



ARSD College, University of Delhi

Model Course Handout/Lesson Plan

Course Name : B.Sc. (Hons.) Computer Science						
Semester	Course Code	Course Title	Lecture (L)	Tutorial (T)	Practical (P)	Credit (C)
I	DSC01	Programming using Python	3			3
Teacher/Instructor(s)			Dr. Parul Jain			
Session			2022-23			

Course Objective:

The course is designed to introduce programming concepts using Python to students. The course aims to develop structured as well as object-oriented programming skills using Python. The course also aims to achieve competence amongst its students to develop correct and efficient Python programs to solve real life problems.

Course Learning Outcomes:

On successful completion of the course, students will be able to:

- Develop, document, and debug modular Python programs of reasonable complexity.
- Implement arrays and user defined functions in Python.
- Write programs in Python using dynamic memory allocation, handling external files, interrupts and exceptions.
- Solve real life problems of reasonable complexity using the concepts of object oriented programming in Python.

Lesson Plan:

Week	Contents	Contact Hours
1-2	Unit 1 Introduction to Programming: Problem solving strategies; Structure of a Python program; Syntax and semantics; Executing simple programs in Python.	6
3-6	Unit 2 Creating Python Programs: Identifiers and keywords; Literals, numbers, and strings; Operators; Expressions; Input/output statements; Defining functions; Control structures (conditional statements, loop control statements, break, continue and pass, exit function), default arguments.	12
7-11	Unit 3 Built-in data structures: Mutable and immutable objects; Strings, built-in functions for string, string traversal, string operators and operations; Lists creation, traversal, slicing and splitting operations, passing list to a function; Tuples, sets, dictionaries and their operations.	15

12-13	Unit 4 Object Oriented Programming: Introduction to classes, objects and methods; Standard libraries.	6
14-15	Unit 5 File and exception handling: File handling through libraries; Errors and exception handling.	6

Suggested Books	
Sl. No.	Name of Authors/Books/Publishers
1.	Taneja, S., Kumar, N. Python Programming- A modular Approach, 1st edition, Pearson Education India, 2018.
2.	Balaguruswamy E. Introduction to Computing and Problem Solving using Python, 2nd edition, McGraw Hill Education, 2018.
3.	Brown, Martin C. Python: The Complete Reference, 2nd edition, McGraw Hill Education, 2018.
4.	Guttag, J.V. Introduction to computation and programming using Python, 2nd edition, MIT Press, 2016.
Mode of Evaluation: Internal Assessment / End Semester Exam	

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