

**Course Name: MATLAB**

**Course Code: T.H 02**

**Course Duration: 24 Hours – 3 Days**

**Course Syllabus:**

1. Introducing the program
2. Introducing the Facilities & windows
3. How to work with “help”
4. How to work with mathematical functions in MATLAB
5. Defining parameters & arrays in MATLAB
6. Introducing common functions in MATLAB
7. Introducing matrixes in MATLAB & the mathematical operations between them
8. How to read rows & columns in matrixes
9. Defining different kinds of matrix
10. Drawing 2D functions & introducing PLOT command
11. Showing more than one curve in one screen
12. Curve & axis naming in a graph
13. Introducing SUBPLOT command & its application
14. Introducing figure/plot command
15. How to change color, model & thickness using PLOT command
16. How to analyze electrical circuits using MATLAB
17. How to draw a SEMILOG graph
18. Degree to radian conversion
19. Rounding methods

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20. Introducing DISP & FPRINTF commands in MATLAB
21. Introducing INPUT command in MATLAB
22. Different kinds of FAULT in MATLAB
23. Introducing connecting operators
24. Introducing logic operators in MATLAB
25. Introducing loop commands (if ,for , while, switch)
26. Introducing break/continue commands
27. Introducing complex numbers in MATLAB
28. How to draw complex numbers in MATLAB
29. Polar to Descartes coordinates conversion
30. Introducing SORT commands
31. Introducing AXIS commands in MATLAB
32. compass, stem, stairs, bar, pie drawing method
33. histogram drawing method
34. mesh, surf & contour drawing method
35. how to draw functions using ezplot & fplot
36. introducing series
37. finding Root(s) of the equations
38. finding the equation using roots
39. how to solve a simple differential equation in MATLAB
40. how to solve a simple differential equation in MATLAB
41. how to solve a differential equation having Partial derivatives in MATLAB

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- 42.introducing limit, Derivative, integral, etc. in MATLAB**
- 43.introducing Laplace conversion: finding zeros & poles in equations**
- 44.introducing Laplace conversion: finding equations using zeros & poles**
- 45.Introducing Laplace conversion: Impulse Response, frequency impulse, etc.**
- 46.Introducing Laplace conversion: reversed Laplace conversation**
- 47.Introducing Fourier transform in MATLAB**
- 48.Introducing Simulink environment in MATLAB**

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