

TEACHING PLAN (TP)

Institute Name: 0078-K. K. Wagh Polytechnic, Nashik

Academic Year: 2025-26 (EVEN)

Programme: Information Technology (IF) **Course:** Java Programming (JPR) **Course Code:** 314317

Scheme: K

Semester: fourth

CLASS: SYIF (CRAY)

Name of Faculty: Mrs. S. S Pathare

COURSE LEVEL LEARNING OUTCOMES (COS)

- CO1 - Develop java program using classes and objects.
- CO2 - Develop java program for implementing code reusability concept.
- CO3 -Develop program to implement multithreading and exception handling.
- CO4 - Develop java program for implementing event handling using window-based application components.
- CO5 - Implements network programming in java.
- CO6- Develop java program for managing database.

TEACHING-LEARNING & ASSESSMENT SCHEME

Course Code	Course Title	Abbr	Course Category	Learning Scheme						Credits	Paper Duration	Assessment Scheme									
				Actual Contact Hrs./Week			SLH	NLH	Theory				Based on LL & TSL Practical				Based on SL		TotalMarks		
				CL	TL	LL			FA-TH			SA-TH	Total		FA-PR		SA-PR			SLA	
													Max	Min	Max	Min	Max	Min		Max	Min
314317	JAVA PROGRAMMING	JPR	AEC	4	-	4	2	10	5	3	30	70	100	40	25	10	50#	20	25	10	200

Total IKS Hrs. for Sem.: 2 Hrs.

Abbreviations: CL- Classroom Learning , TL- Tutorial Learning, LL-Laboratory Learning, SLH-Self Learning Hours, NLH- Notional Learning Hour FA -Formative Assessment, SA -Summative assessment, IKS - Indian Knowledge System, SLA - Self Learning Assessment Legends: @ Internal Assessment, # External Assessment, *# On Line Examination , @\$ Internal Online Examination

SUGGESTED COS - POS MATRIX FORM

Course Outcomes (COs)	Programme Outcomes (POs)							Programme Specific Outcomes (PSOs)	
	PO-1 Basic and Discipline Specific Knowledge	PO-2 Problem Analysis	PO-3 Design/ Development of Solutions	PO-4 Engineering Tools	PO-5 Engineering Practices for Society, Sustainability and Environment	PO-6 Project Management	PO-7 Life Long Learning	PSO-1	PSO-2
CO1	2	2	1	2	-	1	1	2	2
CO2	2	2	2	2	-	1	1	3	3
CO3	2	2	2	2	-	1	1	3	3
CO4	2	2	2	2	1	2	2	3	3
CO5	2	2	3	2	1	2	2	3	3
C06	2	2	3	3	1	2	2	2	2

Legends :- High:03, Medium:02,Low:01, No Mapping: -

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Unit No. (Allocated Hrs.)	CO	TLO aligned to COs	Title/ Details	Plan (No. of Lectures)		Actual Execution (From-To & No. of Lectures)		Pedagogy used (Teaching method /Media)	Remarks	
				From	To	From	To			
01 (10)	CO1		Unit - I Basic Syntactical Constructs in Java					Chalk, Board, PPT+ LCD Videos, Google Classroom, Learn Live		
		TLO 1.1 TLO1.2	1.1 Java features and the Java Programming environment 1.2 Defining class, creating object, accessing class members	03 Lectures						
				15/12/25	17/12/25					
		TLO 1.3	1.3 Java tokens and data types, symbolic constant, scope of variable, typecasting, and different types of operators and expressions, decision making and looping statements	04 Lectures						
18/12/25	23/12/25									
TLO 1.4, TLO 1.5	1.4 Arrays, strings, string buffer classes, vectors, wrapper classes 1.5 Constructors and methods, types of Constructors, method and constructor overloading, nesting of methods, command line arguments, garbage collection, visibility control: public, private, protected, default, private protected.	03 Lectures								
		24/12/25	30/12/25							
02 (10)	CO2		Unit - II Inheritance, Interface and Packages							

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		TLO 2.1	2.1 Inheritance: concept of inheritance , types of Inheritance: single inheritance, multilevel inheritance, hierarchical inheritance, method overriding, final variables, final methods, use of super, abstract methods and classes	04 Lectures		Chalk, Board, PPT Videos, Learn Live	
				31/12/26	05/01/26		
				02 Lectures			
		TLO 2.2	2.2 Interfaces: Define interface, implementing interface, accessing interface variables and methods, extending interfaces	06/01/26	07/01/26		
		TLO 2.3	2.3 Package: Define package, types of package, naming and creating package, accessing package, import statement, static import, adding class and interfaces to a package	04 Lectures			
				08/01/26	13/01/26		
03 (09)	CO3	Unit - III Exception Handling and Multithreading				Chalk, Board, PPT, Learn Live	
		TLO 3.1	3.1 Errors and Exception: Types of errors and exceptions, try and catch statement, throws and finally statement, built-in exceptions, throwing our own exception	05 Lectures			
				14/01/26	21/01/26		
TLO 3.2	3.2 Multithreaded programming : creating a thread: By extending to	04 Lectures					

