

## Task 5

### MBSD

DCSE, UET Peshawar

Spring-2021

**Deadline: 10pm on 22/5/2021**

At a BRT entry point in Peshawar, there is only one lane of busses to enter from GT-road. We have connected a sensor which sends a signal (high-to-low edge) to our embedded system whenever a bus passes through the entry-point and enters the Metro lane. Use an 89C51 to count the number of busses passed through the entry point in one minute. As soon the one-minute time is over, it is indicated by turning ON an led at P3.1 pin, send the final value of count to Port-2 and finally goes into an infinite loop, doing nothing.

- Draw schematic along with timing diagram. Oscillator frequency is 12MHz.
- Entry of bus can be simulated using a button press.
- Use timers for creating a delay of 1 min.

Hint: Use timer interrupt. Feel free to use C or Assembly.