JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR
(Established by Govt. of A.P., ACT No.30 of 2008)
ANANTHAPURAMU – 515 002 (A.P) INDIA

MASTER OF COMPUTER APPLICATIONS

Course Code	DATASCIENCE LABORATORY	L	T	P	C
21F00207		0	1	2	2
	Semester	II			

Course Objectives:

- To train the students in solving computational problems
- To elucidate solving mathematical problems using Python programming language
- To understand the fundamentals of Python programming concepts and its
- applications.
- Practical understanding of building different types of models and their evaluation

Course Outcomes (CO):

- Read, write, execute simple Python programs
- Decompose a Python program into functions
- Manipulate with 1-d,2-d and multidimensional data using Python
- Read and write data from/to files in Python programs

List of Experiments:

1. Write a program to demonstrate a) Different numeric data types and b) To perform different Arithmetic Operations on numbers in Python.
2. Write a program to create, append, andremove lists in Python.
3. Write a program to demonstrate working with tuples in Python.
4. Write a program to demonstrate working with dictionaries in Python.
5. Write a program to demonstrate a) arrays b) array indexing such as slicing, integer array indexing and Boolean array indexing along with their basic operations in NumPy.
6. Write a program to compute summary statistics such as mean, median, mode, standard deviation and variance of the given different types of data.
7. Write a script named copyfile.py. This script should prompt the user for the names of two text files. The contents of the first file should be the input that to be written to the second file.
8. Write a program to demonstrateRegression analysis with residual plots on a given data set.
9. Write a program to demonstrate the working of the decision tree based ID3 algorithm. Use an appropriate data set for building the decision tree and apply this knowledge to classify a new sample.
10. Write a program to implement the naïve Bayesian classifier for asample training data set stored as a .CSV file. Compute the accuracy of the classifier, considering few test data sets.
11. Write a program to implement k-Nearest Neighbor algorithm to classify the iris data set. Print both correct and wrong predictions using Java/Python ML library classes.
12. Write a program to implement k-Means clustering algorithm to cluster a set of data stored in CSV file. Compare the results of various “k” values for the quality of clustering.
13. Write a program to build Artificial Neural Network and test the same using appropriate data sets.