Sant Gadge Baba Amravati University, Amravati

Syllabus Prescribed for – 3 Year BCA UG Programme

Programme: Bachelor of Computer Application (BCA)

Semester 1

Code of the Course/Subject	Title of the Course/Subject	(No. of Periods/Week)
	Laboratory/Practical on	
5BCALAB3	Data Science using Python	**04 periods**

COs

1. Make use of the python libraries for data science
2. Make use of the basic Statistical and Probability measures for data science. Lab Manual
3. Perform descriptive analytics on the benchmark data sets.
4. Perform correlation and regression analytics on standard data sets.
5. Present and interpret data using visualization packages in Python**.**

* List of Practical/Laboratory Experiments/Activities etc.

List of Practical:

1. Download, install and explore the features of NumPy, SciPy, Jupyter, Statsmodels and Pandas packages.
2. Write a Program for working with Numpy Arrays
3. Program to perform array slicing
4. Program for pandas Data Frames
5. Program to draw basic plots in python program using Matplotlib.
6. Program to compute weighted averages in python either defining your own function or using numby.
7. Program to calculate variance.
8. Program to create normal curve.
9. Program for correlation with scatter plot
10. Program to compute correlation Coefficient.
11. Program for simple linear Regression.
12. Create a numpy And Array object by using array Function ().
13. Use Tuple to create numpy array.
14. Create a 2-D array containing two arrays with the values1,2,3 and 4,5,6.
15. Displaying the dimension array from 0 to 3.
16. Program for accessing array element by indexing & adding it.
17. Program slice elements from index 1 to 5.
18. Print the shape of an array.
19. Iterate element on 1-D array.
20. Program to split the array in three parts.
21. Program to find indexes where the value is even.
22. Program to sort an array alphabetically.
23. Create a data frame using a list of elements.
24. Create a data frame using data dictionary.
25. Program to select a column from data frame.