Registration Number:

Date & session:

ST.JOSEPH'S COLLEGE(AUTONOMOUS), BENGALURU -27
BCA (DATA ANALYTICS)– V SEMESTER
SEMESTER EXAMINATION: OCTOBER 2023
(Examination Conducted in November/December 2023)
BCADA 5123 – JAVA PROGRAMMING
(For current batch students only)

Time: 2 Hours **Max Marks: 60**

This paper contains TWO printed pages and THREE parts

PART- A

Answer all questions **(2x5=10)**

1. Define Byte code. Interpret the different states of java program execution.
2. Explain the uses of *super* keyword with an example.
3. How applets differ from applications?
4. Does java support multiple inheritance? Justify your answer
5. Consider the following code:

```
class Max {
    public static void main (String  [ ]args)
    {
            int max=10, y=20;
            max(max,20,30);
            System.out.println(max);
     }
    static void max (int max, int x1, int x2)  {
    if (x1 > x2)
        max=x1;
    else
        max=x2;
    } }
```

What value is printed out, when executed?

PART- B

Answer any FIVE questions **(4x5=20)**

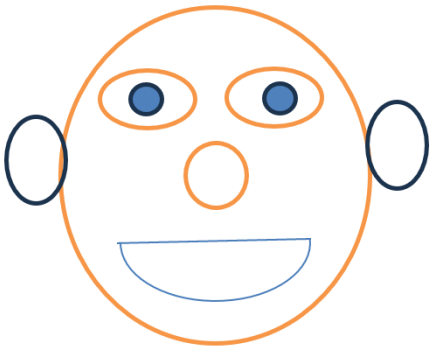
6. Write a program to implement linear search using *for* loop.
7. How user defined exception is different from built in exception. Explain the following with suitable program segment.
   i) Arithmetic exception ii) ArrayIndexOutOfBounds Exception.
8. Write a java program demonstrating Method overloading.
9. Define overriding. Explain the various overriding methods available in java with a sample program segment.
10. Write short note on multithreading. Explain the benefits of multithreaded program

11. What are exceptions? Explain the following keywords with respect to exception handling in java
    a. try b. catch c. throw d. finally
12. Write a program to create threads using runnable interface.

PART- C

Answer any THREE questions **(10x3=30)**

13(a). Explain static variable and static methods in java with a sample program segment. 6
13(b). Explain different types of inheritance in java. 4
14(a). Demonstrate the working of interface with a sample program. 6
14(b). Create a class EMPLOYEE with two private string members: employee_id, employee_name. Using LinkedList class, develop a java program to add at least 3 objects of above EMPLOYEE class and display the data in neat format. 4
15(a). Explain the method of inter-thread communication available in java. 4
15(b). Write a java program to draw the picture given below. 6



16(a). With a neat diagram explain the life cycle of a thread 5
16(b). What is a package? Explain the different packages available in java. Demonstrate the program segment to identify the perimeter of a rectangle (use keyboard-based input). 5