PARVATHANENI BRAHMAYYA
SIDDHARTHA COLLEGE OF ARTS & SCIENCE
Autonomous
Siddhartha Nagar, Vijayawada–520010
Re-accredited at 'A+' by the NAAC

Course Code				23CSMIP231			
Title of the Course				Object Oriented Programming in Java Lab			
Offered to: (Programme/s)				BSC HONS (ELE,MAT)			
L	0	T	0	P	2	C	1
Year of Introduction:		2024-25		Semester:			3
Course Category:		Minor Practical		Course Relates to:	Global / National / Regional / Local		
Year of Revision:		2024 - 2025		Percentage:			
Type of the Course:				Skill Development / Employability			
Crosscutting Issues of the Course :							
Pre-requisites, if any				Programming knowledge			

Course Description:
The objective of course is to provide students with practical experience in Object Oriented Programming in Java.

Course Aims and Objectives:

S.NO	COURSE OBJECTIVES
1	Teach students to know the fundamental concepts in java
2	Provide comprehensive training in designing classes, objects and methods in java
3	Teach students to know inheritance, interfaces concepts in java
4	Train students to gain knowledge in multi threading , exception handling and packages
5	Teach students to know Applets Creation and File Creation

Course Outcomes
At the end of the course, the student will be able to…

CO NO	COURSE OUTCOME	BTL	PO	PSO
CO1	Creating java programs that covers fundamental concepts	K6	1,2	
CO2	Creating class, constructor, method overloading, method overriding in java.	K6	1,2	
CO3	Creating arrays, types of inheritance and interfaces in a Java program	K6	1,2	
CO4	Creating Multithreading, different types of exception handling mechanisms, Creating and accessing packages in Java.	K6	1,2	

CO5	Creating Applets, Files in Java program.			K6	1,2	

CO-PO MATRIX									
CO NO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
CO1	2	3							
CO2	2	3							
CO3	2	3							
CO4	2	3							
CO5	2	3							

Use the codes 3, 2, 1 for High, Moderate and Low correlation Between CO-PO-PSO respectively

Course Structure

This lab list covers the key areas of Object Oriented Programming in Java Lab course, providing hands-on practice

Unit-1 : Introduction to Java Programming
Lab 1

Design Java program to perform Type Casting in java.
Develop a Java program for sorting a given list of names in ascending order.

Unit-2 : Control statements, Classes, Objects and Methods

Lab 2

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.

Construct a Java program that implements method overloading.

Unit-3 : Inheritance, Arrays, Strings and Interfaces

Lab 3

1. Design a Java program to calculate multiplication of 2 matrices.

2. Construct a Java program to implement various types of inheritance

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

Lab 4
1. Write a java program to implement Abstract Classes.

2. Develop a program to demonstrate Final Keyword

Lab 5
1. Design a program for implementing interfaces.
2. Develop a program on Multiple Inheritance.

Unit-4 : Multi-Threading, Exception Handling and Packages

Lab 6
1. 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.

Write a program to create and Import Packages

Lab 7
Construct Java programs to implement various types of Exception Handling Mechanisms

      vii.   Arithmetic Exception
      viii.   Number Format Exception
      ix.   ArrayIndexOutofBounds Exception

Design a program to demonstrate Finally Block

Unit-5: Packages and I/O Files

Lab -8
1. Write a program to Create and access the package
2. Create a program for writing and reading Files.
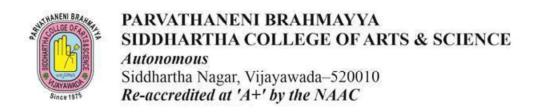
References:
 E.Balaguruswamy, Programming with JAVA, A primer, 3e, TATA McGraw-Hill Company.

    Web Resources:

 Prof.Debasis Samanta, Dept of Computer science, IIT Kharagpur."Basic Concepts of Java Programming", 2018.

https://www.youtube.com/watch?v=OjdT2l-EZJA&list=PLfn3cNtmZdPOe3R_wO_h540QNfMkCQ0ho&index=1

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23CSMIP231: Object Oriented Programming using Java Lab

Offered to: B. Sc. Hons (Mathematics, Electronics)   **Semester: III**
Max. Marks : 50 (CIA: 15 + SEE: 35)   **Hrs/Week: 2**

Model Paper : Practicals

Time: 3 Hrs.   **Max. Marks: 35**

Section – A

1. Experiment-1   15 M

2. Experiment-2   10 M

Section – B

Viva Voce   10 M

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