

Half Yearly Examination 2017-2018

Std. : IX

Full Marks : 100

Subject : Computer Applications.

Time : 2 Hrs.+15mins.

I. Answer following questions : **[20]**

- 1) Explain what do you mean by compilation in java ? [2]
- 2) What are the characteristics of java (Any 2) [2]
- 3) Name 2 types of Java programs ? [2]
- 4) Explain what is JVM ? [2]
- 5) What is a variable ? Give an example. [2]
- 6) Write use & syntax of Ternary operator ? [2]
- 7) What are keywords ? Give an example. [2]
- 8) What do you mean by Nested for loop ? [2]
- 9) What in Encapsulation ? [2]
- 10) What is the size of datatype int & char in bytes ? [2]

II. Write output of the following : **[2x5=10]**

- a)

```
for (i=5 ; i>=1 ; i - -)
{
    System.out.println(i);
    j=5;
    j++;
}
}
```
- b)

```
for (i=2, j=5 ; j<=9 ; j++ , i = i+2)
{
    System.out.println (i+"\t"+j);
}
}
```
- c)

```
if (i = = 7)
{
    System.out.println (i);
    break;
}
else
{
    System.out.println (i) ;
}
}
```
- Here (1) i = 7 (2) i = 5

- ```

inf f = 1;
d) for (i = 1 ; i < = 4 ; i ++)
{
 f = f * i ;
 System.out.println (f);
}
e) boolean ch = ('a' > = 97 && 'a' < = 100) ? true : false;
System.out.print (ch);

```

**III. Write expression for the following :**

**[1x4=4]**

- a)  $T = \sqrt{a^2 + b^2}$
- b)  $z = (5x^3 + 2y) / x+y$
- c)  $m = (a^2 + b^2) / 2ab$
- d)  $s = \frac{\sqrt{3} + b}{n}$

**IV. Evaluate the expression.**

**[1½x4=6]**

- a) `int k=5, j=9;`  
`k+ = k++ - ++j + k;`  
`system.out.println (j+"t" + k);`
- b) `a = 2, b = 3 and c = 9`  
`d = a - (b ++ ) * ( - - c)`  
`system.out.print(d);`
- c) `int v, s, n = 550;`  
`s = (n + v) > 1750 ? 400 : 500;`  
`system.out.print(s);`  
 here `v = 200;`
- d) `int x = 4, k;`  
`k = (x ++ ) + (++x) + x;`  
`system.out.println (k);`

**SECTION-B**

**(Answer any 4 questions) [15x4=60]**

- a) Write a program to accept an alphabet from user and check its a vowel or consonant. (Using Ternary)

b) Accept an age from user and print person is a senior citizen or not (using ternary)
- Write a program to accept number of days from the user and calculate late fine for the library as per given condition.

| Days                  | Fine/day |
|-----------------------|----------|
| first 7 days          | 2 Rs.    |
| next 7 days           | 3 Rs.    |
| next 7 days           | 4 Rs.    |
| for more than 21 days | 5 Rs.    |

print number of days and fine in different lines.

3. Write a program to accept any 1 option among 1 and 2 and solve formulaes as per option.

If option is 1 solve  $aoc = \pi r^2$

If option is 2 solve  $aor = l * b$

Here user has to enter value of r, l and b. (using switch)

4. Write a program to solve sum of series using nested for concept.

$2! + 3! + 4! + \dots$  till n!

5. Write a program to accept any 1 option among 1 or 2.

If option is 1 print all even numbers between 2 to 20.

If option is 2 print all multiples of 3 between 3 to 100.

6. Wap to find sum of following series  $x^2 + \frac{x^2}{2} + \frac{x^4}{3} + \frac{x^5}{4} + \dots$  till  $x^n$  terms.