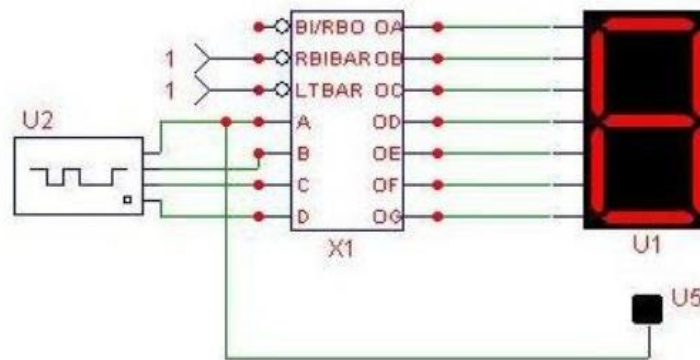# EXPERIMENT- 6

Objective: To study the BCD seven segment decoder.
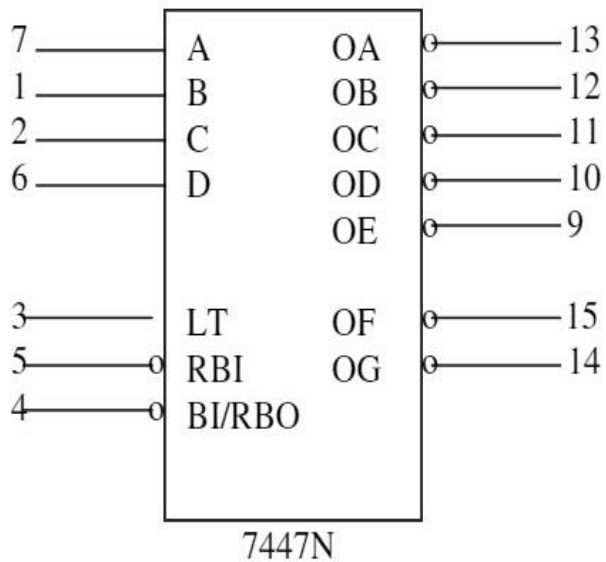
Resources Required: the BCD seven segment decoder trainer kit

Circuit Diagram:-

BCD TO SEVEN SEGMENT DECODER

Theory:-

7447N

Seven Segment Display consists of 7 LED's in form of segments that are physically arranged like decimal 8. There is one circular LED connected either in common cathode configuration or in common anode configuration by giving logic 1/0 to anode configuration by giving logic 0/1 to cathode LED can be made ON/OFF respectively. When 4 bit BCD number is applied to input of decoder, then decoder will be corresponding 7 bit output Ya to Yg. If these 7 bits are applied to 7 LED's of seven segment display and if this seven segment display is connected in common cathode configuration, then to make LED ON/OFF decoder will give 1/0 to anode of LED.
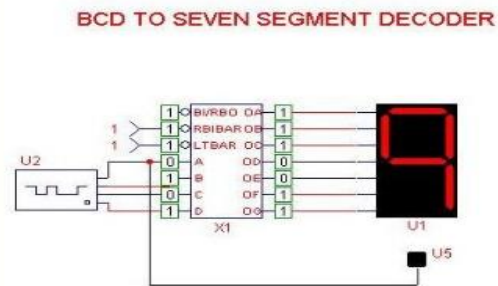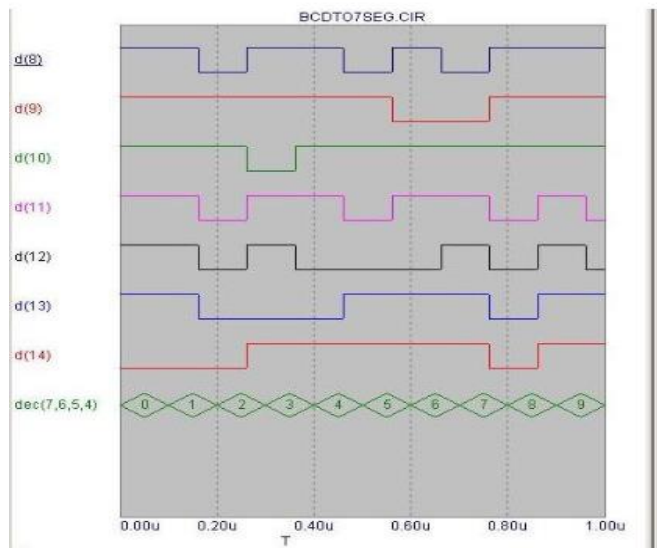
Procedure:-

1) Connect the circuit diagram as per the circuit diagram.

2) Vary the input with 4 switches from 0 to 9 (valid BCD number). 3) The corresponding number of BCD number will be displayed.

Observation Table:-

Inputs				Outputs						
A	B	C	D	a	b	c	d	e	f	g
0	0	0	0							
0	0	0	1							
0	0	1	0							
0	0	1	1							
0	1	0	0							
0	1	0	1							
0	1	1	0							
0	1	1	1							
1	0	0	0							
1	0	0	1							

Simulation:-

Result: BCD seven segment decoder Studied.