CLUSTER UNIVERSITY SRINAGAR
SYLLABUS (FYUP UNDER NEP 2020)
Offered By Department of INFORMATION TECHNOLOGY
Semester 1ˢᵗ Skill Enhancement Course (SEC)

Course Title: Basics of Software Development Using Python-I

Course Code: UGICT22S101
Credits: 4 (Theory: 1, Practical: 3)
Contact Hrs: 105 (Theory: 15, Practical: 90)

Max. Marks 100
Theory External: 15; Min Marks: 06
Theory Internal (Continuous Assessment): 10 Marks, Min Marks: 04
Practical Experimental Basis= 45 Marks, Min. Marks: 18
Practical Internal (Continuous Assessment): 30 Marks, Min. Marks: 12

Course Objectives: This course aims to introduce the learners to the basics of programming concepts andsoftware development using Python language.

Course Outcomes: After completion of this skill course the learner should be able to:
1. Develop and execute Python programs for basic problem solving.
2. Develop basic Python programs using various datatypes.
3. Use various loops in a Python Program.
4. Define and call Python functions and pass arguments.
5. Develop Python programs with built-in functions.

Unit 1:
Problem Solving: Definition and Steps, Algorithm, Flowchart, Representation of Algorithm and Flowchart with examples, Introduction to Programming languages, Language Translators.
Introduction to Python: What is Python? Uses, History, Components of a Python Program: Data types,variables, Operators, comments.

PRACTICALS
Unit 2:
How to download and install python, write and execute simple python program, Programs illustrating useof print statements and reading input from keyboard, programs illustrating use of arithmetic, relational, logical , assignment and bitwise operators.

Unit 3:
Python control statements: Programs illustrating how to use if statement, if- else statement, if-elif-elsestatement, while loop, for loop, break, continue, pass statement and the loop else.

Unit 4:
Python Functions: Programs illustrating function definition, function call, return values, scope ofvariables, default arguments, passing arguments by reference values, Python built-in functions.

References:
1.Python: The Complete Reference, Martin C Brown, Mc Graw Hill.
2.Learning Python, Mark Lutz, O'Reilly Publications.