



SWARNANDHRA

COLLEGE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

Accredited by National Board of Accreditation, AICTE, New Delhi, Accredited by NAAC with "A" Grade – 3.32 CGPA, Recognized under 2(f) & 12(B) of UGC Act 1956, Approved by AICTE, New Delhi, Permanent Affiliation to JNTUK, Kakinada Seetharampuram, W.G.DT., Narsapur-534280, (Andhra Pradesh)

DEPARTMENT OF INFORMATION TECHNOLOGY

TEACHING PLAN

Course Code	Course Title	Semester	Branch	Contact Periods /Week	Academic Year	Date of commencement of Semester
23CS4T02	OBJECT ORIENTED PROGRAMMING THROUGH JAVA	IV	CSE(D S)-B	5	2025-26	10-12-2025

COURSE OUTCOMES

1	Identify Java language components and how they work together in applications. [K2]
2	Learn the fundamentals of object-oriented programming in Java, including defining classes, invoking methods, using class libraries.[K2]
3	Learn how to extend Java classes with inheritance and dynamic binding and how to use exception handling in Java applications. [K6]
4	Understand how to design applications with threads in Java. [K3]
5	Understand how to use Java APIs for program development.[K5]

UNIT	Out Comes / Bloom's Level	Topics No.	Topics/ Activity	Text Book/ Reference	Contact Hour	Delivery Method
I	CO – 1	1.1	Basic concepts, Principles, Program Structure in Java:Introduction, Writing Simple Java Programs	T1,T2	1	Chalk & Board Power point presentation Assignment Test
		1.2	Elements or Tokens in Java Programs, Java Statements, Command Line Arguments	T1,T2	1	
		1.3	User Input to Programs, Escape Sequences Comments, Programming Style.	T1,T2	1	
		1.4	Data Types, Variables,	T1,T2	1	
		1.5	Operators, Type Casting	T1,T2	1	
		1.6	Scope of Variable Identifier, Literal Constants,Symbolic Constants,	T1,T2	1	
		1.7	Formatted Output with printf() Method	T1,T2	1	
		1.8	Static Variables and Methods,Attribute Final,	T1,T2	1	
		1.9	Operators, Precedence and Associativity of Operators,	T1,T2	1	
		1.10	Assignment Operator (=), Basic Arithmetic Operators	T1,T2		



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		1.11	if Expression, Nested if Expressions, if-else Expressions	T1,T2	1	
		1.12	Switch Statement, Iteration Statements,	T1,T2		
		1.13	while Expression, do-while Loop, for Loop, Nested for Loop	T1,T2	1	
		1.14	For-Each for Loop, Break Statement, Continue Statement.	T1,T2		
Total					11	
II	CO – 2	2.1	Class Declaration and Modifiers	T1,R1	1	Chalk & Board Power point presentation Assignment Test
		2.2	Class Members, Declaration of Class Objects	T1,R1	1	
		2.3	Assigning One Object to Another, Access Control for Class Members	T2,R2	1	
		2.4	Accessing Private Members of Class, Constructor Methods for Class	T2,R2	1	
		2.5	Overloaded Constructor Methods	T2,R2	1	
		2.6	Nested Classes	T2,R2	1	
		2.7	Final Class and Methods	T2,R2	1	
		2.8	Passing Arguments by Value and by Reference, Keyword this.	T1,T2	1	
		2.9	Defining Methods, Overloaded Methods, Overloaded constructor Methods	T1,T2	1	
		2.10	Class Objects as Parameters in Methods	T1,T2	1	
		2.11	Access Control,	T1,T2	1	
		2.12	Recursive Methods,Nesting of Methods	T1,T2	1	
		2.13	Overriding Methods	T1,T2	1	
		2.14	Attributes Final and Static.	T1,T2	1	
Total					14	
III	CO – 3	3.1	Arrays:Introduction, Declaration and Initialization of Arrays	T1,T2	1	Chalk & Board Power point presentation Assignment
		3.2	Storage of Array in Computer Memory, Accessing Elements of Arrays	T1,T2	1	
		3.3	Operations on Array Elements,	T1,T2	1	
		3.4	Assigning Array to Another Array, Dynamic Change of Array Size	T1,T2	1	
		3.5	Sorting of Arrays, Search for Values	T1,T2	1	



