

## **PART A**

1. Perform the following operations on number list:
  - a) Sum
  - b) Average
  - c) Max
  - d) Min
  - e) Sort
  - f) Reverse
2. Perform the following operations on string list:
  - a) Swap elements of string list
  - b) Combining two list
3. Perform matrix operations using NumPy
4. Write a python program to find tuples which have all elements divisible by k from a list of tuples
5. Write a python program for removing duplicates from tuples
6. Perform the following operations using NumPy:
  - a) Joining two arrays
  - b) Splitting arrays
  - c) Searching element
  - d) Sorting
  - e) Filtering
7. Pandas with experiment  
Create excel table of students having
  - 1) USN
  - 2) Name
  - 3) M1
  - 4) M2
  - 5) M3Calculate total and average and display result in table format

## **PART B**

1. Write program for following:
  - a) Normal distribution
  - b) Binomial distribution
  - c) Poisson distribution
  - d) Uniform distribution
  - e) Logistic distribution
2. Calculate the following
  - a) Mean
  - b) Median
  - c) Mode
  - d) Standard Deviation
  - e) Percentile
3. Calculate
  - a) Scatter Plot

- b) Linear Regression
- c) Polynomial Regression

4. Draw following diagram using Matplotlib

- a) Line
- b) Grid
- c) Bars
- d) Pie Chart

5. Create a database using MongoDB  
Insert the records and run queries.