



Sardar Patel Institute of Technology

Bhavan's Campus, Munshi Nagar, Andheri (West), Mumbai-400058-India
(Autonomous Institute Affiliated to University of Mumbai)

Course Code	Course Name	Teaching Scheme (Hrs/week)			Credits Assigned			
		L	T	P	L	T	P	Total
IT34	Object Oriented Programming	3	-	-	3	-	-	3
		Examination Scheme						
		ISE		MSE		ESE		
		10		30		100 (60% weightage)		

Pre-requisite Course Codes	ES4 (Programming Methodology and Data Structures)	
After successful completion of the course, student will be able to:		
Course Outcomes	CO1	Demonstrate object oriented programming paradigm.
	CO2	Solve problems using inheritance & package.
	CO3	Use file handling concepts in Java for data input and output.
	CO4	Apply concepts of multithreading and exception handling to create efficient program.
	CO5	make use of string and collection classes.

Module No.	Unit No.	Topics	Ref.	Hrs.
1		BASIC OF JAVA	2	
	1.1	History & features, Difference between JDK,JRE,JVM, Unicode system, Advantages of OOP		4
	1.2	Object & Class, Constructor , Command line argument, Static Variable, Method & block		
	1.3	Branching & looping		
2		OOP CONCEPTS	1,2,4	
	2.1	Inheritance (IS – A), Aggregation & Composition (Has – A)		8
	2.2	Method overloading & overriding, Constructor overloading & overriding, this, super, final keyword		
	2.3	Runtime polymorphism, Static and Dynamic Binding		
3		ABSTRACT CLASS, INTERFACE, PACKAGE	1,2	
	3.1	Abstract class & interface, instanceof operator		5
	3.2	Package and access modifier		
	3.3	Object class, Nested class		
4		STRING HANDLING	1,2	
	4.1	Immutable string ,Methods of String class,		4



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	4.2	String comparison, concatenation, substring, toString method		
	4.3	StringBuffer class, StringBuilder class, StringTokenizer class		
5		EXCEPTION HANDLING	1,2	
	5.1	What & why? Try & catch block, Multiple catch block, Nested try, Finally block		5
	5.2	Throw, Throws keywords, Exception propagation		
	5.3	Custom exception		
6		MULTITHREADING	1,2	
	6.1	Life cycle of a – thread, Create thread using, Thread & Runnable class		5
	6.2	Thread methods, schedule, sleep, join, Thread priority, Thread group, Perform multiple task using multiple thread		
	6.3	Thread synchronization		
7		COLLECTION	1,2	
	7.1	Collection framework, ArrayList, LinkedList		5
	7.2	HashMap, Hashtable		
	7.3	Comparable & Comparator		
8		INPUT & OUTPUT	2	
	8.1	FileOutputStream & FileInputStream, BufferedOutputStream & BufferedInputStream, FileWriter & FileReader		6
	8.2	Scanner, PrintStream, PrintWriter, CharArrayWriter		
	8.3	StreamTokenizer class		
			Total	42

References:

1. Ralph Bravaco , Shai Simoson , “Java Programing From the Group Up” , 1st edition, Tata McGraw-Hill.
2. Herbert Schildt, “Java The Complete Reference”, 8th edition, Tata McGraw-Hill.
3. Jaime Nino, Frederick A. Hosch, “An introduction to Programming and Object Oriented design using Java” ,3rd Edition, Wiley.
4. C Xavier, “Java Programming a Practical Approach” , 1st edition, Tata McGraw-Hill.