PRASAD V. POTLURI SIDDHARTHA INSTITUTE OF TECHNOLOGY
(Autonomous)
Kanuru, Vijayawada-520007
DEPARTMENT OF CSE (AI & ML)
II B.Tech – I Semester CSE(AI & ML)
OBJECT ORIENTED PROGRAMMINGTHROUGH JAVA LAB

Course Code:	23AM3352	Year:	II	Semester:	I
Course Category:	Professional Core	Branch:	CSE (AI&ML)	Course Type:	Practical
Credits:	1.5	L – T – P	0-0-3	Prerequisites:	C Programming language
Continuous Evaluation:	30	Semester End Evaluation:	70	Total Marks:	100

Course Outcomes	
Upon successful completion of the course, the student will be able to:	
CO1	Demonstrate experimental procedures through oral communication and submit comprehensive documentation reports.	L2
CO2	Apply the concepts of object-oriented programming and Java programming constructs to develop applications.	L3
CO3	Implement programs as an individual on different IDEs/ online platforms.	L3
CO4	Analyze outputs using given constraints/test cases.	L4

Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of correlations (3: Substantial, 2: Moderate, 1: Slight)												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2									2		
CO2	3											
CO3	3				3							
CO4		3										3

Syllabus		
S No.	CONTENTS	Mapped CO
1	**Exercise – 1**: **a)** Write a JAVA program to display default value of all primitive data type of JAVA **b)** Write a JAVA program that display the roots of a quadratic equation $ax^2+bx=0$. Calculate the discriminate D and basing on value of D, describe the nature of root.	**CO1, CO2, CO3,CO4**

2	**Exercise - 2** **a)** Write a JAVA program to search for an element in a given list of elements using binary search mechanism. **b)** Write a JAVA program to sort for an element in a given list of elements using bubble sort **c)** Write a JAVA program using StringBuffer to delete, remove character.	**CO1, CO2, CO3,CO4**
3	**Exercise - 3** **a)** Write a JAVA program to implement class mechanism. Create a class, methods and invoke them inside main method. **b)** Write a JAVA program implement method overloading. **c)** Write a JAVA program to implement constructor. **d)** Write a JAVA program to implement constructor overloading.	**CO1, CO2, CO3,CO4**
4	**Exercise - 4** **a)** Write a JAVA program to implement Single Inheritance **b)** Write a JAVA program to implement multi level Inheritance **c)** Write a JAVA program for abstract class to find areas of different shapes	**CO1, CO2, CO3,CO4**
5	**Exercise - 5** **a)** Write a JAVA program give example for "super" keyword. **b)** Write a JAVA program to implement Interface. What kind of Inheritance can be achieved? **c)** Write a JAVA program that implements Runtime polymorphism	**CO1, CO2, CO3,CO4**
6	**Exercise – 6** **a)** Write a JAVA program that describes exception handling mechanism **b)** Write a JAVA program Illustrating Multiple catch clauses **c)** Write a JAVA program for creation of JAVA Built-in Exceptions **d)** Write a JAVA program for creation of User Defined Exception	**CO1, CO2, CO3,CO4**
7	**Exercise – 7** **a)** Write a JAVA program that import and use the user defined packages. **b)**Write a JAVA program that import and use the user defined packages with jar file **c)**Write a Java Program to explore the following classes i) Formatter class ii) Random Class iii) Formatting for Date/Time in Java	**CO1, CO2, CO3,CO4**
8	**Exercise – 8** **a)** Write a JAVA program that creates threads by extending Thread class.First thread display "Good Morning "every 1 sec, the second thread displays "Hello "every 2 seconds and the third display "Welcome" every 3 seconds,(Repeat the same by implementing Runnable) illustrating **b)** Write a program **is Alive** and **join ()** **c)** Write a Program illustrating Daemon Threads.	**CO1, CO2, CO3,CO4**
9	**Exercise – 9** **a)** Implement the programs using ArrayList class **b)** Implement the programs using HashSet class **c)** Implement the programs using PriorityQueue class	**CO1, CO2, CO3,CO4**

Learning Resources
Text Books
1) JAVA one step ahead, Anitha Seth, B.L.Juneja, Oxford.
2) Joy with JAVA, Fundamentals of Object Oriented Programming, Debasis Samanta, Monalisa Sarma , 2023,Cambridge.
Reference Books
1) The complete Reference Java, Herbert Schildt , 11thedition ,TMH.
2) Introduction to Java programming, Y Daniel Liang, 7th Edition, Pearson.
E-Resources & other digital material
1) https://nptel.ac.in/courses/106/105/106105191/
2) https://infyspringboard.onwingspan.com/web/en/app/toc/lex_auth_012880464547618816347_shared/overview