**Academic Teaching Plan**

 **B.Sc. Prog. Computer Science Sem III**

 **DSE 01a: Python Programming for Data Handling**

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|  | **TOPICS** |
| **Week 1****to 5** | **Introduction to Python Programming, Basic Constructs, and Python Built-in Data Structures:** Introduction to Python programming language, Basic syntax, variables, and data types in Python, Functions and modular programming; Conditional statements (if, elif, else); Looping structures (for and while loops); Mutable and Immutable Data Structures, Strings- Indexing, slicing, traversal, operations; Lists-indexing, slicing, traversal, operations; tuples, dictionaries, andsets and their operations in Python. |
| **Week 6****to 7** | **File Handling:** Opening, reading, writing, and closing files; File modes and file object methods; Reading and writing text and binary files; Working with CSV files. Assignment  |
| **Week 8****to 12** | **Unit 3 (15 Hours)****Designing GUI Applications with Tkinter (15):** What is Tkinter? Creating a Tkinter window, Layout managers, Tkinter widgets -Entry, Spinbox, Combobox, Checkbutton, Text, Button, LabelFrame; Implementing the application - LabelInput class, building of form, adding LabelFrame and other widgets, retrieving data from form, resetting form, building ourapplication class. Assignment |
| **Week 13 to 15** | **Unit 4 (10 Hours)****Combining Python file handling and Tkinter:** Creating a simple Tkinter application, Reading and writing to csv files in a Tkinter application.TEST |