

KRISHNASAMY COLLEGE OF ENGINEERING & TECHNOLOGY

Approved by AICTE & Affiliated to Anna University

Anand Nagar, Nellikuppam Main Road, Kumarapuram, Cuddalore – 607 109.

Phone no.(04142) 285 601- 604

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info@kcet.in

DEPARTMENT OF MCA

23.11.2018

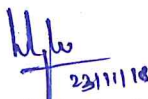
CIRCULAR


Ref.: KCET/MCA/VAC/CIRCULAR/2018-19/01.

The following Value Added Course will be conducted during the academic year 2018-2019. The course will be conducted from 10.12.2018 to 14.12.2018. Students are instructed to register their names in the course allotted to them and get benefited of the course.

The syllabus for the same has been formulated and will be circulated to students. The eminent staff from our college is invited to give lectures and practical classes for the students from the framed syllabus.


HoD/MCA


23/11/18
Vice Principal

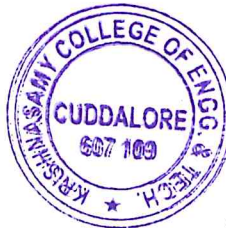

Principal

PRINCIPAL
Krishnasamy College of
Engineering & Technology,
Kumarapuram,
Cuddalore-607 109.

Copy to :

Class Room

Class In charge





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SYLLABUS

Subject Code: MCA-VAC1801

Subject Name: PROBLEM SOLVING USING PYTHON PROGRAMMING

Duration: 30 Periods

OBJECTIVES:

- To understand the basics of algorithmic problem solving.
- To learn to solve problems using Python conditionals and loops.
- To define Python functions and use function calls to solve problems.
- To use Python data structures – lists, tuples, dictionaries to represent complex data.

MODULE-I FUNDAMENTALS OF PROGRAM

Algorithms, building blocks of algorithms -statements, state, control flow, functions, notation - pseudo code, flow chart, programming language, algorithmic problem solving, simple strategies for developing algorithms -iteration, recursion. 6

MODULE-II DATA TYPES, EXPRESSIONS, STATEMENTS

Python interpreter and interactive mode, debugging; values and types: int, float, Boolean, string, and list; variables, expressions, statements, tuple assignment, precedence of operators, comments; Illustrative programs: exchange the values of two variables. 6

MODULE- III CONTROL FLOW, FUNCTIONS

Conditionals: Boolean values and operators, conditional (if), alternative (if-else), chained conditional (if-elif-else); Iteration: state, while, for, break, continue, pass; Fruitful functions: return values, parameters, function composition, recursion. 6

MODULE- IV LISTS, TUPLES, DICTIONARIES

Lists: list operations, list slices, list methods, list loop, mutability, aliasing, cloning lists, list parameters, Tuples: tuple assignment, tuple as return value, Dictionaries: operations and methods. 6

MODULE- V FILES, MODULES, PACKAGES

Files and exception: text files, reading and writing files, format operator, command line arguments, errors and exceptions, handling exceptions, modules, packages. 6

TOTAL: 30 Periods

OUTCOMES:

- Develop algorithmic solutions to simple computational problems.
- Develop and execute simple Python programs.
- Write simple Python programs using conditionals and looping for solving problems.
- Decompose a Python program into functions.
- Represent compound data using Python lists, tuples, dictionaries etc.
- Read and write data from/to files in Python programs.

REFERENCES:

1. Allen B. Downey, "Think Python: How to Think like a Computer Scientist", 2nd Edition, O'Reilly Publishers, 2016.
2. Karl Beecher, "Computational Thinking: A Beginner & Guide to Problem Solving and programming", 1st Edition, BCS Learning & Development Limited, 2017.

A. D. R.
22/11/2018
HoD/MCA

