

**(Two Hours)**

Answer 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 sections

Attempt all questions from **Section A** and **any** four from **Section B**.

The intended marks for questions or parts of questions are given in brackets[.].

**SECTION A (40 Marks)**Attempt **all** questions**Question 1****[2X5=10]**

1. What is fall through? Give an example.
2. Write the default value for the following data type variables:  
a. char b. boolean
3. What is body less loop? Give an example.
4. Difference between testing and debugging.
5. Write a statement in Java using Math.Random() to generate random integers 5,6,7.

**Question 2****[2X5=10]**

1. What is multi – level inheritance?
2. Difference between constructor and function.
3. What is access modifier?
4. What are the uses of comment in Java?
5. Write a statement in Java to print the length of an integer array.

**Question 3****[2X5=10]**

1. How much memory will an integer array of size 5 occupy?
2. Difference between class variable and local variable.
3. Mention the keywords which are used to skip iterations in a loop. Give an example.
4. Write two features of static class.
5. Explain this keyword with an example.

**Question 4****[2X5=10]**

1. What will be the output of the following snippet? Show the working.

```
int x=1000,y=9,z=5;
```

```
do{
```

```
    x=x/y;
```

```
    z=z++ + 1;
```

```
    System.out.println("The value of x is = "+x);
```

```
}while(y<=x);
```

```
System.out.println("The value of z is = "+z);
```

2. What is a base class?
3. What is the meaning of the following:  
Employee staff=new Employee();
4. Give the output of the following:

```

public boolean sum(int a)
{
    int c=a%a++ + ++a - ++a;
    if(c>-1)
    {
        return true;
    }
    return false;
}

```

What will be the output and the return value of the function sum(2)?

5. Write a Java statement to print the following sentence:

The teacher said "Java is interesting!" to me.

### SECTION B(60 Marks)

Answer *any four* questions from this Section

*The answers in this Section should consist of the **Programs in either Blue J environment or any program environment with Java as the base.** Each program should be written using **Variable descriptions/Mnemonic Codes** such that the logic of the program is clearly depicted.*

*Flow-Charts and Algorithms are not required.*

#### Question 5

[15]

Write a java program to accept a sentence and print all the words in it and the ASCII value of the character which has the lowest ASCII value in each word.

Input:

I like apple.

Output :

I ASCII value of I = 73

like ASCII value of e = 101

apple ASCII value of a = 97

#### Question 6

[15]

Write a Java program to accept an alphabetically sorted characters in a character array. Accept another character from the user and search if the character is present in the word or not using binary search technique. If character is present, print it's position in the array.

#### Question 7

[15]

Write a program in Java to design a class Overload to overload the function **series()** to return the sum of the following series:

a. int series(int n) :  $1 + 2 + 3 + 4 \dots n$  terms

b. double series(int x, int n):  $\frac{x}{2} + \frac{x}{5} + \frac{x}{8} + \frac{x}{11} = \dots + \frac{x}{20}$

You need not write the main() function.

#### Question 8

[15]

Write a JAVA program to create a class NextPrime. This class has the following specifications :

**Data members:** n, which stores a number which is checked for prime.

**Member Methods:**

NextPrime() : Initialize n with 2.

NextPrime(int num): Initialize n with num.

boolean isPrime(int x) : The function returns true if the value in x is true else it returns false.

void nextprime(): It prints the prime number immediately after n

**Question 9**

[15]

Write a Java program to create a string array of size n and enter names in it. Sort the names in alphabetical order. Use any method of sorting.

**Question 10**

[15]

Write a Java program to create an integer array of size n. Assume user has not entered any duplicate values in the array. Swap the largest and smallest value in the array.

EXAMPLE :

INPUT:

3 5 1 7 4

OUTPUT :

3 5 7 1 4

\*\*\*\*\*

*All the best*