**Assignment No. 1**

**Title: Know your kit.**

1. **Introduction of Arduino UNO kit hardware,**
2. **Features of Arduino IDE.**
3. **Make a simple program to blink the inbuilt LED on pin 13 with delay.**

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**Assignment No. 2**

**Title: LED Interfacing with Arduino UNO kit.**

**Pre-requisite :-**  Safe voltage levels and protection of LED.

**Problem Statement :-** Interface external LED with the UNO kit and write a program ……

A) to glow 5 LEDs in i) alternate fashion and ii) running light sequence in continuous loop.

B) to implement vehicle turn / parking indicator in visual mode. Blink two LEDs i) alternatively and ii) simultaneously.

C) to simulate working of Traffic signal for two / three way road. Formulate your own theme and delay cycle. Decide the hardware required and assemble the same on a breadboard for your theme.

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**Assignment No. 3**

**Title: LDR Interfacing with Arduino UNO kit.**

**Pre-requisite :-** Principle of working of LDR.

**Problem statement :-** Interface LDR with the UNO kit and write a program ……

A) to implement Automated Street light ON / OFF system depending upon ambient light intensity. Use at least 3 LEDs as street lights.

B) to count number of objects passing through . . The system should use light source (LED) and Detector (LDR). Initially count should be zero and with every object passing it should be incremented by one. Display the count on serial monitor of the UNO simulator.

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**Assignment No. 4**

**Title: Interfacing of Ultrasonic sensor with Arduino UNO kit.**

**Pre-requisite :-** Principle of working of Ultrasonic sensor and calculation of distance.

**Problem statement :-** Interface Ultrasonic sensor with the UNO kit and write a program ……

1. **to ……………**
2. **to ……………**