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			in Arrays			Test
		3.6	Class Arrays, Two-dimensional Arrays,	T1,T2	1	
		3.7	Arrays of Varying Lengths	T1,T2		
		3.8	Threedimensional Arrays, Arrays as Vectors	T1,T2	1	
		3.9	Inheritance: Introduction, Process of Inheritance,	T1,T2	1	
		3.10	Types of Inheritances, Universal Super Class-Object Class, Inhibiting Inheritance of Class Using Final,	T1,T2		
		3.11	Access Control and Inheritance, Multilevel Inheritance, Application of Keyword Super	T1,T2	1	
		3.12	Constructor Method and Inheritance, Method Overriding, Dynamic Method Dispatch	T1,T2	1	
		3.13	Abstract Classes, Interfaces and Inheritance	T1,T2	1	
		3.14	Interfaces: Introduction, Declaration of Interface, Implementation of Interface,	T1,T2	1	
		3.15	Multiple Interfaces, Nested Interfaces, Inheritance of Interfaces	T1,T2	1	
		3.16	Default Methods in Interfaces, Static Methods in Interface,	T1,T2	1	
		3.17	Functional Interfaces, Annotations.	T1,T2	1	
		Total			15	
IV	CO – 4	4.1	Packages and Java Library: Introduction, Defining Package, Importing Packages and Classes into Programs	T1,T2	1	Chalk & Board
		4.2	Path and Class Path, Access Control, Packages in Java SE	T1,T2	1	
		4.3	Java.lang Package and its Classes, Class Object, Enumeration	T1,T2	1	Power point presentation
		4.4	class Math, Wrapper Classes, Autoboxing and Auto-unboxing, Java util Classes and Interfaces,	T1,T2	1	Assignment
		4.5	Formatter Class, Random Class, Time Package, Class Instant (java.time.Instant)	T1,T2	1	Test
		4.6	Formatting for Date/Time in Java, Temporal Adjusters Class, Temporal	T1,T2	1	



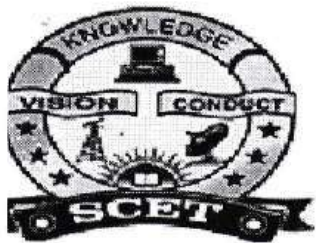
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			Adjusters Class.			
		4.7	Exception Handling: Introduction, Hierarchy of Standard Exception Classes	T1,T2	1	
		4.8	Keywords throws and throw, try, catch, and finally Blocks	T1,T2	1	
		4.9	Multiple Catch Clauses, Class Throwable, Unchecked Exceptions, Checked Exceptions.	T1,T2	1	
		4.10	Java I/O and File: Java I/O API,	T1,T2	1	
		4.11	standard I/O streams, types	T1,T2	1	
		4.12	Byte streams, Character streams,	T1,T2	1	
		4.13	Scanner class, Files in Java	T1,T2	1	
Total					13	
V	CO – 5	5.1	String Handling in Java:Introduction, Interface Char Sequence TransactionState	T1,R1	1	Chalk & Board Power point presentation Assignment Test
		5.2	Class String, Methods for Extracting Characters from Strings,	T1,R1	1	
		5.3	Comparison, Modifying, Searching; Class String Buffer.	T1,R1	1	
		5.4	Multithreaded Programming:Introduction, Need for Multiple Threads Multithreaded Programming for Multi-core Processor,	T1,R1	1	
		5.5	Thread Class, Main Thread-Creation of New Threads,	T1,R1	1	
		5.6	Thread States, Thread Priority-Synchronization	T1,R1	1	
		5.7	Deadlock and Race Situations,	T1,R1	1	
		5.8	Inter-thread Communication - Suspending, Resuming, and Stopping of Threads.	T1,R1	1	
		5.9	Java Database Connectivity:Introduction, JDBC Architecture	T1,R1	1	
		5.10	Installing MySQL and MySQL Connector/J,	T1,R1	1	



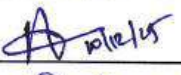
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		5.11	JDBC Environment Setup, Establishing JDBC Database Connections,	T1,R1	1	
Total					11	
CUMULATIVE PROPOSED PERIODS					64	
Text Books:						
S. No.	AUTHORS, BOOK TITLE, EDITION, PUBLISHER, YEAR OF PUBLICATION					
1	Anitha Seth, B.L.Juneja, JAVA one step ahead,1 st edition, Oxford ,2017.					
2	Debasis Samanta, Monalisa Sarma ,Joy with JAVA, Fundamentals of Object Oriented Programming, , Cambridge University, 2023.					
2	Paul Deitel, Harvey Deitel ,JAVA 9 for Programmers,4th Edition, Pearson,2018.					
Reference Books:						
S.No.	AUTHORS, BOOK TITLE, EDITION, PUBLISHER, YEAR OF PUBLICATION					
1	HerbertSchildt,TMH,ThecompleteReferenceJava,11 th edition,McGraw-Hill Education,2020.					
2	Y Daniel Liang,Introduction to Java programming, 7th Edition,Pearson,2009.					
Web Details:						
1	https://nptel.ac.in/courses/106/105/106105191/					
2	https://infyspringboard.onwingspan.com/web/en/app/toc/lex_auth_012880464547618816347_shared/overview					

		Name	Signature with Date
i.	Faculty	Mrs.J.N.D.Lakshmi	
ii.	Module Coordinator	Mr.A.S.N.V.Bhogesh	
iii.	Programme Coordinator	Dr. RVVSV Prasad	


Principal