CLASS : S.E. COMP **SUBJECT : DEL**

EXPT. NO. : 9 **DATE :**

TITLE : PSEUDO RANDOM NUMBER GENERATOR CIRCUIT

OBJECTIVE :

1. Design and Implement the Pseudo Random number generator circuit using IC-74LS194 and verify its truth-table.(Use Left Shift)
2. Design and implement the Pseudo Random number generator circuit using IC-74LS76 and verify its truth-table(Use Right Shift)

APPARATUS :

Digital-Board, GP-4 Patch-Cords, IC-74LS194, IC-74LS86

THEORY :

Register is a sequential logic device, which can be used to store the number of bits. Register whose internal bits can be shifted towards right and left is called as shift register. IC-74HC194 is a bi-directional universal shift register. This is called universal shift register because it performs all modes of operations of shift register.

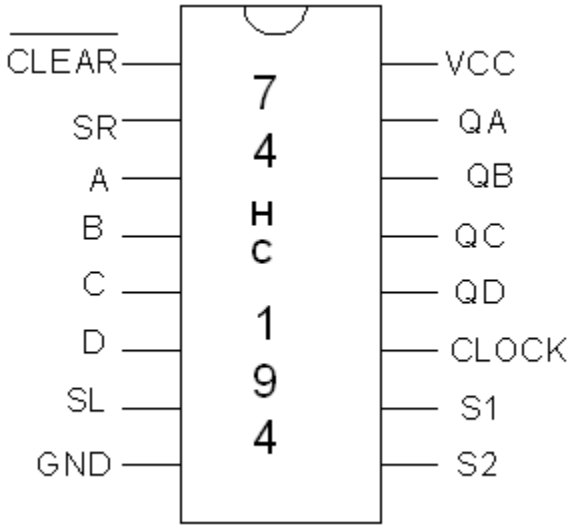
IC-74HC194 provides four different modes of operation:

1) Serial in Serial Out. (SISO) 2) Serial in Parallel out (SIPO)

3) Parallel In Serial out (PISO) 4) Parallel in Parallel out (PIPO)

IC-74HC194 can be used to implement pulse train generator, ring counter, twisted ring counter, Random number generator circuit etc.

PIN Diagram :



PROCEDURE :

1. Make the connections as per the Logic circuit of Pseudo Random number generator circuit using Left shift and Verify its Truth Table.
2. Make the connections as per the Logic circuit of Pseudo Random number generator circuit using Right shift and Verify its Truth Table.

Design of Pseudo Random Number Generator Circuit using Left Shift

Output				Decimal Equivalent
Q_A	Q_B	Q_C	Q_D	

Logic diagram

Design of Pseudo Random Number Generator Circuit using Right Shift

Output				Decimal Equivalent
Q_A	Q_B	Q_C	Q_D	

Logic diagram:

Logic Gates / MSI Device required for Implementation:

Sr.No.	Title	Name of the IC	Number of Gates required	IC Required
01	Pseudo Random Number generator circuit using Left and Right shift			

CONCLUSION:

REFFRENCE:

1. **R.P.Jain "Modern Digital Electronics" TMH 4th Edition**
2. **D.Leach,Malvino,Saha,"Digital Principles and Applications",TMH**

Subject teacher Sign with Date Remark