Maharashtra State Board of Technical Education, Mumbai

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
Name of Faculty: Mrs.A.A. Shaikh   **Scheme:** K   **Semester**: Fourth

CLASS: SYIF (PARAM)

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										Total Marks
				Actual Contact Hrs./Week			SLH	NLH			Theory				Based on LL & TSL Practical				Based on SL		
				CL	TL	LL					FA-TH	SA-TH	Total		FA-PR		SA-PR		SLA		
											Max	Max	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.: 0 Hrs.

Abbreviations: CL- Classroom Learning , TL- Tutorial Learning, LL-Laboratory Learning, SLH-Self Learning Hours, NLH-Notional Learning Hours, 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	2	2
CO3	2	2	2	2	-	1	1	3	3
CO4	2	2	2	2	1	2	2	2	2
CO5	2	2	3	2	1	2	2	3	3
CO6	2	2	3	3	1	2	2	3	2
Legends: - High:03, Medium:02, Low:01, No Mapping: *PSOs are to be formulated at institute level									

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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		
			Unit - I Basic Syntactical Constructs in Java						
				03 Lectures					
		TLO 1.1	**1.1** Java features and the Java Programming environment. **1.2** Defining a class, creating object, accessing class members	15/12/25	19/12/25				
01 (8)	**CO1**	TLO 1.2, TLO 1.3, TLO 1.4	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	**02 Lectures**				Chalk, Board, PPT+ LCD Videos, Google Classroom, Learn Live	
				20/12/25	22/12/25				
		TLO 1.5, TLO 1.6	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	**03 Lectures**					
				26/12/25	29/12/25				

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			Unit – II Inheritance, Interface and Packages						
				04 Lectures					
02 (10)	CO2	TLO 2.1, TLO 2.2	**2.1** Concept &Types of Inheritance	01/01/26	05/01/26			Chalk, Board, PPT Videos, Learn Live	
		TLO 2.3	**2.2** Define interface, implementing interface, accessing interface variables and methods, extending interfaces	**03 Lectures**					
				08/01/26	09/01/26				
		TLO 2.4	**2.3** Define package, types of package, naming and creating package, accessing package, import statement, static import, adding class and interfaces to a package	**03 Lectures**					
				10/01/26	15/01/26				
03 (12)	CO3	TLO 3.1, TLO 3.2	**Unit - III Exception Handling and Multithreading**					Chalk, Board, PPT, Learn live	
			3.1 Errors and Exception: Types of errors and exceptions, try and catch statement, throws and finally statement, built-in exceptions.	**06 Lectures**					
				17/01/26	24/01/26				
		TLO 3.3, TLO 3.4	**3.2** Multithreaded programming : creating a thread,Life cycle of Thread, Thread methods ,exceptions and synchronization					Chalk, Board, PPT Videos, Learn Live	
				06 Lectures					
				30/01/26	07/02/26				

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			Unit - IV Event handling using Abstract Window Toolkit (AWT) & Swings Components						
				02 Lectures					
		TLO 4.1	**4.1** Component, container, window, frame, panel, use of AWT controls: labels, buttons, checkbox, checkbox group, textfield, textarea	09/02/26	12/02/26				
			4.2 Use of layout managers: flowLayout, borderLayout, gridLayout, gridBagLayout, menubars, menus, file dialog 4.3. Introduction to swing: Swing features, difference between AWT and Swing.	**02 Lectures**					
04 (14)	CO4	TLO 4.2, TLO 4.3		12/02/26	13/02/26			Chalk, Board, PPT Videos, Learn Live	
		TLO 4.3	**4.4** Swing components: Icons and Labels, TextField, ComboBox, Button, Checkbox, RadioButton	**02 Lectures**					
				14/02/26	16/02/26				
		TLO 4.4	**4.5** Advanced Swing Components: Tabbed Panes, Scroll Panes, Trees, Tables,Progress bar and Tool tips	**02 Lectures**					
				20/02/26	21/02/26				
		TLO 4.4	**4.6** Introduction to Event Handling: The delegation event model	**02 Lectures**					
				23/02/26	26/02/26				

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		TLO 4.5	**4.7** Event classes: The action event class, the Item event class, the Key event class, the mouse event class, text event	**02 Lectures**				Chalk, Board, PPT Videos, Learn Live	
				26/02/26	27/02/26				
		TLO 4.5	**4.8** Event listener interfaces: ActionListener , ItemListener , KeyListener , MouseListener , MouseMotion , TextListener	**02 Lectures**					
				28/02/26	02/03/26				
			Unit - V Basics of Network Programming						
05 (8)	CO5	TLO 5.1		**02 Lectures**					
			5.1 Socket Overview: Client/Server , reserved Sockets , proxy servers , Internet Addressing	05/03/26	06/03/26				
		TLO 5.2	**5.2** Java and the Net: The networking classes and interfaces, InetAddress : Factory Methods , Instance Methods	**02 Lectures**					
				07/03/26	09/03/26				
		TLO 5.3	**5.3** TCP/IP Client and Server Sockets, datagram sockets, datagram packets	**02 Lectures**				Chalk, Board, PPT Videos, Learn Live	
				09/03/26	12/03/26				
		TLO 5.3		**02 Lectures**					
			5.4 The URL Class, URLConnection class	13/03/26	14/03/26				

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06 (08)	**CO6**		**Unit - VI Interacting with Database**					Chalk, Board, PPT Videos, Learn Live	
				02 Lectures					
		TLO 6.1	**6.1** Introduction to JDBC, ODBC						
				02 Lectures					
		TLO 6.2	**6.2** JDBC architecture: Two tier and three tier models	20/03/26	23/03/26				
				04 Lectures					
		TLO 6.3, TLO 6.4	**6.3** Types of JDBC drivers, Class Class , DriverManager class, Connection interface, Statement interface, Prepared Statement interface	23/03/26	27/03/26				
				01 Lecture					
			• **Callable Statement and ResultSetMetaData**	28/03/26	28/03/26				

ASSESSMENT METHODOLOGIES/TOOLS
A. Formative assessment (Assessment for Learning) (FA-TH)
   Continuous assessment based on process and product related performance indicators. Each practical will be assessed considering 60% weightage is to process &40% weightage to product
B. Summative Assessment (Assessment of Learning) (SA-TH)
   End semester Examination, Lab performance, Viva-Voce

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SUGGESTED LEARNING MATERIALS / BOOKS

Sr. No	Author	Title	Publisher
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

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

Mrs.A.A.Shaikh   **Ms. M. S. Karande**
(Name of Faculty)   **HOD-IF**