



### TEACHING PLAN

Course Code	Course Title	Semester	Branch	Contact Periods /Week	Academic Year	Date of commencement of Semester
23CS4T02	OOP's Through Java	IV	CSE	6	2024-25	16-12-24

#### **COURSE OUTCOMES**

1	Identify and utilize Java language components effectively in applications. (K2)
2	Implement object-oriented programming principles using Java. (K3)
3	Extend Java classes with inheritance and interfaces in applications. (K3)
4	Design multi-threaded and exception handling applications in Java. (K4)
5	Use Java APIs for program development in swing and java database connectivity. (K5)

UNIT	Out Comes / Bloom's Level	Topics No.	Topics/Activity	Text Book / Reference	Contact Hour	Delivery Method
I	C01: Object-Oriented Programming and Basics (K2)	1.01	Introduction to Object-Oriented Programming - Basic Concepts and Principles	T1	1	Chalk and Talk, PPT & Video
		1.02	Program Structure in Java - Writing Simple Java Programs	T2	2	
		1.03	Elements or Tokens in Java Programs - Java Statements	T1	3	
		1.04	Command Line Arguments and User Input	T3	4	
		1.05	Escape Sequences, Comments, and Programming Style	T1	5	
		1.06	Data Types in Java - Declaration and Type Casting	T1	6	
		1.07	Scope of Variables and Literal Constants	T2	7	
		1.08	Symbolic Constants and Formatted Output with printf() Method	T1	8	
		1.09	Static Variables and Methods, Attribute Final	T1	9	
		1.10	Introduction to Operators - Precedence and Associativity	T3	10	
		1.11	Basic Arithmetic Operators	T1	11	
		1.12	Increment and Decrement Operators, Ternary Operator	T1	12	
		1.13	Relational, Boolean Logical, and Bitwise Logical Operators	T2	13	
		1.14	Control Statements - if, if-else, Nested if	T1	14-15	
		1.15	Switch Statement	T1	16	
		1.16	Iteration Statements - while, do-while, for	T1	17	
		1.7	Nested for Loop, For-Each Loop	T1	18	
		1.8	Break and Continue Statements	T2	19	





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					Total	19	
II	CO2: Classes and Objects. (K3)	2.01	Class Declaration and Modifiers - Class Members	T1	20	Chalk and Talk, PPT & Video	
		2.02	Declaration of Class Objects and Assigning One Object to Another	T2	21		
		2.03	Access Control for Class Members and Accessing Private Members	T1	22-23		
		2.04	Constructor Methods for Class	T1	24		
		2.05	Overloaded Constructor Methods	T2	25		
		2.06	Nested Classes and Final Class Methods	T1	26		
		2.07	Passing Arguments by Value and by Reference - Keyword this	T1	27		
		2.08	Methods - Defining and Overloading Methods	T1	28		
		2.09	Overloaded Constructor Methods		29		
		2.10	Class Objects as Parameters and Access Control	T1, T3	30-31		
		2.11	Recursive Methods and Nesting of Methods	T2	32		
		2.12	Overriding Methods - Attributes Final and Static	T1	33		
Total					14		
III	CO3: Arrays, Inheritance and Interfaces. (K3)	3.01	Arrays: Introduction, Declaration and Initialization of Arrays	T1,R2	34	Chalk and Talk, PPT	
		3.02	Storage of Array in Computer Memory, Accessing Elements of Arrays,	T1,R2	35		
		3.03	Operations on Array Elements, Assigning Array to Another Array,	T1,R2	36		
		3.04	Dynamic Change of Array Size,	T1,R1	37		
		3.05	Sorting of Arrays, Multidimensional arrays.	T1,R2	38		
		3.06	Inheritance - Process and Types	T1,R1	39		
		3.07	Universal Super Class (Object Class) and Inhibiting Inheritance	T1,R1	40		
		3.08	Access Control and Multilevel Inheritance	T2,R1	41		
		3.09	Keyword Super and Constructor Method in Inheritance	T1,R1	42		
		3.10	Method Overriding and Dynamic Method Dispatch	T1,R1	43		
		3.11	Abstract Classes	T1,R1	44		
		3.12	Interfaces - Declaration, Implementation, Multiple Interfaces	T1,R1	45		
		3.13	Nested Interfaces and Inheritance of Interfaces	T1,R1	46		
		3.14	Default and Static Methods in Interfaces	T1,R1	47		
		3.15	Functional Interfaces and Annotations	T1,R1	48		
Total					15		
IV	CO4: Packages & Exception Handling and. (K4)	4.01	Exception Handling - Hierarchy of Standard Exception Classes	T1,R2	49	Chalk and Talk, PPT & Video	
		4.02	Introduction, Defining Package	T1,R2	50		
		4.03	Importing Packages and Classes into Programs	T1,R2	51		
		4.04	Path and Class Path, Access Control, Packages in Java SE	T1,R2	52		
		4.05	java.lang Package and its Classes, Class Object, Enumeration,	T1,R2	53		
		4.06	class Math, Wrapper Classes, Auto-boxing	T1,R2	54		



