

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**EECEVAC01- MATLAB for Image Processing****Unit I Introduction to MATLAB**

Brief Introduction-Installation of MATLAB – History-Use of MATLAB- Key features-MATLAB window-Command window – Workspace-Basic commands-Assigning variables - Operations with variables

Unit II MATLAB Software

Data files and Data types - Character and string-Arrays and vectors-Arithmetic operations-Logical operators-Solving arithmetic equations-Matrix operations-M files Working with script tools - Writing Script file - Executing script files - The MATLAB Editor - Saving m files – Plots, Plot labeling, curve labeling and editing - Figure Windows - Displaying Multiple Plots in One Figure – Subplots - Introduction Of Graphical User Interface

Unit III MATLAB Programming

Automating commands with scripts - Writing programs with logic and flow control - Writing functions - Control statement Programming-Conditional Statement Programming, Examples-Control Flow Conditional Control if, else, switch- Loop Control for, while, continue, break- Program Termination return- Functions - Writing user defined functions- Built in Function-Function calling- Return Value - Types of Functions- Global Variables

Unit IV MATLAB Simulink

Introduction of Simulink - Simulink Environment & Interface - Study of Library - Circuit Oriented Design - Equation Oriented Design – Model - Subsystem Design - Connect Call back to subsystem - Application

Unit V Image Processing with MATLAB

Introduction - Working with Images in MATLAB–MATLAB Commands for Image Enhancement Techniques - Filtering Images - Image Restoration Techniques - Feature Extraction Using Segmentation and Edge Detection - Image Registration and Image Reconstruction

References:

Gonzalez, R.E. Woods, and S.L. Eddins. Digital Image Processing using Matlab, Prentice Hall, 2004.

Holly Moore, “ MATLAB for Engineers” Third Edition – Pearson Publications

Stephen J. Chapman, “MATLAB Programming for Engineers” Fourth Edition.