MCA 3rd Semester Examination, 2024

MCA

(*Java Lab*)

(Practical)

PAPER — MCA-396

Full Marks : 100

Time : 3 hours

Answer **all** questions

The figures in the right hand margin indicate marks

Answer any **two** questions :   35 × 2

1. Explain the use of constructors and member functions using an appropriate Java program.

2. Write a Java program to sort the numbers passed as command line arguments using any sorting algorithm.

(**2**)

3. Demonstrate function overloading and function overriding using a suitable program.

4. Write a Java program to show the difference between abstract class and interface.

5. Write a GCD class that calculates the gcd of two given numbers. Throw an exception if any of the given numbers is negative.

6. Write a Java program to display the following statistics from a given string :
   (i) Number of digits
   (ii) Number of special characters
   (iii) Number of uppercase letters

7. Demonstrate inter-thread communication using a suitable program with wait and notify function.

8. Write a Java program to show different ways to create threads in Java.

(*Continued*)

9. Display a Java applet with a rectangle, an oval and some text on a web page. Create all necessary files to run the applet.

10. Write an anonymous inner class and use it in your program.

11. Create a frame window with two textboxes and a button. The first textbox takes a number and the second textbox displays the square of that number when the button is clicked.

12. Demonstrate the use of try, catch and finally block by writing a suitable program.

13. Write a Java program to show thread synchronization in multithreading.

14. Write a servlet program that displays your name on a web page. Write down all the necessary steps to run the servlet.

(*Turn Over*)

15. Create a simple login page using JSP. The webpage displays an error message if the username or password is incorrect.

[Viva-voce – 20   P.N.B – 10]

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