

Register No.: Name:

SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

**THIRD SEMESTER B.TECH DEGREE EXAMINATION (Regular), DECEMBER 2022
COMPUTER SCIENCE AND ENGINEERING
(2020 SCHEME)****Course Code : 20CST205****Course Name: Object Oriented Programming Using Java****Max. Marks : 100****Duration: 3 Hours****PART A*****(Answer all questions. Each question carries 3 marks)***

1. Explain the terms: Polymorphism and Encapsulation
2. Write a note on Java Virtual Machine.
3. Define Object and Classes in Java.
4. Write a java program to check whether a given number is positive or negative.
5. Explain how access modifiers are used to control the visibility of identifiers.
6. List any two applications of Serialization.
7. Define thread and draw the life cycle of threads.
8. Explain event handling in Java.
9. List out the steps for JDBC connectivity.
10. Compare swing and AWT in Java.

PART B***(Answer one full question from each module, each question carries 14 marks)*****MODULE I**

11. a) Describe in detail any Five Object Oriented Programming principles. (10)
Illustrate with suitable examples
- b) Explain any four features of Java language. (4)

OR

12. a) Draw Use case Diagram for Hotel Information Systems. (7)
- b) Consider a Banking System. Identify four/five entities in the system which can be represented using classes and show the relationship (7)
between them using UML class diagrams.

MODULE II

13. a) Write a java program to check whether a given number is Armstrong or not. The input is to be accepted through command line parameter. (6)
- b) Explain the various operators available in java. (8)

OR

14. a) Write a java program to create an abstract class named India that contains an empty method named EconomyOfState(),Population() (8)

and Literacy(). Provide three classes named Kerala, Tamilnadu and Rajasthan such that each one of the classes extends the class India. Each one of the classes contains three methods like Economy of State, Population and Literacy that shows the growth of the Individual states. (Hierarchy Inheritance) .

- b) Define Constructors and discuss any two types of Constructors. (6)

MODULE III

15. a) Write a note on byte stream and character stream related classes. (6)
b) Develop a java package named factorialpackage, with a class Factorial containing a method to find the factorial of a number using for or while loop and returns that information. Import this package in another class and use to display the Factorial of a number. (8)

OR

16. a) Write a Java program using a try block to detect and throw an exception if the conditions “divide-by-zero” occurs. (8)
b) Explain the role of serializable interface with a suitable sample code. (6)

MODULE IV

17. a) Discuss any four methods used for string processing in Java (6)
b) Write a Java program to create two threads: One for displaying all odd numbers between 1 and 100 and second thread for displaying all even numbers between 1 and 100. (8)

OR

18. a) With example illustrate the working of thread synchronization in java. (7)
b) Explain Event Delegation model in Java. (7)

MODULE V

19. a) Write a Java program to demonstrate the use of JLabel and JButton by adding them to JFrame. (7)
b) Discuss any two AWT controls, the events generated by them and how they are handled with suitable code fragments. (7)

OR

20. a) Write the steps for connecting a java program to a database, executing a select query, and fetching the results with sample code. (9)
b) Define swing. What are the advantages of swing over AWT components? (5)
