COMSATS University Islamabad, Lahore Campus
Department of Electrical and Computer Engineering
M. A. Jinnah Campus, Lahore.

EEE241 – Digital Logic Design

SP23-BCS-A Fall 2023

Total Marks 20 **Friday 15 December 2023**

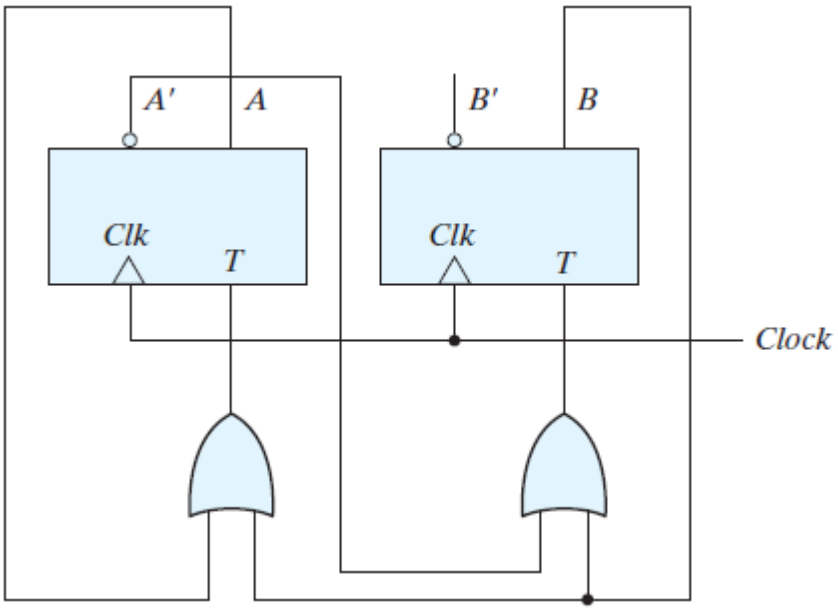
Assignment 4

Resource Person: Dr. Muhammad Farooq-i-Azam

Submission Deadline: **Wednesday 20 December 2023**

Problem 1 **(10)**

Derive the state table and the state diagram of the sequential circuit shown in Fig. 1. Explain the function that the circuit performs.



Fig, 1

Problem 2 **(10)**

For the following state table,

	Next State		Output	
Present State	$x = 0$	$x = 1$	$x = 0$	$x = 1$
a	f	b	0	0
b	d	c	0	0
c	f	e	0	0
d	g	a	1	0
e	d	c	0	0
f	f	b	1	1
g	g	h	0	1
h	g	a	1	0

A.
(a) Draw the corresponding state diagram.
(b) Tabulate the reduced state table.
(c) Draw the state diagram corresponding to the reduced state table.

B. Starting from state *a*, and the input sequence 01110010011, determine the output sequence for

(a) The initial state table
(b) The reduced state table
(c) Compare and check if the output sequences obtained in (a) and (b) are the same

Notice

Work submitted should be your own. A strict disciplinary action will be taken against any students who submit plagiarized homework or assignment. This includes ZERO marks in the submitted work, fine, failure in the course and expulsion from the degree program.