GOKARAJU RANGARAJU
INSTITUTE OF ENGINEERING AND TECHNOLOGY

LABVIEW/MATLAB LAB

Course Code: GR15A2039 L:0 T:0 P:2 C:2
II Year I Semester

Prerequisites: Knowledge of Basic Electrical Engineering

Objectives
- To provide students with a strong background on Mat lab/Lab view software's.
- To train the students how to approach for solving engineering problems.
- To prepare the students to use Mat lab/Lab view in their project works.
- To provide a foundation for use of these software's in real time applications

Outcomes
- An ability to express programming and simulation for engineering programs.
- An ability to find importance of these software's for lab experimentation.
- Articulate importance of software's in research by simulation work.
- An in-depth knowledge of providing virtual instruments on Lab view environment.

MATLAB Contents
1. The Basics
2. Strings, Logic and Control Flow
3. Polynomials, Integration & Differentiation
4. Introduction to Simu link
5. Diode characteristics
6. MOSFET characteristics
7. IGBT characteristics
8. Transient analysis of linear circuit
9. Single phase Half wave diode rectifier
10. Single phase full wave diode rectifier
11. Single phase diode bridge rectifier with LC filter
12. 5Hp 240V DC motor with resistance starter
13. Three phase half wave diode rectifier

LABVIEW Contents

1. Virtual Instruments
2. Editing Techniques, Building VI, Creating the Sub VI
3. Using For loop, While loops and Charts
4. Creating an Array with Auto-Indexing
5. Using the Graph and Analysis VIs
6. Simple amplitude measurement
7. Building arrays using for loop and while loop
8. Random signal generation
9. Waveform minimum & maximum value display
10. Wave at interface
11. Force mass spring damper
12. Matrix fundamentals
13. Simple Pendulum
14. Three phase sine wave generation
15. Signal Modulation

Sci lab

1.Single phase half wave diode rectifier

2.Create the vector(X12, X22,X32,X42) with X=1,2,3,4