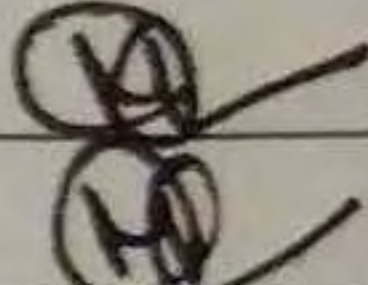
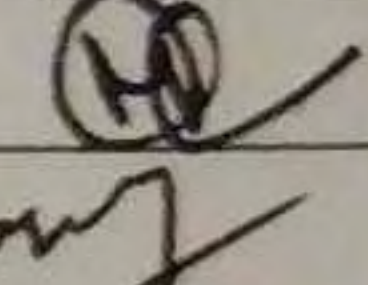
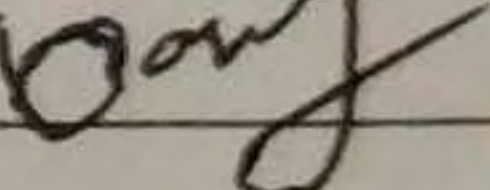
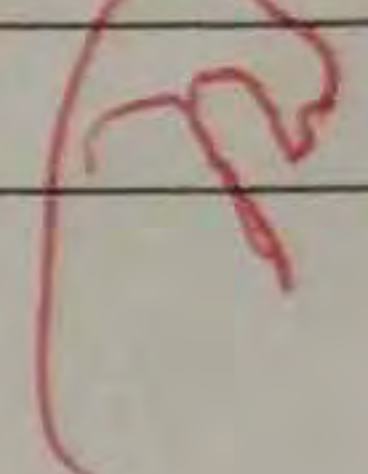


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			and Auto-unboxing, Java util Classes and Interfaces			
		4.07	Formatter Class, Random Class, Time Package, Class Instant	T2,R2	55	
		4.08	Formatting for Date/Time in Java, Temporal Adjusters Class.	T1,R1	55	
		4.09	Exception Handling - Hierarchy of Standard Exception Classes	T1,R1	56	
		4.10	Keywords throws and throw - try, catch, and finally Blocks	T1,R1	57	
		4.11	Multiple Catch Clauses and Class Throwable	T1,R1	58	
		4.12	Unchecked and Checked Exceptions	T1,R1	59	
Total					11	
V	CO5: JDBC, Multithreaded Programming, String Handling in Java. (K5)	5.01	String Handling in Java: Introduction, Interface Char Sequence	T1	60	Chalk and Talk, PPT & Video
		5.02	Class String, Methods for Extracting Characters from Strings,	T3	61	
		5.03	Comparison, Modifying, Searching; Class String Buffer.	T1	62	
		5.04	Multithreaded Programming - Need and Basic Concepts	T1	63	
		5.05	Thread Class - Main Thread and Creation of New Threads	T1	64	
		5.06	Thread States, Priority, Synchronization, Deadlock, Race Situations	T1,T2	65	
		5.07	Java Database Connectivity: Introduction, JDBC Architecture, Installing MySQL and MySQL Connector/J	T1	66	
		5.08	JDBC Environment Setup	T1	67	
		5.09	Establishing JDBC Database Connections	T1	68	
		5.10	Result Set Interface	T1	69	
Total					10	
CBS	Content Beyond Syllabus	1	Lambda Expression & Streams API		70	Chalk and Talk, PPT & Video
		2	Generics in Java		71	
		3	JavaFX		72	
		4	Java Memory Management & Garbage Collection		73	
Total					73	
CUMULATIVE PROPOSED PERIODS					73	
Text Books:						
Sl. No.	AUTHORS, BOOK TITLE, EDITION, PUBLISHER, YEAR OF PUBLICATION					
1.	JAVA one step ahead, Anitha Seth, B.L.Juneja, Oxford, 2017.					
2.	Joy with JAVA, Fundamentals of Object Oriented Programming, Debasis Samanta, MonalisaSarma, Cambridge, 2023.					
3	JAVA 9 for Programmers, Paul Deitel, Harvey Deitel, 4th Edition, Pearson.					
Reference Books:						
Sl. No.	AUTHORS, BOOK TITLE, EDITION, PUBLISHER, YEAR OF PUBLICATION					
1.	The complete Reference Java, 11thedition, Herbert Schildt,TMH					
2.	Introduction to Java programming, 7th Edition, Y Daniel Liang, Pearson					
Web Details						



1.	<a href="https://nptel.ac.in/courses/106/105/106105191/">https://nptel.ac.in/courses/106/105/106105191/</a>
2.	<a href="https://infyspringboard.onwingspan.com/web/en/app/toc/lex_auth_012880464547618816347_shared/overview">https://infyspringboard.onwingspan.com/web/en/app/toc/lex_auth_012880464547618816347_shared/overview</a>

S.No	Name of Faculty & Section		Name	Signature with Date
i.	Faculty I	Sec/D	Mr. Vijaya Raju	
ii.	Course Coordinator		Mr. M. Vijay Raju	
iii.	Module Coordinator		Mr. B.S. Vara Prasad	
iv.	Programme Coordinator		Prof. P. Srinivasulu	

  
Principal