ST. JOSEPH’S COLLEGE FOR WOMEN (AUTONOMOUS) VISAKHAPATNAM

III SEMESTER   **COMPUTER SCIENCE** TIME:2HRS/WEEK

CS-Mi1-3651(2) **OBJECT ORIENTED PROGRAMMING USING JAVA** MARKS:50

w.e.f 2024-2025 (23AK Batch) **SYLLABUS**

**Course Objectives:**

To introduce the fundamental concepts of Object-Oriented programming and to design & implement object-oriented programming concepts in Java.

**Course Outcomes:** Students after successful completion of the course will be able to:

1. Demonstrate how object-oriented concepts are incorporated into the Java programming language.[L2]
2. Develop problem-solving and programming skills using Classes & Objects.[L3]
3. Apply the principles of polymorphism , interface and packages concepts.[L3]
4. Develop the ability to solve real-world problems through multithreaded programming using Java.[L3]
5. Develop GUI based applications and web applications.[L3]

**List of Experiments**

1. Write a Java program to print Fibonacci series using for loop.

2. Write a Java program to calculate multiplication of 2 matrices.

3. Create a class Rectangle. The class has attributes length and width. It should have methods that calculate the perimeter and area of the rectangle. It should have read Attributes method to read length and width from user.

4. Write a Java program that implements method overloading.

5. Write a Java program for sorting a given list of names in ascending order.

6. Write a Java program that displays the number of characters, lines and words in a text file.

7. Write a Java program to implement various types of inheritance

i. Single ii. Multi-Level iii. Hierarchical iv. Hybrid

8. Write a java program to implement runtime polymorphism.

9. Write a Java program which accepts withdraw amount from the user and throws an exception “In Sufficient Funds” when withdraw amount more than available amount.

10. Write a Java program to create three threads and that displays “good morning”, for every one second, “hello” for every 2 seconds and “welcome” for every 3 seconds by using extending Thread class.

11. Write a Java program that creates three threads. First thread displays “OOPS”, the second thread displays “Through” and the third thread Displays “JAVA” by using Runnable interface.

12. Implement a Java program for handling mouse events when the mouse entered, exited, clicked, pressed, released, dragged and moved in the client area.

13. Implement a Java program for handling key events when the key board is pressed, released, typed.

14. Write a Java swing program that reads two numbers from two separate text fields and display sum of two numbers in third text field when button “add” is pressed.

15. Write a Java program to design student registration form using Swing Controls. The form which having the following fields and button SAVE

Form Fields are: Name, RNO, Mailid, Gender, Branch, Address.

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