LESSON PLAN

Name of the faculty : Er. Gaurav Kumar

Discipline : Electrical & Electronics Engineering

Semester : 7th

Subject : Microcontroller & Embedded System

Lesson Plan Duration : 18 weeks (From August, 2020 to November 2020)

Work Load (Lecture/ Practical) per week (in hours): Lecture-02, Practical-01

Week	Theory		Practical	
	Lecture day	Topic(Including assignment/test)	Practical Day	Topic
1st	1st	Introduction & Need of Microcontrollers, Different types of microcontrollers: Embedded microcontrollers	1st	To study development tools/environment for ATMEL/PIC Microcontroller program and Architecture.
	2nd	External memory microcontrollers; Processor Architectures: Harvard V/S Princeton		
2nd	1st	CISC V/S RISC; microcontrollers memory types	2nd	Write a program to interface a 7 segment LED using PIC16F877A microcontroller and count from 0 to 9.
	2nd	microcontrollers features : clocking, i/o pins, interrupt		
3rd	1st	Explanation of timers, peripherals.	3rd	Write a program to blink 8 LED using PIC16F877A microcontroller
	2nd	Assembly language Programming		
4th	1st	Introduction to PIC microcontrollers	4th	Write a program to interface 7 segment display using PIC16F877A microcontroller and display 7
	2nd	Architecture and pipelining of PIC Microcontroller		
5th	1st	Architecture and pipelining of PIC Microcontroller	5th	Write a program to blink 8 LED using PIC16F877A microcontroller
	2nd	program memory considerations in PIC		
6th	1st	Addressing modes	6th	
	2nd	Addressing modes		

7th	1st	Instruction set	7th	Write a program to blink 8 LED using PIC16F877A microcontroller
	2nd	Instruction set		
8th	1st	Discussion on previous year question papers	8th	Write a program to interface 7 segment display using PIC16F877A microcontroller and display 7
	2nd	Microcontroller 8051- Architecture, Pin Diagram		
9th	1st	I/O Ports, Internal RAM and Registers, Interrupts	9th	Write a program to interface a 7 segment LED using PIC16F877A microcontroller and display codes from 00 to 99.
	2nd	Addressing Modes, Memory Organization and External Addressing		
10th	1st	Interfacing with ADC, DAC, Stepper Motor	10th	Write a program to interface a DC motor with PIC16F877A microcontroller and L293D interfacing IC.
	2nd	Real Time Applications of Microcontroller- Interfacing with LCD		
11th	1st	Interfacing with ADC, DAC, Stepper Motor	11th	Write a program to interface two dc motors with PIC16F877A microcontroller using L293D IC and control the direction of rotation by using a switch.
	2nd	Interfacing with ADC, DAC, Stepper Motor		
12th	1st	Interfacing with KeyBoard and Sensors	8th	Write a program to interface a 7 segment LED with 8051 microcontroller and using a switch count the digits from 0 to 9.
	2nd	Embedded Systems-Introduction, Classification		
	3rd	Processors, Hardware Units		
	4th	Software Embedded into System		
13th	1st	Applications and Products of Embedded Systems	13th	Write a program for toggling LEDs in an 8051 microcontroller and using a switch.
	2nd	Applications and Products of Embedded Systems		
14th	1st	Structural Units in Processor	14th	Write a program to blink the port in an 8051 microcontroller.
	2nd	Structural Units in Processor		
15th	1st	Memory Devices	15th	Write a program to interface a stepper motor with an 8051 microcontroller using interface IC ULN2803.
	2nd	Interfacing of Processor Memory and I/O Devices		

16th	1st	Interfacing of Processor Memory and I/O Devices	16th	Write a program to interface two dc motors with 8051 microcontroller using interfacing IC L293D.
	2nd	Discussion on previous year question paper		
17th	1st	Case Study of an Embedded System for a Smart Card	17th	
	2nd	Interfacing 0f 8051 with seven segment LED		
18th	1st	Discussion on previous year question papers	18th	EXAM
	2nd	Discussion on previous year question papers		