Lab report 1

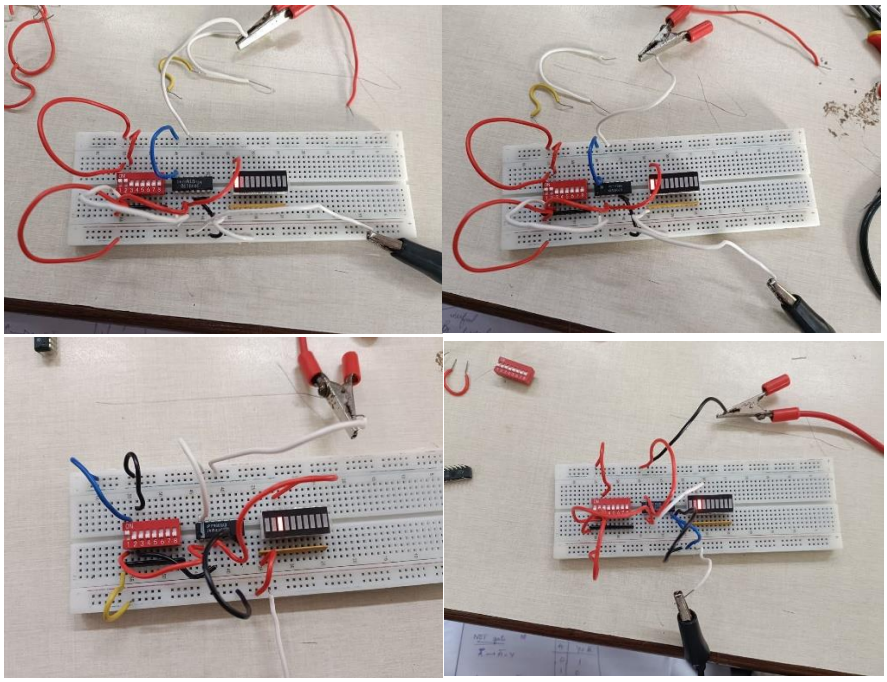
Aim: Study of Digital ICs and basic components like power supply, DSO etc.

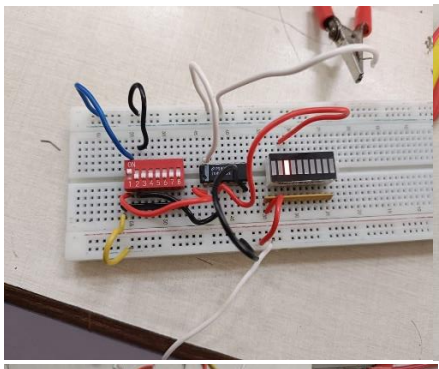
Summary of the experiment: Study of basic digital ICs and verifying their functionality, learning the usage of function generator (FG) and digital storage oscilloscope (DSO), and rigging up of circuits.

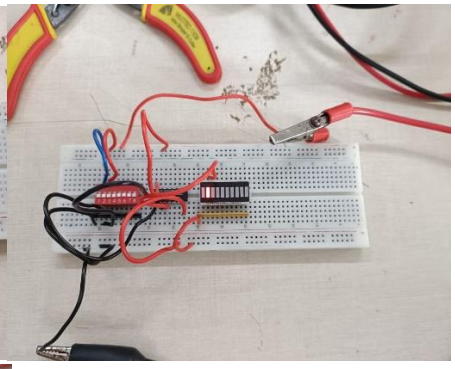
Components used: IC 7400, 7408, 7432, 7486, 1Kohm resistor array, DIP switches, LED displays, breadboard, power supply.

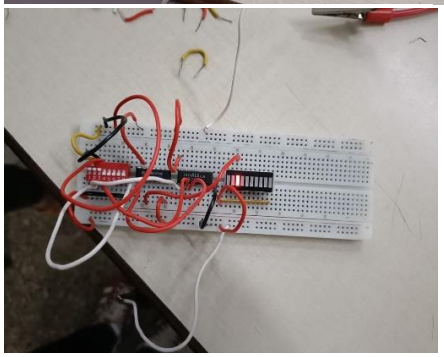
Design Procedure: Truth table/Excitation table of all logic gates.

Circuit Snapshots: Logic circuits of gates.



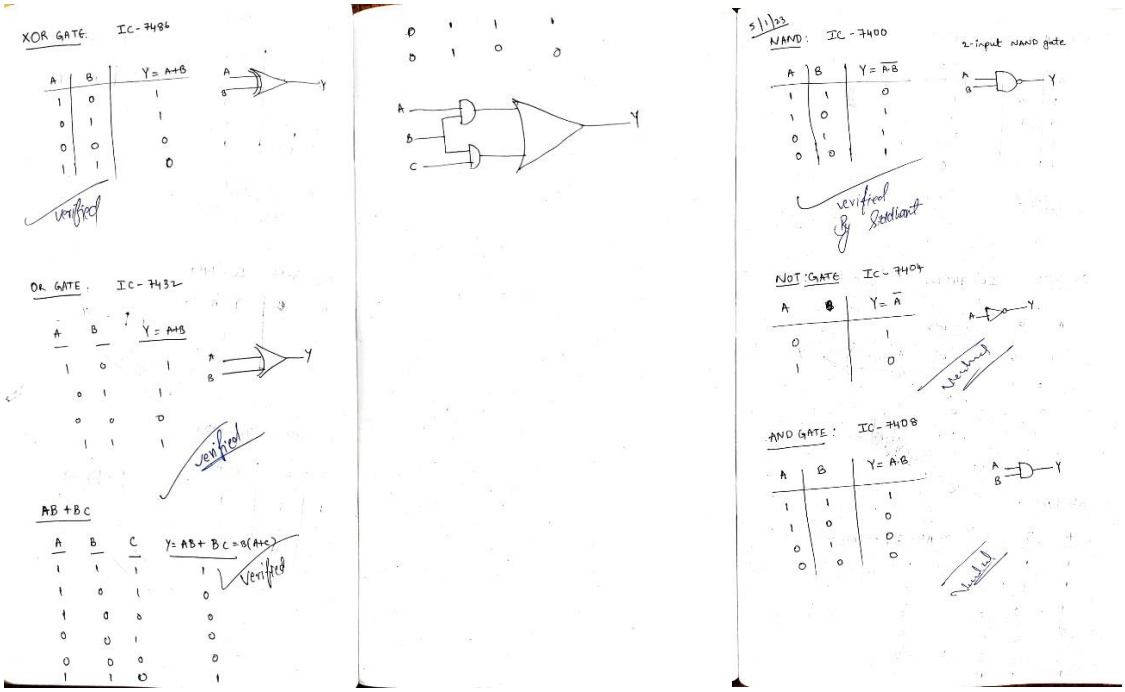






Results and Discussions:

Got to know each IC has 4 logic gates of similar nature and used one of them to find what kind of logic gate present in respective IC's by drawing truth tables as shown below.



Conclusion:

Studied Digital IC's datasheets, got to know about IC's internal arrangements of logic gates components.

Got to know how to make circuit connections on breadboard.

Got experience on how to use power supply on breadboard.

Learnt how to debug circuits using multimeter.