Study Topics for Test 2 (Week 10)

1. Thermistor temperature measurement
2. Scaling and Mapping, Linear Interpolation
3. Moving Average Filter operation
4. Expression Node and Formula Node
5. Opto-Isolation circuit
6. MOSFET IRLZ24 circuits
7. Lab 4 interface circuit to control a heater
8. myDAQ Counter/Timer functions, 1 timer/counter, 100 MHz base clock, 10 ns tick period
9. myDAQ edge count (DIO0)
10. myDAQ (DIO1) oscillator input measure Thigh, Tlow, period, frequency and duty cycle
11. myDAQ PWM output timing (DIO3)
12. Quadrature input to myDAQ (DIO0,DIO2)
13. TLC555 timer calculations, choosing resistor and capacitor values
14. Optical switch operation
15. Switch de-bouncing and the 74HC14 Schmitt trigger
16. DC geared motor with encoder Lab 6, motor speed and timing
17. Hall Effect sensor timing and operation
18. Gear trains to change torque, speed and direction
19. 74HC74A D-type flip flop operation
20. L293D motor driver IC operation and truth table, CW,CCW, coast, brake
21. Power supply settings, constant voltage (CV) and constant current (CC)
22. Scope configuration, immediate trig, edge trig, rising/falling edge trigger, trigger level, trigger source, horizontal time base, vertical sensitivity, horizontal position.