

TEACHING PLAN (TP)

Academic Year: 2025-26 (EVEN)

**Institute Code and Name:** 0078- K. K. Wagh Polytechnic, Nashik**Programme and Code:** Information Technology (IF)**Course and Code:** Python Programming**Name of Faculty:** Ms. S.S.Shinde**Allocated Hrs. 30****CLASS: SYIF (Cray)****Semester:** Fourth**Course Index:** 405**Course Code:** 314004**Scheme:** K**COURSE LEVEL LEARNING OUTCOMES (COS)**

- CO1 - Develop python programs using control flow statements.
- CO2 - Perform operations on various data structures in Python.
- CO3 - Develop packages to solve given problem using python.
- CO4 - Apply object-oriented approach to solve given problem using python.
- CO5 - Use relevant built-in python package to develop application.

**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					
				C L	T L	L L				FA-TH	SA-TH	Total	FA-PR	SA-PR	SLA							
				Max	Max	Max				Max	Max	Max	Max	Min	Max	Min	Max	Min	Max			
314004	PYTHON PROGRAMMING	PWP	AEC	2	-	4	-	6	3	-	-	-	-	-	50	20	50#	20	-	-	100	

**Total IKS Hrs. for Sem.:** 0 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	1	1	1	-	-	-	2	1
CO2	2	1	1	1	-	-	-	2	2
CO3	3	2	2	2	-	-	-	2	3
CO4	3	3	3	2	-	-	1	3	2
CO5	3	2	3	3	-	-	1	3	3
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		
01 (06)	CO1		<b>Unit - I Introduction to Python and Control flow statements</b>				Chalk, Board, PPT+ LCD Videos, Google Classroom, Learn Live		
				02 Lectures					
		TLO 1.1	<b>1.1Introduction:</b> Features, History and Applications of Python, Python IDE's <b>1.2Python building blocks:</b> Indentation, Identifiers, Variable, Comments, Keywords	17/12/25	19/12/25				
		TLO 1.2 TLO 1.3	<b>1.3 Basic input output operations:</b> input(), print() <b>1.4 Operators:</b> Arithmetic, Relational, Assignment, Logical, Bitwise, Membership and Identity operator	02 Lectures					
				24/12/25	26/12/25				
		TLO 1.4	<b>1.5 Control flow statements:</b> Conditional statements	02 Lectures			Chalk, Board, PPT Videos, Learn Live		
				31/12/25	02/01/26				
02 (08)	CO2		<b>Unit - II Data Structures in Python</b>						
				02 Lectures					
		TLO 2.1	<b>2.1 List:</b> Defining lists, accessing values from list, deleting list values,	07/01/26	09/01/26			Chalk, Board, PPT Videos, Learn Live	
		TLO 2.2	<b>2.2 Tuple:</b> a) Defining Tuple, accessing values from Tuple b) Basic Tuple	02 Lectures					
				14/01/26	16/01/26				

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		TLO 2.3 TLO 2.4	<b>2.3 Set:</b> a) Defining Sets, accessing values from set, deleting set values b) Basic set operations c) Built in set functions/methods <b>2.4 Dictionary:</b> a) Defining Dictionary, accessing values from Dictionary, deleting Dictionary values, updating Dictionary b) Basic Dictionary operation	04 Lectures			
			<b>Unit - III Functions, Modules and Packages in Python</b>				
03 (06)	CO3	TLO 3.1 TLO 3.2	<b>3.1 Functions:</b> Defining function, Calling function, Function arguments, Return statement, Scope of Variable, Lambda functions <b>3.2 Modules:</b> Create user defined Module. Using python built-in modules	03 Lectures			Chalk, Board, PPT+ LCD Videos, Google Classroom, Learn Live
		TLO 3.3	<b>3.3 Python Packages:</b> Create user defined Package, Importing a Package, Using python built-in Packages. Installing packages using PIP	03 Lectures			

