SGK GOVERNMENT DEGREE COLLEGE			
DEPARTMENT OF COMPUTER SCIENCE			
INTERNET OF THINGS			
III YEAR, V SEMESTER			
LESSON PLAN			
Unit I (10 hours)			
Hour	Topic	Activity	Synopsis
2-Jan	Python Basics and Objects	Python Basics Quiz	Introduce Python basics and objects through an interactive quiz to reinforce understanding.
4-Mar	Python Standard Types	Type Categorization Exercise	Categorize standard types and discuss their properties through group exercises.
6-May	Python Numbers	Number System Challenge	Engage students in a challenge to convert numbers between different bases and types.
8-Jul	Python Sequences	Sequence Manipulation	Guide students in manipulating strings, lists, and tuples to understand sequence operations.
10-Sep	Python Sets and Dictionaries	Set and Dictionary Race	Conduct a race to complete set and dictionary manipulation challenges to reinforce learning.
Unit II (10 hours)			
Hour	Topic	Activity	Synopsis
12-Nov	Python File Handling	File Handling Workshop	Conduct a workshop on file handling to familiarize students with file operations in Python.
13-14	Exception Handling	Exception Scenario Analysis	Analyze various exception scenarios and discuss appropriate handling techniques.
15-16	Python Modules	Module Exploration	Explore and experiment with different modules in Python to understand their functionalities.
17-18	Module and Package Implementation	Module and Package Development	Guide students in developing their modules and packages, emphasizing best practices.

19-20	Comprehensive Unit Review	Unit I and II Review Session	Summarize and review concepts from Unit I and Unit II through a comprehensive review session.
Unit III (10 hours)			
Hour	Topic	Activity	Synopsis
21-22	Regular Expressions	Regex Challenge	Conduct a challenge to match patterns using regular expressions to enhance understanding.
23-24	Multithreaded Programming	Multithreading Simulation	Simulate a multithreaded application to demonstrate the advantages of multithreading.
25-26	Threading and GIL	Threading and GIL Debate	Organize a debate on the Global Interpreter Lock (GIL) and its implications in Python.
27-28	Threading and Performance	Performance Analysis	Analyze the performance of multithreaded programs and discuss best practices for optimization.
29-30	Unit III Comprehensive Project	Multithreaded Web Scraper	Assign a project involving multithreaded web scraping to apply concepts from the unit.
Unit IV (10 hours)			
Hour	Topic	Activity	Synopsis
31-32	Programming with Tkinter	GUI Application Development	Guide students in creating a GUI application using Tkinter.
33-34	Web Programming Basics	Simple Web Client Development	Assist students in developing a simple web client application in Python.
35-36	CGI Programming	CGI Scripting Exercise	Engage students in scripting CGI programs and understanding server-client interactions.

37-38	Web Servers and Advanced CGI	Web Server Configuration	Configure a web server and discuss advanced CGI concepts.
39-40	Unit IV Comprehensive Project	GUI-Based Database Application	Assign a project involving GUI-based interaction with a database for a practical application.
Unit V (10 hours)			
Hour	Topic	Activity	Synopsis
41-42	Database Programming in Python	Database Application Workshop	Conduct a workshop on creating a database application using Python.
43-44	Object Relational Managers (ORMs)	ORM Simulation	Simulate the usage of ORM frameworks in Python for database operations.
45-46	Unit Testing and Debugging	Unit Testing Challenge	Challenge students to write and execute unit tests for Python functions to ensure code reliability.
47-48	Comprehensive Database Application	Advanced Database Project	Assign a project involving a comprehensive database application using Python and related modules.
49-50	Final Project Showcase and Review	Project Presentation and Review	Allow students to showcase their final projects, followed by a review and discussion on the learnings from the course.