# ELEC 330 Test 2 Review

<u>TOPICS</u>

Microcontroller Stack
  - Hardware Stack (31 registers, 21-bits wide)
  - Stack Pointer (5-bit address)
Subroutines
  - Call and Return
  - Parameter Passing
Application Programs (BCD to Binary Conversion)
I/O Ports
  - Buffers and Latches (Address Bus)
  - PORTA thru PORTE
  - SFRs (PORT, TRIS, LAT)
Interfacing Output Peripherals
  - LEDs, Seven-Segment Displays
  - Common Anode, Common Cathode
  - Time Multiplex Scanning
Application Example (Seven-Segment Counter)
Interfacing Input Peripherals
  - Switches, Push-Buttons, Matrix Keypad
  - Debouncing
Interrupts
  - High-Priority and Low Priority
  - External Sources (PORTB)
  - Internal Peripheral Sources (Timers, A/D Converter, Serial I/O)
  - SFRs (RCON, INTERCON, PIR, PIE, IPR)
 Interrupt Service Routine (ISR)
  - Clears Interrupt Flag
  - Return (RETFIE)

<u>Practice Questions</u>

7.10
7.20
9.4
10.19