

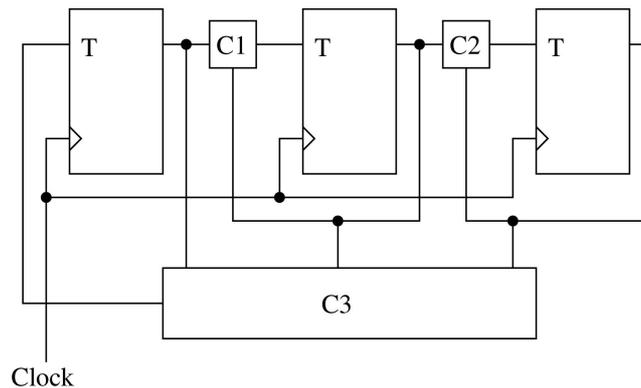
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**CS29002 SWITCHING LABORATORY**  
**CSE Department, IIT Kharagpur**  
**Spring Semester 2015-16**  
**Laboratory test: Group member with smaller roll number**  
**Date: 12-April-2016 (2:00pm – 4:00pm)**

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Design a three-bit (right-)shift register using T flip-flops. Get the serial feedback input for the register from the output of a combinational circuit. You should design the feedback circuit such that the register operates as a counter modulo eight. The counting should follow the sequence 000, 100, 010, 101, 110, 111, 011, 001, and then back to 000.

The following figure depicts the schematic diagram of your circuit. Your task is to realize the combinational circuits C1, C2, and C3. Here, C3 is the feedback circuit. Also since you are using T flip-flops, you need C1 and C2 at the other T inputs.



Use a manual clock to demonstrate the working of your counter.

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