EXPERIMENT-10

Object: -To Study the logic gate using ICs 7404 i.e., TTL NOT gate

Resources Required:

1. IC no 7404 (Hex Inverts)
2. Bread Board.
3. Wires.

Theory:-

An integrated circuit is a small silicon semiconductor crystal called at chip containing electrical components such as transistor, diode, resistor, and capacitor. The various components are connected inside the chip to form an electronics circuit. The chip is mounted on a metal or plastic package and connection are welded to external pins to form the IC. Integrated circuit are different from other electronics circuit composed of detachable components in that individual components in the IC cannot be separated & the circuit inside the package is accessible only through the external pins.

The IC 7404 consists of 6 NOT gates. It has 14 external pins. Pin no. 14 & 7 are provided for the source & GND connections respectively. Truth table is shown in table 1 & 2.

Truth Table:-1

S.No.	Input-at		In Binary	Outuput-at		In Binary
	Terminal	**Input (v)**		**Terminal**	**Output (v)**	
1	1	0V	0	2		1
2	3	0V	0	4		1
3	5	0V	0	6		1
4	9	0V	0	8		1
5	11	0V	0	10		1
6	13	0V	0	12		1

Truth Table: -2

S.No.	Input-at		In Binary	Outuput-at		In Binary
	Terminal	Input (v)		Terminal	Output (v)	
1	1	5V	1	2		0
2	3	5V	1	4		0
3	5	5V	1	6		0
4	9	5V	1	8		0
5	11	5V	1	10		0
6	13	5V	1	12		0

Procedure: -

1. Insert the L.C. properly in power projection board.
2. Make the connection for table 1&2 and note down the output voltage in each case and it showed match with table 1&2.

Result:-The Gates of IC 7404 is verified that they all are NOT gates.