

Experiment No = 1.

1. Aim :- Study of pin configuration of different ICs.

~~What you have to do select any~~

* List of IC

- i) IC 7402 is a quad two input NOR-gate.
- ii) IC 7404 is a hex Inverter.
- iii) IC 7408 is a quad two input AND gate.
- iv) IC 7432 is a quad two input OR gate.
- v) IC 7447 is a BCD-7 Segment display driver or decoder.
- vi) IC 7474 is a twin D-type +ve edge triggered FF's.
- vii) IC 7490 is a 4-bit decade counter.
- viii) IC 7470 is a 4-bit decade counter.
- ix) IC 7486 is a quad two input XOR gate.
- x) IC 74138 is a 3-to 8 decoder.
- xi) IC 74153 is a 4-1 multiplexer.
- xii) IC 74157 is a Quad D-type FF's with opposite Q/P's.
- xiii) IC 74160 is a 4-bit binary synchronous counter.
- xiv) IC 74164 is an 8-bit parallel out serial shift register.
- xv) IC 74174 is a quad D-type FF's with opposite Q/P's.
- xvi) IC 74193 is a 4-bit synchronous up or down binary counter.
- xvii) IC 74245 is an octal bus TX/RX with 3-state o/p.
- xviii) IC 74266 is a Quad two input XNOR gate.
- xix) IC 74373 is an octal D-type clear latch.
- xx) IC 74374 is an octal D-type FF's.

1. IC 7402 Pin Configuration.

Pin 1: It is a Y output gate 1

Pin 2: It is a A input gate 1

Pin 3: It is a B input gate 1

Pin 4: It is a Y output gate 2

Pin 5: It is a A Input gate 2

Pin 6: It is a B Input gate 2

Pin 7: Ground

Pin 8: It is a A Input gate 3

Pin 9: It is a B Input gate 3

Pin 10: It is a Y output gate 3

Pin 11: It is a A input gate 4

Pin 12: It is a B input gate 4

Pin 13: It is a Y output gate 4

Pin 14: VCC Positive Supply

* Features and Specifications.

i) Operating Voltage range +4.7V to +5.25V

ii) Maximum Supply Voltage 7V

iii) TTL outputs

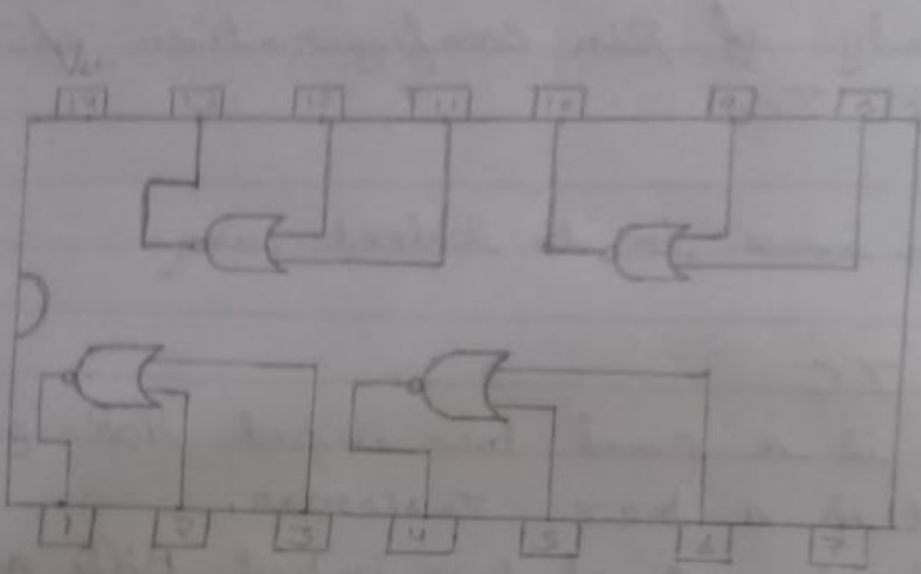
iv) Low power consumption

v) Maximum ESD: 3.5KV

vi) Typical Rise Time 15ns.

