K-2

Maharashtra State Board of Technical Education, Mumbai

LABORATORY PRACTICAL PLANNING

Institute Name: K. K. Wagh Polytechnic, Nashik
Academic Year: 2025-26 (EVEN)
Program: Information Technology (IF)
Semester: 4th **Scheme:** K

Course: Programming with python
Course code:314004
Name of Faculty: Mrs.M.K.Wadekar
Class: SYIF-Param
Batch:A/B/C

• 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		Total Marks
											FA-TH	SA-TH	Total		FA-PR		SA-PR		SLA		
				CL	TL	LL					Max	Max	Max	Min	Max	Min	Max	Min	Max	Min	
314004	Python programming	PWP	SEC	1	-	4	1	6	3	-	-	-	-	-	25	10	25@	10	25	10	75

Abbreviations: CL- Class Room 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

- **COURSE LEVEL LEARNING OUTCOMES (COS)**

By learning course **PYTHON PROGRAMMING(PWP-314004)**Second Year students will be able to achieve & demonstrate the following COs on completion of course based learning.

- CO1 Display message on screen using Python script on IDE.
- CO2 Develop python program to demonstrate use of Operators
- CO3 Perform operations on data structures in Python.
- CO4 Develop functions for given problem.
- CO5 Design classes for given problem.
- CO6 Handle exceptions.

• COs, Practical Laboratory Learning Outcome (LLOs) and Mapping:

Sr. No	LLO	Practical Title	Planned Date	Performance Date	Remarks	Related self-learning (if any)
1	LLO 1.1 LLO 1.2	* Install given Python IDE	A-15/12/2025 B-17/12/2025 C-18/12/2025	A- B- C-		
2	LLO 2.1 LLO 2.2	*1. Write python program to display welcome message on screen. 2. Implement the python program to read data from	A-16/12/2025 B-20/12/2025 C-19/12/2025	A- B- C-		

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		user and display data on screen.				
3	LLO 3.1 LLO 3.2	*Implement a python programs using following operators: 1. Arithmetic 2. Relational & logical 3. Assignment 4. Bitwise 5. Membership 6. Identity	A-22/12/2025 B-24/12/2025 C-26/12/2025	A- B- C-		
4	LLO 4.1 LLO 4.2	*Implement a python program to demonstrate the use of following conditional statements: 1. if statement 2. if..else statement 3. if..elif..else statement 4. nested if statement	A-23/12/2025 B-27/12/2025 C-01/01/2026	A- B- C-		

- **COs, Practical Laboratory Learning Outcome (LLOs) and Mapping:**

Sr. No	LLO	Practical Title	Planned Date	Performance Date	Remarks	Related self-learning (if any)
5	LLO 5.1 LLO 5.2	*Implement a python program to demonstrate the use of following looping statements: 1. while loop 2. for loop 3. nested loop	A-29/12/2025 B-31/01/2025 C-02/01/2025	A- B- C-		
6	LLO 6.1 LLO 6.1	Implement python program to demonstrate the use of loop control statements. [continue, pass, break, else]	A-30/12/2025 B-03/01/2026 C-08/01/2026	A- B- C-		
7	LLO 7.1 LLO 6.1	*Implement a python program to perform following operations on the List: 1. Create a List 2. Access List 3. Update List 4. Delete List	A-05/01/2025 B-07/01/2026 C-09/01/2025	A- B- C-		

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8	LLO 8.1 LLO 6.1	Implement Python program to demonstrate the use of built-in functions/methods on List (Any Eight Functions/methods)	A-06/01/2026 B-10/01/2026 C-15/01/2025	A- B- C-		
9	LLO 11.1 LLO 11.2	*Implement python program to perform following operations on the Tuple: 1. Create a Tuple 2. Access Tuple 3. Print Tuple 4. Delete Tuple 5. Convert tuple into list and vice-versa	A-12/01/2026 B-17/01/2026 C-16/01/2025	A- B- C-		
10	LLO 12.1 LLO 12.2	*Implement a python program to perform following operations on the Set: 1. Create a Set 2. Access Set 3. Update Set 4. Delete Set	A-13/01/2026 B-21/01/2026 C-22/01/2025	A- B- C-		
11	LLO 13.1 LLO 13.2	Implement a python program to perform following functions on Set: 1. Union 2. Intersection 3. Difference 4. Symmetric Difference	A-19/01/2026 B-24/01/2026 C-23/01/2025	A- B- C-		
12	LLO 14.1 LLO 14.2	*Implement a python program to perform following operations on the Dictionary: 1. Create a Dictionary 2. Access Dictionary 3. Update Dictionary 4. Delete Dictionary 5. Looping through Dictionary 6. Create Dictionary from list	A-20/01/2026 B-31/01/2026 C-30/02/2025	A- B- C-		
13	LLO 15.1 LLO 15.2	Write a user define function to implement following features: 1. Function without argument 2. Function with argument 3. Function returning value	A-02/02/2026 B-04/02/2026 C-05/02/2025	A- B- C-		
14	LLO 16.1 LLO 16.2	*Implement user defined function for given problem: 1. Function positional/required argument	A-03/02/2026 B-07/02/2026 C-06/02/2025	A- B- C-		

