

## LABORATORY PRACTICAL PLANNING

**Institute Name:** K. K. Wagh Polytechnic, Nashik

**Academic Year:** 2025-26 (EVEN)

**Program:** Information Technology (IF)

**Semester:** 4<sup>th</sup>

**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 |                             |     |       |     |             |     |     |     |    | Total Marks |
|-------------|--------------------|------|-----------------|--------------------------|--------|--------|-----|-----|--------|---------|----------------|-------------------|-----------------------------|-----|-------|-----|-------------|-----|-----|-----|----|-------------|
|             |                    |      |                 | Actual Contact Hrs./Week |        |        | SLH | NLH | Theory |         |                |                   | Based on LL & TSL Practical |     |       |     | Based on SL |     |     |     |    |             |
|             |                    |      |                 | C<br>L                   | T<br>L | L<br>L |     |     | FA-TH  |         |                | SA-TH             | Total                       |     | FA-PR |     | SA-PR       |     | SLA |     |    |             |
|             |                    |      |                 |                          |        |        |     |     |        |         |                |                   | 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<br>LLO 1.2 | * Install given Python IDE                                                                                          | A-15/12/2025<br>B-17/12/2025<br>C-18/12/2025 | A-<br>B-<br>C-   |         |                                |
| 2      | LLO 2.1<br>LLO 2.2 | *1. Write python program to display welcome message on screen.<br>2. Implement the python program to read data from | A-16/12/2025<br>B-20/12/2025<br>C-19/12/2025 | A-<br>B-<br>C-   |         |                                |

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

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|--------|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|------------------|---------|--------------------------------|
| 5      | LLO 5.1<br>LLO 5.2 | *Implement a python program to demonstrate the use of following looping statements:<br>1. while loop<br>2. for loop<br>3. nested loop              | A-29/12/2025<br>B-31/01/2025<br>C-02/01/2025 | A-<br>B-<br>C-   |         |                                |
| 6      | LLO 6.1<br>LLO 6.1 | Implement python program to demonstrate the use of loop control statements. [continue, pass, break, else]                                          | A-30/12/2025<br>B-03/01/2026<br>C-08/01/2026 | A-<br>B-<br>C-   |         |                                |
| 7      | LLO 7.1<br>LLO 6.1 | *Implement a python program to perform following operations on the List:<br>1. Create a List<br>2. Access List<br>3. Update List<br>4. Delete List | A-05/01/2025<br>B-07/01/2026<br>C-09/01/2025 | A-<br>B-<br>C-   |         |                                |

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

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|  |  |                                                                                                                     |  |  |  |  |
|--|--|---------------------------------------------------------------------------------------------------------------------|--|--|--|--|
|  |  | 2. Function with keyword argument<br>3. Function with default argument<br>4. Function with variable length argument |  |  |  |  |
|--|--|---------------------------------------------------------------------------------------------------------------------|--|--|--|--|

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| 15     | LLO 17.1<br>LLO 17.2 | Write Python program to demonstrate use of following advanced functions:<br>1. lambda<br>2. map<br>3. reduce                                                      | A-09/02/2026<br>B-11/02/2026<br>C-12/02/2026 | A-<br>B-<br>C-   |         |                                |
| 16     | LLO 18.1<br>LLO 18.2 | Write a python program to create and use a user defined module for a given problem.                                                                               | A-10/02/2026<br>B-14/2/2026<br>C-13/02/2026  | A-<br>B-<br>C-   |         |                                |
| 17     | LLO 20.1<br>LLO 20.2 | Write a python program to demonstrate the use of following module:<br>1. math module<br>2. random module<br>3. os module                                          | A-16/02/2026<br>B-18/02/2026<br>C-20/02/2025 | A-<br>B-<br>C-   |         |                                |
| 18     | LLO 21.1<br>LLO 21.2 | *Write python program to create and use a user defined package for a given problem                                                                                | A-17/02/2026<br>B-21/02/2026<br>C-26/02/2026 | A-<br>B-<br>C-   |         |                                |
| 19     | LLO 22.1<br>LLO 22.2 | *Develop a python program to perform following operations:<br>1. Creating a Class with method<br>2. Creating Objects of class<br>3. Accessing method using object | A-23/02/2026<br>B-25/02/2026<br>C-27/03/2026 | A-<br>B-<br>C-   |         |                                |
| 20     | LLO 23.1<br>LLO 23.2 | *Write a python program to demonstrate the use of constructors:<br>1. Default<br>2. Parameterized<br>3. Constructor Overloading                                   | A-24/02/2026<br>B-28/02/2026<br>C-05/03/2026 | A-<br>B-<br>C-   |         |                                |

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

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