

**SWARNANDHRA COLLEGE OF ENGINEERING AND TECHNOLOGY  
(AUTONOMOUS)  
SEETHARAMPURAM, NARSAPUR-534280, WG- DT, AP  
DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS**

**TEACHING PLAN**

Course Code	Course Title	Year / Sem	Branch	Contact Hr/ week	Academic Year
24MC2L01	<b>OBJECT ORIENTED PROGRAMMING USING JAVA LAB</b>	I/II	MCA	3	2025-26

**Course objectives:**

1. To understand how to design, implement, test, debug, and document programs that use basic data types and computation, simple I/O, structures, string handling and functions.
2. To understand the importance of Classes & objects along with constructors, Arrays and Vectors.
3. To understand the importance of Classes & objects along with constructors, Arrays and Vectors. Discuss the principles of inheritance, interface and packages and demonstrate through problem analysis assignments how they relate to the design of methods, abstract classes and interfaces and packages.
4. To learn experience of designing, implementing, Threads
5. To understand Java Swings for designing GUI applications based on MVC architecture.

Course Outcome (CO)	Description	Knowledge Level (K)
CO1	Apply recursion and iteration concepts to implement basic number sequences and string-based logic problems in Java.	K3
CO2	Demonstrate object-oriented principles like sorting, polymorphism, and package creation in Java to solve modular problems.	K4
CO3	Examine and implement file handling and string manipulation techniques for processing structured and unstructured data	K4
CO4	Design and develop GUI-based applications using AWT/Swing with proper event handling mechanisms	K5
CO5	Construct multithreaded applications, custom GUI components, and exception-handled data structures to model real-world scenarios.	K6

S.NO	EXERCISE/PROGRAM	PROPOSED NUMBER OF LABS
<b>EXERCISE 1</b>		
1	The Fibonacci sequence is defined by the following rule. The first 2 values in the sequence are 1, 1. Every subsequent value is the sum of the 2 values preceding it. Write a Java Program that uses both recursive and non recursive functions to print the nth value of the Fibonacci sequence.	1
<b>EXERCISE 2</b>		
2	Write a Java Program that prompts the user for an integer and then prints out all the prime numbers up to that Integer.	1
<b>EXERCISE 3</b>		
3	Write a Java Program that checks whether a given string is a palindrome or not. Ex. MALAYALAM is a palindrome	1
<b>EXERCISE 4</b>		
4	Write a Java Program for sorting a given list of names in ascending order.	1
<b>EXERCISE 5</b>		
5	Write a Java Program that illustrates how runtime polymorphism is achieved.	1
<b>EXERCISE 6</b>		
6	Write a Java Program to create and demonstrate packages.	1
<b>EXERCISE 7</b>		
7	Write a Java Program, using StringTokenizer class, which reads a line of integers and then displays each integer and the sum of all integers.	1
<b>EXERCISE 8</b>		
8	Write a Java Program that reads a file name form the user then displays information about whether the file exists, whether the file is readable/writable, the type of file and the length of the file in bytes and display the contents using File Input Stream class Write a Java Program that displays the number of characters, lines and words in a text/text file.	1
<b>EXERCISE 9</b>		
9	Write a Java Program that works as a simple calculator. Use a grid layout to arrange buttons for the digits and for the +-*?% operations. Add a text field to display the result.	1
<b>EXERCISE 10</b>		
10	Write a Java Program for handling mouse events.	1

EXERCISE 11		
11	Write a Java Program demonstrating the life cycle of a thread.	1
EXERCISE 12		
12	Write a Java Program that lets users create Pie charts. Design your own user interface (with Swings & AWT).	1
EXERCISE 13		
13	Write a Java Program to implement a Queue, using user defined Exception Handling (also make use of throw, throws).	1

*G. Adarsh*  
Faculty

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Head of the Department

*J. S.*  
Principal