

3. "Operational Amplifiers and Linear Integrated Circuits", Robert F. Coughlin & Fred F. Driscoll, PHI/Pearson, 2006
4. "Design with Operational Amplifiers and Analog Integrated Circuits", Sergio Franco, TMH, 3e, 2005

MICROCONTROLLERS LAB
(Common to EC/TC/EE/IT/BM/ML)

Sub Code	:	10ESL47	IA Marks	:	25
Hrs/ Week	:	03	Exam Hours	:	03
Total Hrs.	:	42	Exam Marks	:	50

I. PROGRAMMING

1. Data Transfer - Block move, Exchange, Sorting, Finding largest element in an array.
2. Arithmetic Instructions - Addition/subtraction, multiplication and division, square, Cube - (16 bits Arithmetic operations - bit addressable).
3. Counters.
4. Boolean & Logical Instructions (Bit manipulations).
5. Conditional CALL & RETURN.
6. Code conversion: BCD - ASCII; ASCII - Decimal; Decimal - ASCII; HEX - Decimal and Decimal - HEX .
7. Programs to generate delay, Programs using serial port and on-Chip timer / counter.

Note: Programming exercise is to be done on both 8051 & MSP430.

II. INTERFACING:

Write C programs to interface 8051 chip to Interfacing modules to develop single chip solutions.

8. Simple Calculator using 6 digit seven segment displays and Hex Keyboard interface to 8051.
9. Alphanumeric LCD panel and Hex keypad input interface to 8051.
10. External ADC and Temperature control interface to 8051.
11. Generate different waveforms Sine, Square, Triangular, Ramp etc. using DAC interface to 8051; change the frequency and amplitude.
12. Stepper and DC motor control interface to 8051.
13. Elevator interface to 8051.

D.N. - 9

H.O.D.

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