M.Sc. (Mathematics) (NEP Pattern) Semester-I

# NEP-64-6 / DSE6 - SCILAB Programming

P. Pages : 2 **GUG/W/24/15120**

Time : Three Hours * 6 0 0 3 * Max. Marks : 80

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Notes : 1. Solve all five questions.
2. All questions carry equal marks.

## UNIT – I

**1.** a) Write a note on initialization of vectors in SCILAB. **8**

b) Discuss manipulation of the command line in SCILAB. **8**

**OR**

c) Discuss complex number in the context of SCILAB. **8**

d) Write a note on elementary mathematical functions in SCILAB. **8**

## UNIT – II

**2.** a) Discuss the concept of while loop. Write a program to find factorial of a number n using while loop. **8**

b) Discuss the matrices with various data types and basic arithmetic operations. **8**

**OR**

c) Write a note on various basic matrix operations in SCILAB. **8**

d) Which branching statements available in SCILAB? Explain with example. **8**

## UNIT – III

**3.** a) Discuss any five 2D plotting commands in SCILAB. **8**

b) Write a note on polynomials arithmetic in SCILAB. **8**

**OR**

c) Write a note on specifiers the line style, marker style and color in SCILAB. **8**

d) Discuss the polynomial handling operations in SCILAB. **8**

## UNIT – IV

**4.** a) Discuss the concept of string matching, string concatenation and reversing a string in SCILAB. **8**

b) Write a note on creation of a linear combination of arguments using SCILAB function. **8**

**OR**

c) Discuss the application of statistical functions on matrices. **8**

d) Write a note on symbolic processing in SCILAB. **8**

**5.** a) Write a note on the available inverse trigonometric function. **4**

b) What are eigenvalues and Eigenvalues of a matrix. How eigenvalues and eigenvectors can be found in SCILAB. **4**

c) Write a note on graphic window in SCILAB. **4**

d) Write a short note on percentiles. **4**

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