Teaching Plan (January 2025 - June 2025)

Department of Information Technology
LCB College, Maligaon, Guwahati

Paper Code: CIT
Paper Title: Python Programming
Instructor: Mr. Masud Alam Rofi
Programme: NEP-BCA & NEP-BSc-IT
Semester: 4
Credits: 3 (Theory) + 1 (Practical)
Total Hours: 60 (45 Theory + 15 Practical)

UNIT 1: Introduction to Python Programming (8 Lectures)

Lecture No.	Topic	Mode of Teaching	Assessment Method
01	Introduction to Python, Installing	ICT	Quiz
02	Python Shell, Code Indentation	Classroom + ICT	
03	Identifiers, Keywords, Literals	Classroom + ICT	
04	Strings and their operations	Classroom + ICT	
05	Operators - Arithmetic, Relational	Classroom + ICT	
06	Logical, Assignment, Ternary	Classroom + ICT	
07	Bitwise, Increment and Decrement	Classroom + ICT	
08	Input/Output, Output Formatting	Classroom + ICT	

Name and Signature of Instructor: _____

UNIT 2: Control Statements and Functions (8 Lectures)

Lecture No.	Topic	Mode of Teaching	Assessment Method
09	Branching and Looping (if, while, for)	Classroom + ICT	Sessional Exam 1
10	Conditional Statements	Classroom + ICT	
11	Break, Continue, Pass	Classroom + ICT	
12	Defining Functions	Classroom + ICT	
13	Default Arguments, Scope	Classroom + ICT	
14	Function Documentation	Classroom + ICT	
15	Lambda Functions	Classroom + ICT	
16	Map, Filter, Reduce (Intro)	Classroom + ICT	

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UNIT 3: Python Data Structures (8 Lectures)

Lecture No.	Topic	Mode of Teaching	Assessment Method
17	Lists and List Operations	Classroom + ICT	Assignment
18	List Methods and Functions	Classroom + ICT	
19	Tuples and Immutability	Classroom + ICT	
20	Sets and Set Operations	Classroom + ICT	
21	Dictionaries and Key-Value Pairs	Classroom + ICT	
22	Dictionary Methods	Classroom + ICT	
23	Nested Data Structures	Classroom + ICT	
24	Comprehensions	Classroom + ICT	

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UNIT 4: Modules, Exceptions and File Handling (7 Lectures)

Lecture No.	Topic	Mode of Teaching	Assessment Method
25	Modules and Importing	Classroom + ICT	Class Test
26	Exploring Built-in Modules	Classroom + ICT	
27	Creating and Using Custom Modules	Classroom + ICT	
28	Exception Handling (try-except)	Classroom + ICT	
29	Multiple Exceptions, Finally Block	Classroom + ICT	
30	File Handling: Read/Write	Classroom + ICT	
31	File Handling Continued	Classroom + ICT	

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UNIT 5: Object-Oriented Programming (7 Lectures)

Lecture No.	Topic	Mode of Teaching	Assessment Method
32	Classes and Objects	Classroom + ICT	Quiz
33	Attributes and Methods	Classroom + ICT	
34	Constructors	Classroom + ICT	
35	Encapsulation and Inheritance	Classroom + ICT	
36	Method Overriding, super()	Classroom + ICT	
37	Operator Overloading	Classroom + ICT	
38	Polymorphism	Classroom + ICT	

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UNIT 6: Miscellaneous Topics and Review (7 Lectures)

Lecture No.	Topic	Mode of Teaching	Assessment Method
39	Introduction to GUI with Tkinter	Classroom + ICT	
40	Simple GUI Programs	Classroom + ICT	
41	Python and Databases (SQLite)	Classroom + ICT	
42	Project Discussion	Classroom + ICT	Project Review
43	Code Walkthroughs	Classroom + ICT	
44	Revision	Classroom + ICT	
45	Mock Test	Classroom + ICT	Final Evaluation

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Practical Sessions (15 Lectures)

Lab No.	Practical Task	Mode of Teaching	Assessment Method
1	Basic Programs (Variables, IO)	Lab + Explanation	Practical Test
2	Decision Making and Loops	Lab + Demonstration	
3	Functions (With & Without Return)	Lab + Code Review	
4	String Manipulation	Lab	
5	List, Tuple Operations	Lab	
6	Sets and Dictionaries	Lab	
7	Modules and File Handling	Lab	
8	Exception Handling in Practice	Lab	
9	OOP Concepts - Classes/Objects	Lab	
10	Inheritance and Polymorphism	Lab	
11	GUI Programming Basics	Lab + IDE	
12	Database Connection (SQLite)	Lab + IDE	
13	Mini Project Development I	Lab Supervision	Project
14	Mini Project Development II	Lab Supervision	
15	Final Practical Exam	Lab	Practical Evaluation

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