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04 (04)	CO4		<b>Unit - IV Object Oriented Programming in Python</b>				
				02 Lectures			
		TLO 4.1	<b>4.1 Object oriented Concepts:</b> Creating class, Creating object <b>4.2 Constructors</b> in python (Parameterized & Non Parameterized), the self parameter	25/02/26	27/02/26		
		TLO 4.3 TLO 4.4 TLO 4.5	<b>4.3 Polymorphism:</b> Method Overloading and Overriding <b>4.4 Data Hiding / Abstraction</b> <b>4.5 Inheritance:</b> Single Inheritance, Multiple Inheritance, Multilevel Inheritance	02 Lectures		04/03/26	06/03/26
05 (06)	CO5		<b>Unit V Introduction to Built-in Packages in Python</b>				
				02 Lectures			
		TLO 5.1	<b>5.1 Pandas:</b> Use of pandas, pandas series, pandas DataFrames.	11/03/26	13/03/26		
		TLO 5.2	<b>5.2 Creating GUI using tkinter:</b> Introduction to tkinter, Widgets	02 Lectures		18/03/26	20/03/26
		TLO 5.3	<b>5.3 Connecting to Database using MySQL:</b> Installing mysql-connector, cursor() object, execute() method, fetchall() method.	02 Lectures		25/03/26	27/03/26

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**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 1) 60% weightage is to process 2) 40% weightage to product

**B. Summative Assessment (Assessment of Learning) (SA-TH)**

End Semester Exam based on Practical performance and Viva-voce.

**SUGGESTED LEARNING MATERIALS / BOOKS**

Sr. No	Author	Title	Publisher
1	R. Nageswara Rao	Core Python Programming	Dreamtech Press, ISBN-13:9789390457151
2	Mark Lutz	Learning Python	O'Reilly Media, Inc, ISBN: 9781449355739
3	David Amos, Dan Bader, Joanna Jablonski, Fletcher Heisler	Python Basics	Real Python, ISBN-13: 9781775093329
4	Dr. Jeeva Jose	Taming Python by Programming	Khanna Book Publishing CO(P) LTD, New Delhi, ISBN: 9789386173348
5	Rupesh Nasre	Python Programming	AICTE, ISBN 9788195986354 [Online available on AICTE e-Kumbh]

**LEARNING WEBSITES & PORTALS**

Sr. No	Link / Portal	Description
1	<a href="https://ekumbh.aicte-india.org/allbook.php">https://ekumbh.aicte-india.org/allbook.php</a>	Python Programming
2	<a href="https://python-iitk.vlabs.ac.in/">https://python-iitk.vlabs.ac.in/</a>	Python Programming Lab
3	<a href="https://spoken-tutorial.org/watch/Python+3.4.3/Input-output/">https://spoken-tutorial.org/watch/Python+3.4.3/Input-output/</a> English/	Introduction to Python and control flow statements, Data Structures in Python, Function and module
4	<a href="https://onlinecourses.nptel.ac.in/noc19_cs41/preview">https://onlinecourses.nptel.ac.in/noc19_cs41/preview</a>	Python Programming Course
5	<a href="https://infyspringboard.onwingspan.com/web/en/app/toc/lex_au_th_0130944397935001602592_shared/overview">https://infyspringboard.onwingspan.com/web/en/app/toc/lex_au_th_0130944397935001602592_shared/overview</a>	Python for Beginners
6	<a href="https://www.geeksforgeeks.org/python-gui-tkinter/">https://www.geeksforgeeks.org/python-gui-tkinter/</a>	Python GUI Programming

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7	<a href="https://www.w3schools.com/python/python_mysql_getstarted.asp">https://www.w3schools.com/python/python_mysql_getstarted.asp</a>	Python MySQL Database Connectivity
8	<a href="https://www.tutorialspoint.com/python_pandas/index.htm">https://www.tutorialspoint.com/python_pandas/index.htm</a>	Python pandas package
9	<a href="https://www.programiz.com/python-programming/object-oriented-programming">https://www.programiz.com/python-programming/object-oriented-programming</a>	OOP using Python

**Ms. S. S. Shinde**  
**(Name & Signature of Staff)**

**Ms. M. S. Karande**  
**(Name & Signature of HOD)**