ST.JOSEPH’S COLLEGE FOR WOMEN (AUTONOMOUS), VISAKHAPATNAM V SEMESTER **COMMERCE** Time: 3Hrs

COM-E1-5304(3) **DATA SCIENCE USING PYTHON** Max.Marks:100

w.e.f. 20AH Batch **SYLLABUS**

**Course Objectives:-**

* Learning a language used by data scientists and developers.
* Learning various python methods and functions
* Learning python using various classes and objects.

**Course Outcomes: Upon successful completion of the course, a student will be able to:**  
1. Understand basic concepts of data science  
2. Understanding python as a useful scripting language.  
3. Use standard programming constructs like selection and repetition.  
4. Use aggregated data using list, tuple and dictionary.  
5. Implement functions and modules.

**UNIT–I: Introduction to data science**: Data science and its importance, advantages of data science, the process of data science,Responsibilities of a data scientist, qualifications of data scientists, would you be a good datascientist, why to use python for data science.

**UNIT–II: Introduction to python:** What is python , features of python, history of python, writing and executing the pythonprogram, basic syntax, variables, keywords, data types ,operators ,indentation, Conditionalstatements-if, if-else, nested if-else, looping statements-for, while, break, continue, pass.

**UNIT-III: Control structures and strings**: Strings - definition, accessing, slicing and basic operationsLists - introduction, accessing list, operations, functions and methods, Tuples - introduction, accessing tuple.Dictionaries - introduction, accessing values in dictionaries

**UNIT-IV: Functions and modules**: Functions - defining a function, calling a function, types of functions, function arguments, localand global variables, lambda and recursive functions, Modules- math and random.

**UNIT–V: Classes & Objects**: Classes and Objects, Class method and self-argument, class variables and object variables, publicand private data members, private methods, built-in class attributes, static methods.

**Reference Books:**1. Steven cooper--- Data Science from Scratch, Kindle edition  
2. Reemathareja—Python Programming using problem solving approach, Oxford Publication.

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