

MOHAMMED SATHAK A J COLLEGE OF ENGINEERING

Siruseri IT park, OMR, Chennai - 603103

LESSON PLAN							
Department of <u>Electrical And Electronics Engineering</u>							
Name of the Subject	Object Oriented Programming		Name of the handling Faculty		Mrs.Sumana T		
Subject Code	CS8392		Year / Sem		III/V		
Acad Year	2022-2023		Batch		2020-2024		
Course Objective							
1.To understand Object Oriented Programming concepts and basic characteristics of Java							
2.To know the principles of packages, inheritance and interfaces.							
3.To define exceptions and use I/O streams							
4.To develop a java application with threads and generics classes							
5. To design and build simple Graphical User Interfaces							
Course Outcome							
Upon completion of the course, the students will be able to:							
CO1. Develop Java programs using OOP principles							
CO2. Develop Java programs with the concepts inheritance and interfaces							
CO3. Build Java applications using exceptions and I/O streams							
CO4. Develop Java applications with threads and generics classes							
CO5. Develop interactive Java programs using swings							
Sl. No.	Topic(s)	T / R* Book	Periods Required	Mode of Teaching (BB / PPT / NPTEL / MOOC / etc)	Blooms Level L6) (L1-	CO	PO
UNIT-I INTRODUCTION TO OOP AND JAVA FUNDAMENTALS							
1	Object Oriented Programming - Abstraction – Objects and Classes	T1	1	BB	L1	CO1	PO1
2	Encapsulation- Inheritance -Polymorphism- OOP in Java	T1	1	BB	L1	CO1	PO1
3	Characteristics of Java – The Java Environment - Java Source File	T1	1	BB	L1	CO1	PO1
4	Fundamental Programming Structures in Java – Defining classes	T1	1	BB	L2	CO1	PO1
5	Constructors	T1	1	BB	L3	CO1	PO2
6	Methods - static members	T1	1	BB	L3	CO1	PO2
7	Comments, Data Types, Variables	T1	1	BB	L2	CO1	PO1
8	Operators, Packages	T1	1	PPT	L2	CO1	PO2
9	Control Flow	T1	1	BB	L3	CO1	PO1 &2
10	Arrays - JavaDoc comments	T1	1	PPT	L3	CO1	PO1 &2
Suggested Activity: Quiz							
Evaluation method : Test							
UNIT II INHERITANCE AND INTERFACES							
11	Inheritance – Super classes- Sub classes	T1	1	BB	L3	CO2	PO2
12	Protected members – constructors in sub classes	T1	1	BB	L3	CO2	PO2
13	The Object class – abstract classes and methods	T1	1	BB	L2	CO2	PO2
14	Final methods and classes	T1	1	BB	L2	CO2	PO1 &2
15	Interfaces – defining anInterface, implementing interface	T1	1	BB	L3	CO2	PO2
16	Differences between classes and interfaces	T1	1	BB	L2	CO2	PO1
17	Extending interfaces	T1	1	BB	L2	CO2	PO2
18	Object cloning -inner classes	T1	1	PPT	L2	CO2	PO1
19	Array Lists - Strings	T1	1	PPT	L3	CO2	PO2
Suggested Activity: Assignment							
Evaluation method : Mark Based							
UNIT III EXCEPTION HANDLING AND I/O							
20	Exceptions - exception hierarchy	T1	1	BB	L2	CO3	PO1
21	Throwing and catching exceptions	T1	1	BB	L2	CO3	PO2
22	Built-in exceptions	T1	1	PPT	L2	CO3	PO1
23	Creating own exceptions,Stack Trace Elements	T1, R1	1	BB	L3	CO3	PO2
24	Input / Output Basics	T1,R1	1	PPT	L2	CO3	PO1
25	Streams	T1,R1	1	PPT	L2	CO3	PO1
26	Byte streams and Character streams	T1,R1	1	PPT	L3	CO3	PO2
27	Reading and Writing Console	T1	1	PPT	L2	CO3	PO2
28	Reading and Writing Files		1	BB	L2	CO3	PO2
Suggested Activity: Quiz							
Evaluation method : Mark Based							
UNIT IV MULTITHREADING AND GENERIC PROGRAMMING							
29	Differences between multi-threading and multitasking	T1	1	BB	L1	CO4	PO1

