WAVOO WAJEEHA WOMEN'S COLLEGE
OF ARTS & SCIENCE - KAYALPATNAM
(Affiliated to Manonmanium Sundaranar University, Tirunelveli)
Run by : Wavoo SAR Educational Trust
(minority institution)

Extra- Credit Course **Academic year:2022-2023**

Course Title: Statistics with Python	**Department: Information Technology**	
Total Hours : 30 Hours	**Credits: 2**	
Course Pre-requisites/ Co-requisites	Basic Statistics & Knowledge in Mathematics	
Objectives:	1. To learn the ability of writing simple Python applications. 2. To learn how to use lists,Tuples, arrays and Data Frames in Python programs. 3. To Understand Built-in Libraries of Python 4. To Visualize and Interpret the data	
Expected Learning Outcome:	On completion of the course, students will have the ability to 1. Implement a computer program in Python 2. Aggregate the data using arrays,lists,etc. 3. Statistical and Mathematical built-in libraries in Python 4. Create and interpret data visualizations using Python programming language and associated packages &libraries	
Module No. 1	**Introduction to Python**	**6 Hours**
Installing Python, The concept of data types; variables, assignments; arithmetic operators and expressions; Input and Output in Python		
Module No. 2	**Lists and Tuples**	**7 Hours**
Arrays,CreatingandAccessingLists,ManipulatingLists,CreatingandAccessing Tuples, Data Frames.		
Module No. 3	**Statistics Module in Python**	**7 Hours**
Descriptive statistics, Measures of Central Tendency- Mean, Geometric Mean, Harmonic Mean, Median, Mode,Measures of Variability- Range, Variance, Standard Deviation, Statistics built-in Module.		
Module No. 4	**Math Module in Python**	**7 Hours**
Euler'snumber,Pi,TrigonometricandLogarithmicFunctions,NumericFunctions–Ceil, Floor, Factorial, GCD,LCM		

Module No. 5	**Data Visualization**	**3 Hours**
Box plots, Pie Charts, Histograms, Bar Charts		
Text Books 1. KennethLambert,"FundamentalsofPython:FirstPrograms",CengageLearning,2019 2. MichaelT.Goodrich,RobertoTamassia,MichaelH.Goldwasser"DataStructuresand Algorithms in Python," O'Reilly,2018.		
References 1. MarkLutz,"Learning Python", Fifthedition,O'Reilly,2013.		
Web References 1. https://www.geeksforgeeks.org/python-math-module/ 2. https://www.w3schools.com/python/module_statistics.asp 3. https://realpython.com/		
ModeofEvaluation	**PracticeTests-40%,Continuous AssessmentTests-60%,** Assessment Test 1 -30% Assessment Test2 -30%	
Course Coordinator	Mrs.S.N.Sithi Shamila	
Course Instructors	Mrs.S.N.Sithi Shamila,Ms.M.S.Hazeena Begam& Miss. B.Poornima	