Register No.: .... Name: ....

SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

SEVENTH SEMESTER INTEGRATED MCA DEGREE EXAMINATION (S), FEBRUARY 2024
(2020 SCHEME)

Course Code:	**20IMCAT403**
Course Name:	**Java Programming**
Max. Marks:	**60** **Duration: 3 Hours**

PART A
(Answer all questions. Each question carries 3 marks)

1. Define JVM.
2. What is the use of *super* keyword?
3. List and explain String Operations.
4. Explain about *try* and *catch* statements with examples.
5. With suitable example define generic class.
6. Write a short note on multithreading.
7. What the use of the "resultset" keyword in java?
8. What is JDBC driver?
9. List out any three advantages of using JSP.
10. What are directive elements in JSP?

PART B
(Answer one full question from each module, each question carries 6 marks)

MODULE I

11. Write a Java program to create an abstract class Shape with abstract methods calculateArea() and calculatePerimeter(). Create subclasses Circle and Triangle that extend the Shape class and implement the respective methods to calculate the area and perimeter of each shape.   (6)

OR

12. Explain inheritance and its different types.   (6)

MODULE II

13. Describe the concept of interface with an example.   (6)

OR

14. What is package? Explain the creation of user defined package in java with example.   (6)

MODULE III

15. a) Write a Java program to read the content from a file and write it into an another file.   (3)

    b)   Differentiate fileInputStream and fileOutputStream.   (3)

<div align="center">OR</div>

16.   Explain the different file operations with an example.   (6)

<div align="center">MODULE IV</div>

17.   What is a two-tier model ? How does it differ from a three-tier model?   (6)

<div align="center">OR</div>

18.   Explain any three interfaces used in Collection framework.   (6)

<div align="center">MODULE V</div>

19.   List and explain the various implicit objects in JSP.   (6)

<div align="center">OR</div>

20.   Write a sample JSP application to add and delete employee details.   (6)

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