30	Thread life cycle	T1	1	BB	L2	CO4	PO1							
31	Creating threads, Synchronizing threads	T1	1	PPT	L3	CO4	PO2							
32	Inter-thread communication	T1	1	PPT	L2	CO4	PO1							
33	Daemon threads, thread groups	T1	1	BB	L2	CO4	PO1							
34	GenericProgramming – Generic classes	T1	1	BB	L2	CO4	PO2							
35	Generic methods	T1	1	PPT	L3	CO4	PO2							
36	Bounded Types – Restrictions and Limitation	T1	1	PPT	L2	CO4	PO1							
Suggested Activity: Assignment														
Evaluation method : Marks based on their presentation and points														
UNIT VEVENT DRIVEN PROGRAMMING														
37	Graphics programming - Frame – Components	T1	1	BB	L2	CO5	PO1							
38	Working with 2D shapes,Using color, fonts, andimages	R1	1	BB	L2	CO5	PO2							
39	Basics of event handling - event handlers	T1	1	BB	L2	CO5	PO1							
40	Adapter classes - actions - mouse events	T1, R1	1	PPT	L3	CO5	PO2							
41	AWT event hierarchy - Introduction to Swing	T1,R1	1	PPT	L2	CO5	PO1							
42	layout management - Swing Components – TextFields , Text Area	R1	1	PPT	L2	CO5	PO2							
43	Buttons- Check Boxes – Radio Buttons – Lists- choices	R1	1	PPT	L2	CO5	PO2							
44	Scrollbars –Windows	R1	1	PPT	L5	CO5	PO2							
45	Menus – Dialog Boxes		1	PPT	L3	CO5	PO2							
Suggested Activity: Assignment														
Evaluation method : Marks based														
Content Beyond the Syllabus Planned														
1	Java Applets													
2	Socket programming													
Text Books														
1	Herbert Schildt, —Java The complete referencel, 8th Edition, McGraw Hill Education, 2011.													
2	Cay S. Horstmann, Gary cornell, —Core Java Volume –I Fundamentalsl, 9th Edition,													
Reference Books														
1	Paul Deitel, Harvey Deitel, —Java SE 8 for programmersl, 3rd Edition, Pearson, 2015.													
2	Steven Holzner, —Java 2 Black bookl, Dreamtech press, 2011.													
3	Timothy Budd, —Understanding Object-oriented programming with Javal, Updated Edition,													
Website / URL References														
1	https://www.geeksforgeeks.org/computer-organization-and-architecture-tutorials													
2	http://npTEL.ac.in/													
Blooms Level														
Level 1 (L1) : Remembering		Lower Order Thinking	Fixed Hour Exams	Level 4 (L4) : Analysing					Higher Order Thinking	Projects / Mini Projects				
Level 2 (L2) : Understanding				Level 5 (L5) : Evaluating										
Level 3 (L3) : Applying				Level 6 (L6) : Creating										
Mapping syllabus with Bloom’s Taxonomy LOT and HOT														
Unit No	Unit Name		L1	L2	L3	L4	L5	L6	LOT	HOT	Total			
Unit 1	INTRODUCTION TO OOP AND JAVA FUNDAMENTALS		3	3	4	0	0	0	10	0	10			
Unit 2	INHERITANCE AND INTERFACES		0	5	4	0	0	0	9	0	9			
Unit 3	EXCEPTION HANDLING AND I/O		0	7	2	0	0	0	9	0	9			
Unit 4	MULTITHREADING AND GENERIC PROGRAMMING		1	5	2	0	0	0	8	0	8			
Unit 5	EVENT DRIVEN PROGRAMMING		0	6	3	0	0	0	9	0	9			
Total			4	26	15	0	0	0	45	0	45			
Total Percentage			8.89	57.78	33.33	0.00	0.00	0.00	100.00	0.00	100			
CO PO Mapping														
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	2	0	0	0	0	0	0	0	0	0	3	2
CO2	3	2	2	0	0	0	0	0	0	0	0	0	3	2
CO3	3	2	2	0	0	0	0	0	0	0	0	0	3	2
CO4	3	2	2	0	0	0	0	0	0	0	0	0	3	2
CO5	3	2	2	0	1	0	0	0	0	0	0	0	3	2
Avg	3	2	2	0	0.2	0	0	0	0	0	0	0	3	2
Justification for CO-PO mapping														
CO1	Basic Knowledge of structure and Operational Concepts of computer will be gained by students (Engg.Knowledge, Maths)													
CO2	Knowledge of Arithmetic operations (Mathematics)													
CO3	Fundamentals of Pipelining concepts(Engg.Knowledge)													
CO4	Memory and IO systems (Engg. Science)													
CO5	Parallel processing challenges (Design solutions for Complex engg problems)													
3	High level		2		Moderate level				1	Low level				

Name & Sign of Subject Expert	: Ms.sumna
Head of the Department	: Dr.J.Jeha

