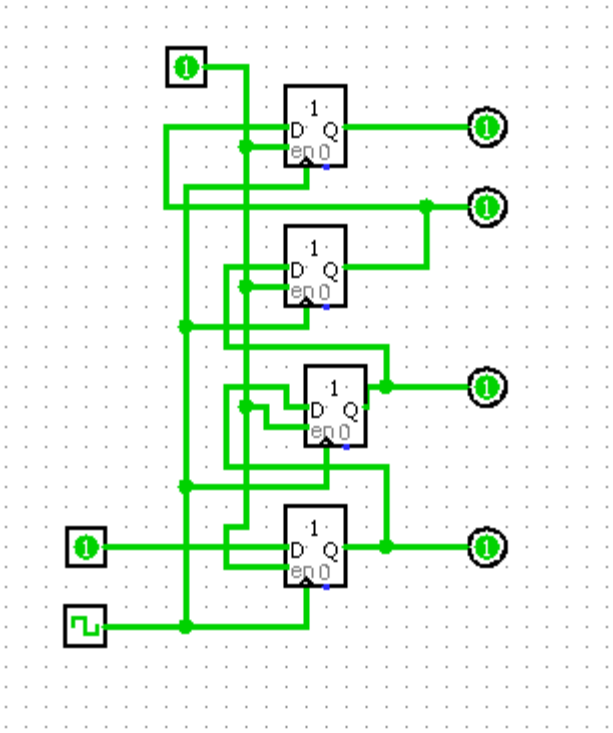
INDIAN INSTITUTE OF TECHNOLOGY PATNA

CS226- Lab 9

Q1: Simulate a 8 bit shift register using logic-sim. A 4 bit shift register design is shown.



(10 Points)

Q2: Study 7495 data sheet, and implement serial in and serial out shift register. Test using LEDs

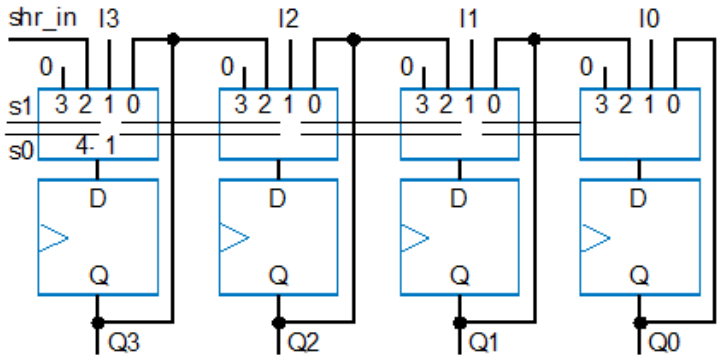
7495 (4-bit shift register, parallel in, parallel out, serial input)

(15 Points)

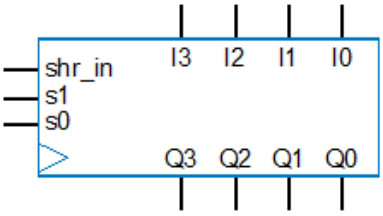
Q3:Simulate the multi-function Shift register using logic-sim

Functions:

s1	s0	Operation
0	0	Maintain present value
0	1	Parallel load
1	0	Shift right
1	1	(unused - let's load 0s)



(a)



(b)

(15 Points)

Q4: Study 74194 (4-bit bidirectional universal shift register)

Test each of the functionality by applying appropriate test data and test output using LEDs/ Seven segment displays.

(**25Points)**

Q5:

Simulate a 4 bit Counter using JK flip flops (Logic-sim) .

(**10Points)**

Logic-sim simulation submission should be individual. Course work submission through Email: cs225.iitp@gmail.com
(use email subject Lab9_Logicsim_your roll number).
This work should be completed in Lab.