1. Design a sequential circuit with JK FFs, and one input, x. When x = 0, the state of the circuit remains the same. When x=1, the circuit goes through the state transitions from 00 to 01 to 11 to 10 back to 00 and repeats. **3M**
2. Reduce the number of states in the following state table and tabulate the reduced state table.



Prove that the two state tables are equivalent by taking an input sequence 01110010011. **2M**