

Lecture Plan

Name of Subject: **EMBEDDED SYSTEM DESIGN (EIC-404)**

Class: **B.Tech (EIC)**

Semester: **8TH**

S.No.	UNIT	TOPICS COVERED	NUMBER OF LECTURES
1	Unit-1	Introduction: Different types of Microcontrollers, Embedded Microcontroller, External Memory Microcontroller	02
2	Unit-1	Processor Architecture, Harvard vs Princeton, CISC vs RISC	02
3	Unit-1	Microcontroller memory types, Development tools/ environment	02
4	Unit-1	Intel Hex format object files, Debugging	02
5	Unit-2	Architecture of 8051: Block diagram, pin configuration, Functional description of internal units—registers, PSW, internal RAM, ROM, Stack, Oscillator and clock	03
6	Unit-2	Other features—I/O pins, ports and circuits, counter and timers, serial data transmission /reception	03
7	Unit-2	Interrupts- Timer flag interrupt, serial communication interrupt. External interrupt and software generated interrupts	03
8	Unit-3	Programming of 8051: Instruction format, addressing modes. Data transfer instructions, logical instruction, arithmetic instructions, jump and call instructions	06
9	Unit -3	Interrupts and interrupt handler subroutines, Development of assembly language programs	03
10	Unit-4	Architecture of PIC: Block diagram, pin configuration, functional description of internal blocks	02

11	Unit-4	Program memory consideration, Register file structure, registers, oscillators and clocks	02
12	Unit-4	Other features: I/O pins, counters and timers, Watchdog timer, SPI port, USART	03
13	Unit-4	Interrupts: Interrupt structure	02
14	Unit -5	Application design & Hardware interfacing with 8051 and PIC: Hardware interfacing with LED, Seven segment LED	03
15	Unit-5	LCD, Switches and stepper motor	03