Module 3: Design of a Digital Clock

Assignment 10   Date: 08.04.2019

Design and implement a digital clock that displays (using 7-segment LED display chips) the time in hours, minutes and seconds. The time can be set to any initial value by the user. You may consider using the following ICs:

1. 7-segment LED displays
2. 555 timer with associated R, C elements
3. Various counter ICs (consult the lists available in the lab). You may consider the following:
    (a) 7490: a mod-2 and a mod-5 counter in a single IC.
    (b) 7493A: 4-bit binary counter (a mod-2 and a mod-8 counter in a single IC) with asynchronous clear
    (c) 74193: Pre-settable (asynchronous parallel load, active low) mod-16 Up/Down Synchronous binary counter with asynchronous master reset (active high).
    You are free to use any IC/component that you may deem suitable.