are not required.   **[12 x 4 = 48]**

Question 5.
Write a program to input principle, rate and time. Calculate and display the difference between Simple interest and compound interest. $A = P\left(1 + \frac{R}{100}\right)^T$

Question 6.
Write a program which will input a number and check whether the number
  is divisible by 3 as well as 5,   or
  is divisible by 3 and not by 5, or
  is neither divisible by 3 nor by 5.

Question 7.
Write a program which will input month number and print season's name using switch..case according to the month number:

Month Number	Season's name
11,12,1	Winter
2,3	Spring
4,5,6	Summer
7,8	Rainy
9,10	Autumn.

Question 8.
Write a program using menu to convert Celcius to Fahrenheit and vice versa.
$$\frac{C}{5} = \frac{F-32}{9}$$

Question 9.
Write a program which will input a number of pen drive bought. The cost of each pen drive is Rs. 350 if the quantity is 10 or more, otherwise Rs. 400. Find the amount to be paid. (use ternary operator)

Question 10.
Write a program which will input 3 separate single digit numbers between 1 to 9.Diplay the greatest and smallest 3 digit number.
    Sample Input: 2,   7,   4
    Greatest 3 digit number : 742
    Smallest 3 digit number: 247