



KONGU ARTS AND SCIENCE COLLEGE

(An Autonomous Institution, Affiliated to Bharathiar University, Coimbatore)

ERODE – 638 107

DEPARTMENT OF COMPUTER SCIENCE (P.G.)

VALUE ADDED COURSE– SYLLABUS

18VMCPP – PYTHON PROGRAMMING

Course Objective:

To develop problem solving and programming skills using Python language and make the students familiar in writing Python programming.

Paper I – PYTHON PROGRAMMING

UNIT I	Introduction	4 Hours
Introduction – setting up environment. Basic syntax of python: Multi-line statements, Quotations in Python, Lines and indentation, Comments, Blank lines, Identifiers, Keywords. Data types: Numbers, Strings, Tuples and sequences, Lists, Dictionaries.		
UNIT II	Sets, Conditional and Looping Statements	4 Hours
Sets: Uses of sets, Built-in functions of set, frozen set. Conditional statements: if statements, if..else statement, elif statement. Loops: While loop, For loop, Loop Control statements.		
UNIT III	Files and Exceptions	4 Hours
Files: Files and other operations on Files. Input and output formatting, Errors and exceptions: Syntax Errors – Runtime Errors or Exceptions, Exception handling, User-defined functions, Finally clause.		
UNIT IV	Functions and Modules	4 Hours
Functions: Function parameters – scope of the variables. Modules: Importing a module, search order followed by interpreter to locate a module, built-in function related to modules, packages.		
UNIT V	OOPS	4 Hours
OOPS: Classes, Inheritance, Garbage collection, method overriding, data encapsulation.		
Total Hours		20 Hours

Text Book:

1.Fundamentals of Open Source Software, M.N. Rao, Kindle Edition, PHI, 2015.

Reference Book(s):

1. Python Tutorial Release 3.2.3, Guido van Rossum and Fred L. Drake, Jr., editor, 2012, Python Software Foundation.
2. Python Practice Book Release 2014-08-10, AnandChitipothu, 2014.
3. Head First Python, Paul Burry, O'Reilly Media Inc., January 2015.
4. Core Python Programming, Wesley J. Chun, Prentice Hall PTR, 2000.




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Paper II – PYTHON PROGRAMMING LAB

Sl. No.	Program	Hours
1	A website requires the users to input username and password to register. Write a program to check the validity of username and password.	2
2	Write a Python program to get the maximum and minimum value in a dictionary.	2
3	Write a Python program to use of frozensets	2
4	Write a Python program to check whether a given year is a leap year or not (control structures statement).	2
5	Write a Python program to find multiplication of elements in a list (looping statement).	2
6	Write a Python program to count the number of lines in a text file.	2
7	Write a function to compute division by zero error and use try/except to catch the exceptions.	2
8	Write a binary search function to search an item in a sorted list. The function should return the index of element to be searched in the list.	2
9	Generate a random float where the value should be between 10 and 100 using Python math module.	2
10	Write a Python class to implement pow(x, n).	2
Total Hours		20 Hours

OUTCOME: On Completion of this course the students will be able to

- Implement the basic concepts in Python
- Develop programs using different data types, conditional statements and loop structures in python
- Apply the concepts of Sets, files, exceptions, functions and classes in Python



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