Techno India NJR Institute of Technology

Academic Administration of Techno NJR Institute

Lab Deployment

Name of Faculty: Dr. Vivek Jain	Subject Code: 7EE4-21
Subject Name: Embedded Systems Lab	SEM: VIII
Department: Department of Electrical Engineering	
Total No. of Labs Planned: 12	

COURSE OUTCOMES

At the end of this course students will be able to:

CO1: To teach the fundamentals of Embedded sytems.

CO2: To clarify the way in which circuits are designed using Microcontrollers AND MICROPROCESSOR for various applications.

CO3: To make the Student understand use of microcontroller and microprocessor in real life application

CO4: To give students an intuitive feeling of how microcontroller circuits operate.

Labs No.	Name of Experiment
1	Introduction to Embedded Systems and their working.
2	Data transfer instructions using different addressing modes and block transfer.

3	Write a program for Arithmetic operations in binary and BCD-addition, subtraction, multiplication and division and display.
4	Interfacing D/A converter & Write a program for generation of simple waveforms such as triangular, ramp, Square etc.
5	Write a program to interfacing IR sensor to realize obstacle detector.
6	Write a program to implement temperature measurement and displaying the same on an LCD display.
7	Write a program for interfacing GAS sensor and perform GAS leakage detection.
8	Write a program to design the Traffic Light System and implement the same using suitable hardware.
9	Write a program for interfacing finger print sensor.
10	Write a program for Master Slave Communication between using suitable hardware and using SPI
11	Write a program for variable frequency square wave generation using with suitable hardware.
12	Write a program to implement a PWM based speed controller for 12 V/24V DC Motor incorporating a suitable potentiometer to provide the set point.

TEXT/REFERENCE BOOKS
1. Microprocessor Architecture: Programming and Applications ith the 8085/8080A, R. S. Gaonkar ,Penram International Publishing, 1996
2. Computer Organization and Design The hardware and software interface D A Patterson and J H Hennessy ,Morgan Kaufman Publishers.
3. Microprocessors Interfacing, Douglas Hall, Tata McGraw Hill, 1991.
4. The 8051 Microcontroller, Kenneth J. Ayala, Penram International Publishing,1996.