JV-003-1277001   Seat No. _____

M. Sc. (ECI) (Sem. VII) (CBCS) Examination

October - 2019

Paper - 25 : Introduction to MATLAB

(New Syllabus)

Faculty Code : 003
Subject Code : 1277001

Time : $2\frac{1}{2}$ Hours]   [Total Marks : **70**

Instructions :   (1)   All questions carry equal marks.

(2)   Figures on right hand side indicate marks.

1   Answer the following : (any **seven**)   **14**

(1)   What is a MATLAB ?

(2)   What is a user defined functions in MATLAB ?

(3)   List out the operators that MATLAB allows.

(4)   What are the types of loops does MATLAB provide ?

(5)   What is "rand" in MATLAB ?

(6)   What is the main difference between script and function in MATLAB ?

(7)   What do you mean by M-file in MATLAB ?

(8)   Write down the following function in MATLAB notation.

$$f(x) = 6x^3 - 5x^2 + 2x - 3$$

(9)   List out the advantages of MATLAB ?

(10) List out the variables that MATLAB allows.

2   Answer the followings : (any **two**)

(1)   Write detail notes on constants and variables.   **7**

(2)   Draw and explain field plot with suitable example.   **7**

(3)   Write about vectors and matrices of MATLAB.   **7**

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3   Answer the following :

    (1)   Explain the following command with suitable example.   **7**

        (i)   ezmesh

        (ii)   Expand

        (iii)   Log

        (iv)   Exp

        (v)   Factor

    (2)   What is contour plots ? Explain it with example of   **7**
        plotting circle.

<div align="center">OR</div>

3   Answer the following :

    (1)   Write a note on graphing with ezplot with suitable   **7**
        example.

    (2)   What is 3D plot in MATLAB ? Draw and explain   **7**
        with suitable example.

4   Answer the following :

    (1)   Describe a counter plots and implicit plots with   **7**
        suitable example.

    (2)   Briefly explain script M-files and echoing commands.   **7**

5   Answer the following : (any **two**)

    (1)   How can we combine multiple plot on single graph ?   **7**
        Explain it with suitable. Example of cosine wave
        with frequency varies from π to 4π.

    (2)   Briefly explain the workspace in MATLAB environment. **7**

    (3)   What are the different types of help feature in   **7**
        MATLAB and explain each briefly.

    (4)   What is a function regarding MATLAB ? Explain   **7**
        difference between built in and user defined function.

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