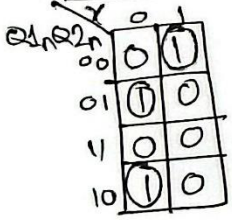
1. Design a sequential circuit represented by the following transition table using T Flip-Flop. [CO3, Mark: 05]

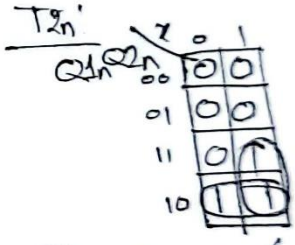
Present State $Q1_nQ2_n$	Next State $Q1_{n+1}Q2_{n+1}$		Output, z		Flip-Flop Inputs $T1_n\ T2_n$ $x=0$		$T1_n\ T2_n$ $x=1$	
	$x=0$	$x=1$	$x=0$	$x=1$				
00	00	10	1	1	0	0	1	0
01	11	01	0	1	1	0	0	0
11	11	10	0	0	0	0	0	1
10	01	11	1	1	1	1	0	1

$T1_n$:



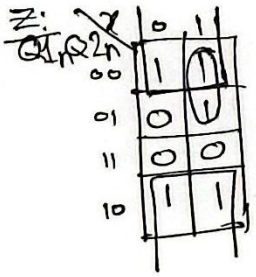
$T1_n = Q1_n'Q2_nx' + Q1_nQ2_n'x' + Q1_n'Q2_n'x$

$T2_n$:



$T2_n = Q1_nQ2_n' + Q1_nx$

Z:



$Z = Q2_n' + Q1_n'x$