

ST.ANN'S COLLEGE OF ENGINEERING & TECHNOLOGY
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
LESSON PLAN

SUBJECT: Python Programming

Academic Year: 2019-20

Name: G. Prasuna

Year&Sem/Section: II-I /'B'

No. of Lectures per week : 5+1* (Tutorial)

Unit	Topics	No. of Periods Required
I	Introduction: History of Python, Need of Python Programming, Applications Basics of Python Programming Using the REPL(Shell), Running Python Scripts, Variables, Assignment, Keywords, Input-Output, Indentation.	8
II	Types, Operators and Expressions: Types- Integers, Strings, Booleans; Operators- Arithmetic Operators, Comparison (Relational) Operators, Assignment Operators, Logical Operators, Bitwise Operators, Membership Operators, Identity Operators, Expressions and order of evaluations, Control Flow- if, if-elif-else, for, while, break, continue, pass	7
III	Data Structures Lists - Operations, Slicing, Methods; Tuples, Sets, Dictionaries, Sequences, Comprehensions.	9
IV	Functions - Defining Functions, Calling Functions, Passing Arguments, Keyword Arguments, Default Arguments, Variable-length arguments, Anonymous Functions, Fruitful Functions(Function Returning Values), Scope of the Variables in a Function - Global and Local Variables. Modules: Creating modules, import statement, from. Import statement, name spacing, Python packages, Introduction to PIP, Installing Packages via PIP, Using Python Packages	11
V	Object Oriented Programming OOP in Python: Classes, 'self variable', Methods, Constructor Method, Inheritance, Overriding Methods, Datahiding, Error and Exceptions: Difference between an error and Exception, Handling Exception, try except block, Raising Exceptions, User Defined Exceptions	9
VI	Brief Tour of the Standard Library - Operating System Interface - String Pattern Matching, Mathematics, Internet Access, Dates and Times, Data Compression, Multithreading, GUI Programming, Turtle Graphics Testing: Why testing is required ?, Basic concepts of testing, Unit testing in Python, Writing Test cases, Running Tests.	10
TOTAL		54

TOTAL NO. OF CLASSES REQUIRED: 54

TEXT BOOKS

Python Programming: A Modern Approach, Vamsi Kurama, Pearson

Learning Python, Mark Lutz, Orielly

Reference Books:

Think Python, Allen Downey, Green Tea Press

Core Python Programming, W.Chun, Pearson.

Introduction to Python, Kenneth A. Lambert, Cengage

Signature of the Faculty

Signature of HOD

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