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			thread class and by implementing runnable Interface, Life cycle of thread: Thread methods, thread exceptions, thread priority and methods, synchronization	22/01/26	27/01/26					
04 (15)	CO4		Unit - IV Event handling using Abstract Window Toolkit (AWT) & Swings Components	02 Lectures				Chalk, Board, PPT Videos, Learn Live		
		TLO 4.1	4.1 Component, container, window, frame, panel, use of AWT controls: labels, buttons, checkbox, checkbox group, textfield, textarea	02/02/26	03/02/26					
		TLO 4.2	4.2 Use of layout managers: flowLayout, BorderLayout, GridLayout, GridBagLayout, menubars, menus, file dialog	02 Lectures		04/02/26	05/02/26			
		TLO 4.3, TLO 4.4	4.3 Introduction to swing: Swing features, difference between AWT and Swing. 4.4 Swing components: Icons and Labels, TextField, ComboBox, Button, Checkbox, RadioButton	03 Lectures		09/02/26	11/02/26			
		TLO 4.5	4.5 Advanced Swing Components: Tabbed Panes, Scroll Panes, Trees, Tables, Progress bar, tool tips	02 Lectures		12/02/26	16/02/26			
					06 Lectures					

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		TLO 4.6, TLO 4.7, TLO 4.8	4.6 Introduction to Event Handling: The delegation Event Model: Event sources, Event listeners 4.7 Event classes: The action event class, the Item event class, the Key event class, the mouse event class, text event 4.8 Event listener interfaces: ActionListener, ItemListener, KeyListener, MouseListener, MouseMotion, TextListener	17/02/26	25/02/26				
05 (08)	CO5		Unit - V Basics of Network Programming	05 Lectures		Chalk, Board, PPT Videos , Learn Live			
		TLO 5.1 TLO 5.2	5.1 Socket Overview: Client/Server, reserved Sockets , proxy servers , Internet Addressing 5.2 Java and the Net: The networking classes and interfaces, InetAddress: Factory Methods, Instance Methods	26/02/26	05/03/26				
		TLO 5.3, TLO 5.4	5.3 TCP/IP Client and Server Sockets, datagram sockets, datagram packets 5.4 The URL Class, URLConnection class	03 Lectures					
				09/03/26	11/03/26				
06 (08)			Unit - VI Interacting with Database						
				12/03/26	17/03/26				
				05 Lectures					

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		TLO 6.3	6.3 Types of JDBC drivers, Class Class, DriverManager class, Connection interface, Statement interface, Prepared Statement interface	18/03/26	25/03/26			Chalk, Board, PPT Videos, Learn Live	
		Content Beyond Syllabus	Introduction to API. Introduction to Spring Boot	27/03/26	28/03/26				

ASSESSMENT METHODOLOGIES/TOOLS**Formative assessment (Assessment for Learning)**

- Continuous assessment based on process and product related performance indicators.
- Each practical will be assessed considering 60% weightage to process 40% weightage to product
- A continuous assessment based on term work

Summative Assessment (Assessment of Learning)

- End semester examination, Lab performance, Viva voce

SUGGESTED MICRO PROJECT / ASSIGNMENT/ ACTIVITIES FOR SPECIFIC LEARNING / SKILLS DEVELOPMENT (SELF LEARNING)**Other**

- Complete any course of Java Programming on Infosys Springboard/Spoken Tutorial/NPTEL
- Develop java code for given problem suggested by course teacher.

Micro project

- Develop mini-ATM machine system. It should accept account_no, account_holder_name, account_balance and perform operations such as withdrawal, Deposit and balance check.
- Develop Quiz Management System. Quiz should accept student credentials and contain 10 MCQ type questions. Determine the final result. Save the result in table along with student credentials.
- Energy Billing System: Expected to develop bill amount module based on usage of energy consumption.
- Develop Employee Management System. Insert employee details such as employee_name, emp_id, emp_salary etc.. into database and retrieve data from table.
- Any other micro project as suggested by course teacher.

Assignment

- Solve assignment covering all COs given by course teacher.

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Sr. No	Author	Title	Publisher with ISBN Number
1	E Balaguruswamy	Programming with JAVA	Mcgraw Hill Education (India) Private Limited, New Delhi . ISBN-13: 978-93-5134-320-2
2	Schildt Herbert	Java Complete Reference	Mcgraw Hill Education, New Delhi . ISBN:9789339212094
3	Holzner, Steven et al	Java 8 Programming Black Book	Dreamtech Press, New Delhi. ISBN: 978-93-5119-758-4

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LEARNING WEBSITES & PORTALS

Sr.No	Link / Portal	Description
1	https://www.javatpoint.com/java-tutorial	All content
2	https://www.w3schools.com/java/	All content
3	https://www.tutorialspoint.com/java/index.htm	All content
4	https://www.programiz.com/java-programming/online-	Online compiler for java
5	https://oncompiler.com/java	Online compiler for java
6	https://www.odbms.org/wp-content/uploads/2013/11/009.01-Arlo-w-JDBC-Tutorial-July-2005.pdf	Database Connectivity
7	https://infyspringboard.onwingspan.com/web/en/app/toc/lex_29	All content
8	https://infyspringboard.onwingspan.com/web/en/app/toc/lex_au	All content
9	https://onlinecourses.nptel.ac.in/noc22_cs47/preview	All content

Mrs. S. S. Pathare
Name & Signature of Faculty

Ms. M. S. Karande
Name & Signature of HOD