Assignment 04

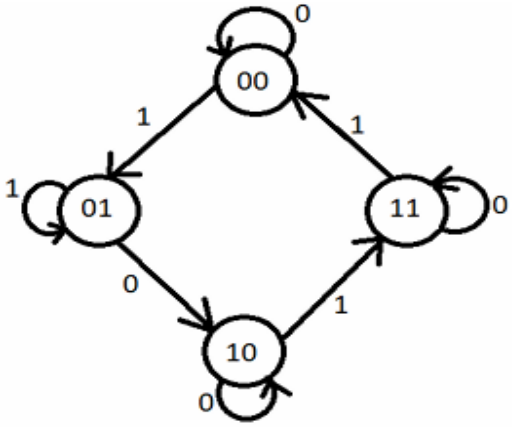
Total: 30

Deadline: 9 May, 2025

This assignment must be hand-written. Show ALL steps in ALL questions.

You do not need to submit the questions that are marked with 'Ungraded - Recommended for practice' as part of the assignment. Those are practice materials.

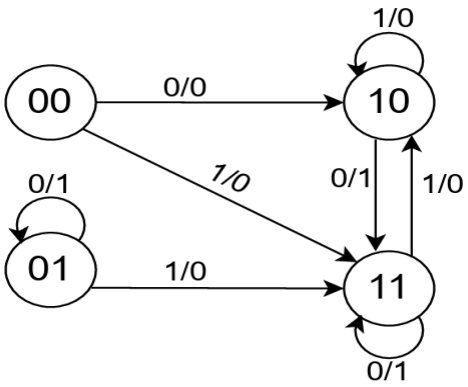
1. [5 marks] Given the state diagram as follows, get the sequential circuit using **SR flipflop**.



2. [5 marks] Given the state diagram as follows, get the sequential circuit using

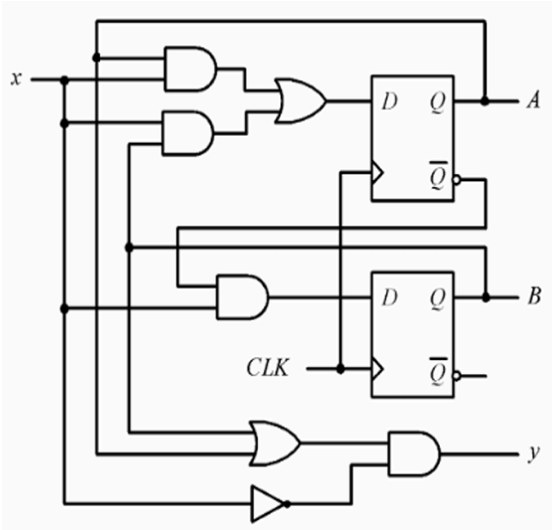
i. **SR** flipflop **[Ungraded - Recommended for practice]**

ii. **JK** flipflop.

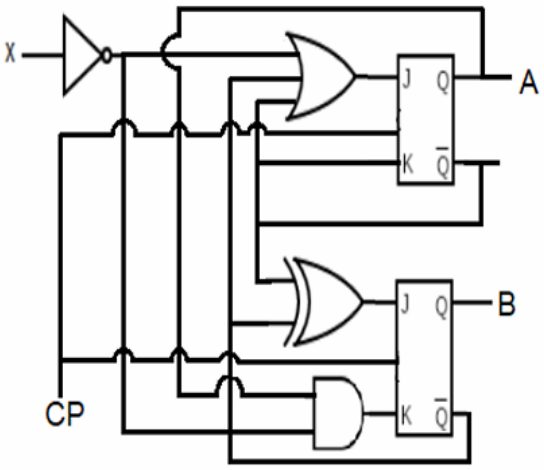


3. [Ungraded - Recommended for practice]

Draw the state diagram for the given circuit.



4. [5 marks] Draw the state diagram for the given circuit.



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5. [5 marks] Implement the following counter using **T flip flop**
CSE110-> CSE111-> CSE220-> CSE221-> CSE331-> CSE221-> CSE321-> CSE110

6. [5 marks] **3->4->6->10->12->13->15->3**
i. Implement the given counter using **JK flip-flop.**
ii. Implement the given counter using
T flip-flop [Ungraded - Recommended for practice]
NB: For states not given in the question, please move to the initial state as per the question.

7. [Ungraded - Recommended for practice]
Implement **4 bit up/down** counter using **JK flip-flop**

8. [Ungraded - Recommended for practice]
Implement the following counter using **JK FF: Green->Yellow->Red->Yellow->Green**

9. [5 marks] Implement the following counter using **JK FF:**
1->2->3->5->7->11->13->1