



## SYNERGY SCHOOL OF ENGINEERING

By the side of N.H.-55, Banamaliprasad, Dhenkanal-759001

### Lesson Plan

Discipline: Computer Science	Semester: 3rd
Subject: Programming with Python Lab	Subject Code: CSEPC213
No. of Days/Week: 03	Session: 2025-26
Faculty Name: Aurobinda Gochhayat	Start Date: 14-7-25 End Date: 15-11-25

Week	Class	Theory Topics
1st	1st	Introduction to Python
1st	2nd	Installing Python and IDEs
1st	3rd	Writing Python Scripts: Variables, Data Types, Operators
2nd	1st	Debugging Python Scripts
2nd	2nd	Conditional Statements (if, else, elif)
2nd	3rd	Loops: while, for, do-while
3rd	1st	User-defined Functions – Declaration & Definition
3rd	2nd	Call by Value, Call by Reference
3rd	3rd	Recursion
4th	1st	CRUD on Lists and Tuples
4th	2nd	CRUD on Sets and Dictionaries
4th	3rd	List Comprehensions
5th	1st	String Manipulation using Built-in Methods
5th	2nd	Collections Module
5th	3rd	Practice on Data Structures
6th	1st	File Handling: Read/Write/Append
6th	2nd	CSV and JSON File Handling
6th	3rd	Built-in Modules: os, datetime, math
7th	1st	OOP: Classes and Objects
7th	2nd	Encapsulation, Inheritance, Polymorphism
7th	3rd	Magic Methods and Operator Overloading
8th	1st	Exception Handling: try, except, finally
8th		

8th	2nd	Using NumPy for Numerical Operations
	3rd	Using Pandas for Data Analysis
9th 9th 9th	1st	Mini-Project Planning
	2nd	Monthly Test-1
	3rd	Mini-Project Debugging & Testing
10th 10th 10th	1st	Project Finalization
	2nd	Internal Assessment / Class Test 1
	3rd	Viva / Feedback / Q&A
11th 11th 11th	1st	Revision: Functions and Data Structures
	2nd	Practice: File Handling and Modules
	3rd	Lab Assignment on File Handling
12th 12th 12th	1st	OOP: Member Functions & Access Specifiers
	2nd	Static Members & Functions
	3rd	Class Test = OOP Concepts
13th 13th 13th	1st	Advanced OOP: Operator Overloading in Practice
	2nd	Inheritance Types in Python
	3rd	Polymorphism and Method Overriding
14th 14th 14th	1st	Module Creation and Import Techniques
	2nd	Practice on Exception Handling
	3rd	Hands-on with NumPy Arrays
15th 15th 15th	1st	Data Frame Operations in Pandas
	2nd	Monthly Test-2
	3rd	Quiz Test

Prepared By: *Shrobona Ghosh*

Verified By: *Smisha*  
11/07/25  
**HOD**  
**Comp. Science & Engg. Dept.**  
**SSE, Dhankanal**

*Prasanna*  
11/07/25  
**PRINCIPAL**  
**Synergy School of Engineering**  
**Dhankanal**