vii) Typical fall Time 15ns

Diagram



IC 7402 Quad 2-Input
NOR gate

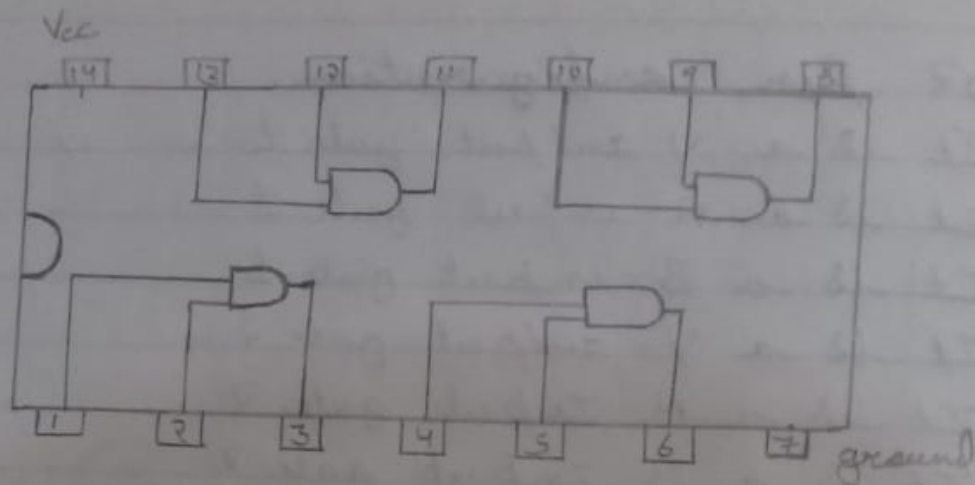
2. IC 7408 Pin Configuration.

Pin #1	A Input gate 1
2	B Input gate 1
3	Y output gate 1
4	A input gate 2
5	B Input gate 2
6	Y output gate 2
7	ground
8	Y output gate 3
9	B Input gate 3
10	A Input gate 3
11	Y output gate 4
12	B Input gate 4
13	A Input gate 4
14	VCC - Positive supply

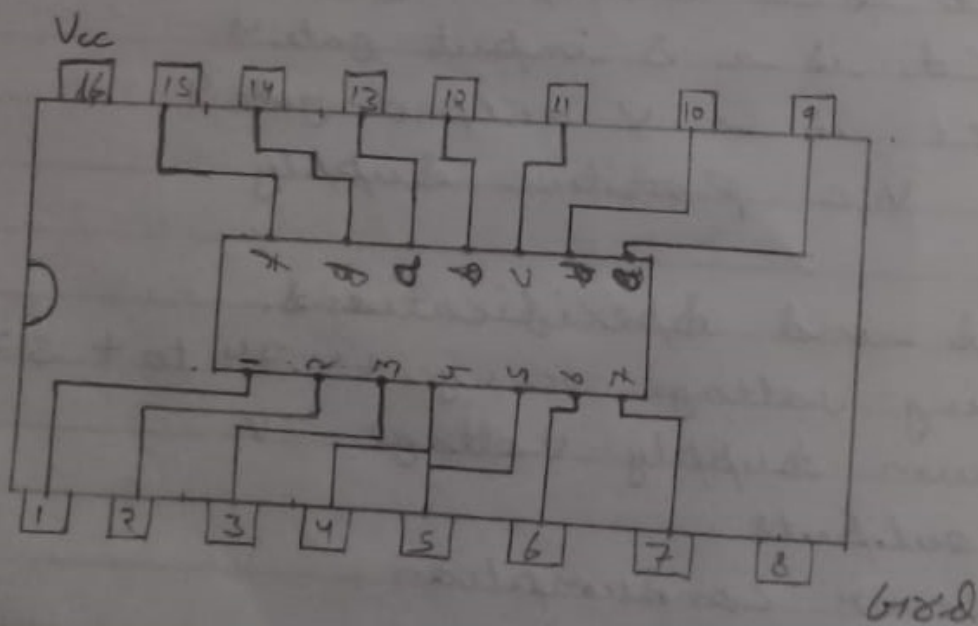
3. IC 7447 Pin Configuration.

Pin #1	BCD B Input	13	7-Segment a output
2	BCD C Input	14	7-Segment g output
3	Lamp Test	15	7-Segment f output
4	RB output	16	Vcc Positive Supply
5	RB Input		
6	BCD D Input		
7	BCD A Input		
8	Ground		
9	7-Segment e output		
10	7-Segment d output		
11	7-Segment c output		
12	7-Segment b output		
13			

Diagram



7408 Quad 2-Input
AND gate



7447 BCD to
7-segment decoder / Drivers with
15V open collector output

* IC 7408 Specification.

1. operating voltage range. $+4.75V$ to $+5.25V$
2. Recommended operating voltage : $+5V$
3. maximum supply voltage $+7V$
4. maximum current allowed to draw through each gate output $8mA$
5. operating temperature $0^{\circ}C$ to $70^{\circ}C$

* IC 7447 Specification.

- i) Applicable for BCD to 7 segment converted and displayed number from 0 to 9
- ii) maximum voltage supply : $5.25V$
- iii) minimum voltage supply : $4.75V$
- iv) package contains checked and unused
1 piece of 7447 IC