FUTURE INSTITUTE OF ENGINEERING AND MANAGEMENT
Department of Electrical Engineering
Embedded Systems Laboratory

Description: The Embedded Systems Laboratory is equipped with 8051 microcontroller and PIC16 microcontroller which are mainly covered in the B. Tech Curriculum. Through hands on experiment with real components & equipments, students can gain practical exposure. Embedded Systems Lab is also well equipped with computers and adequate power supplies for all experimental setups. The students are developing real-time projects using various microcontrollers.

Major facilities/equipments	: PIC16 Microcontroller.
Faculty In-Charge	: Mr.Dipayan Nath, M.E., Assistant Professor
Technician	: Mr.Shuvomoy Sharma, AMIE
Area	: 73.81 sq.m
No. of experiments	: 12
Courses conducted	: Embedded Systems Laboratory
Exclusive / Shared	: Exclusive

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List of Major Equipment

Sl.No.	Major equipment	Quantity
1	Universal Trainer Kit	6
2	PIC16 microcontroller Board	6
3	8051 Microcontroller Board	6
4	Steeper Motor	6
5	12 Volt DC motor	6
6	4 x 4 Matrix key Board	6
7	PIC kit 3 Burner	6
8	ADC	4
9	6 Volt Relay	4
10	8051 Test Board	4
11	PIC16 Test Board	4
12	Computer	19
13	Mplab Softwer package	20
14	Keil uVision4	20

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Department of Electrical Engineering

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List of Experiments as per Syllabus

Sl. No.	Name of The Experiments
1	Port programming in 8051 using simulator and kit.
2	Timer programming in 8051 using simulator and kit.
3	Serial Port programming in 8051 using simulator and kit.
4	Interrupt programming in 8051 using simulator and kit.
5	Interfacing LED with PIC16 and display the various pattern
6	4X4 matrix Key board interfacing with PIC16 and display through LED
7	Wave generation square wave Through PIC16 using PWM
8	Interfacing with LCD and display various type of string.
9	Convert analogy to digital signal using on chip ADC.
10	Interfacing with Stepper motor with PIC16.
11	Serial communication between PIC16 and PC.
12	Temperature control (PD and PID) using microcontroller and PWM output.

List of the Experiments beyond the Syllabus

Sl. No.	Name of The Experiments
1	Generate various type of signal (saw-tooth wave, triangle wave, square wave) with help of PIC16.
2	Speed Control of DC motor