

With effect from the A.Y 2018-19

**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
SYLLABUS FOR B.E IV SEMESTER**

**INTRODUCTION TO PYTHON PROGRAMMING
(Open elective-III for other Departments)**

Instruction: 2 Hrs /week	SEE Marks :60	Course Code :OE420CS
Credits :2	CIE Marks: 40	Duration of SEE : 3Hrs

Course objective	Course outcomes
Students should be able to	At the end of the course, students will be able to
<ul style="list-style-type: none">Acquire problem solving skillsDevelop flow chartsLearn programming and solve problems using Python language	<ol style="list-style-type: none">Design python programs using arithmetic expressions and decision makingDesign modular python programs using functionsDesign programs using strings and listDevelop programs using tuples and dictionaries

UNIT-I

Introduction to Python – variables, expressions and statements, order of operations

Conditionals-Modulus operators, Boolean expressions, logical operators, conditional execution, alternative executions, chained conditional, nested conditional

Iteration - while statement

UNIT-II

Functions- function calls, type conversion and coercion, mathematical functions, User-defined functions, parameters and arguments.

Recursion

UNIT-III

Strings – string length, string traversal, string slices and string comparison with examples, strings are immutable, find function, string module

List –list values, accessing elements, list traversal, list length, list membership, list and for loop, list operations with examples

UNIT-IV

Tuples-Mutability, tuple assignment, tuple as return values

Dictionaries- dictionary operations, dictionary methods, aliasing and copying, counting letters using dictionaries

Suggested Books:

- Downey A, How to think like a Computer Scientist :Learning with Python, 1st Edition(2015), John Wiley
- Lambert K.A, Fundamentals of Python –First Programs, 1st Edition(2015), Cengage Learning India
- Perkovic L, Introduction to Computing using Python,2/e, (2015), John Wiley

Reference Books:

- Stewart Venit and Elizabeth Drake, Prelude to Programming: Concepts and Design, 6th Edition(2015), Pearson India

2. Mark J Guzdial, Introduction to Computing and programming in Python, 3rdEdition(2013), Pearson India
3. Allen Downey, Think Python, 2nd Edition(2015), Shroff Publisher Orielly

Online Resources:

1. <http://nptel.ac.in/courses/117106113/34>
2. <https://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-01sc-introduction-to-electrical-engineering-and-computer-science-i-spring-2011/python-tutorial/>
3. www.scipy-lectures.org/intro/language/python_language.html