

Electronics II

Exercise 7

Deadline Wed 14.3.2018 12:00

1. Light up an LED for 5 seconds when passive IR sensor detects movement. Set range to around 3m and make the trigger repeatable. (1.5p)
2. Make a capacitive button without any external components. To test it make a reaction time tester: light up an LED and measure the time it takes for you to touch the capacitive sensor. (1.5p) [Hint](#)
3. Measure temperature and humidity with DHT11. (1.5p)
4. Measure the temperature of the microcontroller using the internal temperature sensor. Calibrate it to give approximately same readings with DHT11 (take the readings when microcontroller has been off for some minutes.). How much does the temperature rise when the microcontroller has been on for a while? (1.5p)