**Note:** Students are required to copy the program-files in this MS-Word document along with results in the same document.

**EXPERIMENT 2 Array (Vector) and Matrix operations**

**DATE:**

(i) Write Scilab/MATLAB script file for finding the sum of a geometric series 1+r+r2+r3+………..+rn= (1-rN)/(1-r); N=number of terms in a series. Accept the value of r and n as input from keyboard. Verify the above equation.

(ii) Write Scilab/MATLAB script file for following tasks:

Accept a square matrix A of any size from keyboard. Find:

* 1. Size of A matrix
  2. Determinant of A matrix
  3. Display whether matrix A is singular or not
  4. Transpose of A matrix
  5. Perform A+A’,A-A’
  6. Find inverse of A matrix
  7. Perform A\*A’ and A.\*A’
  8. Find square of A matrix
  9. Find rank of A matrix
  10. Find eigenvalues and eigenvectors of A matrix

(iii) Create a vector and a matrix with the following commands: v=0:0.2:12 and M=[sin(v); cos(v)]. Find the sizes of v and M and extract the first 10 elements of each row of the matrix and display them as column vectors.