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		2. Function with keyword argument 3. Function with default argument 4. Function with variable length argument				

- **COs, Practical Laboratory Learning Outcome (LLOs) and Mapping:**

Sr. No	LLO	Practical Title	Planned Date	Performance Date	Remarks	Related self-learning (if any)
15	LLO 17.1 LLO 17.2	Write Python program to demonstrate use of following advanced functions: 1. lambda 2. map 3. reduce	A-09/02/2026 B-11/02/2026 C-12/02/2026	A- B- C-		
16	LLO 18.1 LLO 18.2	Write a python program to create and use a user defined module for a given problem.	A-10/02/2026 B-14/2/2026 C-13/02/2026	A- B- C-		
17	LLO 20.1 LLO 20.2	Write a python program to demonstrate the use of following module: 1. math module 2. random module 3. os module	A-16/02/2026 B-18/02/2026 C-20/02/2025	A- B- C-		
18	LLO 21.1 LLO 21.2	*Write python program to create and use a user defined package for a given problem	A-17/02/2026 B-21/02/2026 C-26/02/2026	A- B- C-		
19	LLO 22.1 LLO 22.2	*Develop a python program to perform following operations: 1. Creating a Class with method 2. Creating Objects of class 3. Accessing method using object	A-23/02/2026 B-25/02/2026 C-27/03/2026	A- B- C-		
20	LLO 23.1 LLO 23.2	*Write a python program to demonstrate the use of constructors: 1. Default 2. Parameterized 3. Constructor Overloading	A-24/02/2026 B-28/02/2026 C-05/03/2026	A- B- C-		

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21	LLO 25.1 LLO 25.2	*Implement a python program to demonstrate 1. Method Overloading 2. Method Overriding	A-2/03/2026 B-7/03/2026 C-06/03/2026	A- B- C-		
22	LLO 26.1 LLO 26.2	Write python program to demonstrate data hiding.	A-09/03/2026 B-11/03/2026 C-12/03/2026	A- B- C-		
23	LLO 28.1 LLO 28.2	*Write a python program to implement 1. Single inheritance 2. Multiple Inheritance 3. Multilevel inheritance	A-10/03/2026 B-14/03/2026 C-13/03/2026	A- B- C-		

- **COs, Practical Laboratory Learning Outcome (LLOs) and Mapping:**

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24	LLO 29.1 LLO 29.2	*Implement Python program to perform following operations using panda package: 1. Create Series from Array 2. Create Series from List 3. Access element of series 4. Create DataFrame using List or dictionary	A-16/03/2026 B-18/03/2026 C-20/03/2026	A- B- C-		
25	LLO 30.1 LLO 30.2	*Write python GUI program to import Tkinter package and create a window and set its title	A-17/03/2026 B-25/03/2026 C-27/03/2026	A- B- C-		
•	• GUI Programming		A-24/03/2026 B-28/03/2026 C-27/03/2026	A- B- C-		

ASSESSMENT METHODOLOGIES/TOOLS
A. Formative assessment (Assessment for Learning) (FA-TH)

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- 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

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

Self-Learning

Complete any one course related to "Python Programming" freely available on Infosys Springboard /NPTEL / Spoken Tutorial.

Assignment

Solve Assignment covering all COs given by Course Teacher.

Micro project

- **Random Password Generator**: Create a script that generates a strong, random password using a mix of letters, numbers, and symbols based on user-defined length.
- **Dice Rolling Simulator**: A simple program that simulates rolling a six-sided die. It can be extended to allow the user to roll multiple dice or choose different numbers of sides.
- **Simple Calculator**: Build a basic calculator that can perform addition, subtraction, multiplication, and division. This can later be upgraded to a scientific calculator with a graphical user interface (GUI).
- **Interactive Quiz Application**: Develop a text-based or simple GUI quiz where users answer multiple-choice questions and receive a final score.
- **Email Slicer**: A utility that takes an email address as input and separates it into the username and the domain name (e.g., input `user@example.com` outputs `Username: user` and `Domain: example.com`).

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Mrs.M.K.Wadekar
(Name & Signature of Staff)

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