DIGITAL LOGIC DESIGN LAB (EET1211)

LAB I: Introduction to different ICs and examine the operation of logic gates

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Branch:	**Section:**	**Subgroup No.:**
Name	**Registration No.**	**Signature**

Marks: _____/10

Remarks:

Teacher's Signature

I. Objective:

1. Investigation of the logic behaviour of various gates:

    a) 7400 quadruple two-input NAND gates
    b) 7402 quadruple two-input NOR gates
    c) 7404 hex inverters
    d) 7408 quadruple two-input AND gates
    e) 7432 quadruple two-input OR gates
    f) 7486 quadruple two-input XOR gates

2. Using a single 7400 IC, connect a circuit that produces

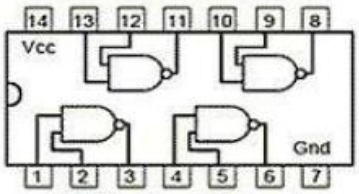
    a) An inverter.
    b) A two-input AND.
    c) A two-input OR.
    d) A two-input XOR.

II. Pre-lab:

1. Logic behaviour of Logic gates

    a. Quad two-input NAND gates

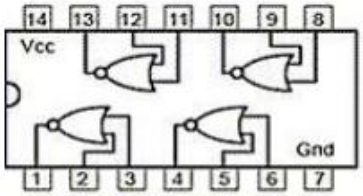
A	B	F
0	0	
0	1	
1	0	
1	1	



7400 Quad 2 input NAND Gates

    b. Quad two-input NOR gates

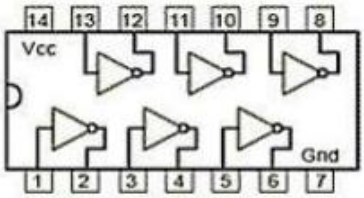
A	B	F
0	0	
0	1	
1	0	
1	1	



7402 Quad 2 input NOR Gates

    c. Hex inverters

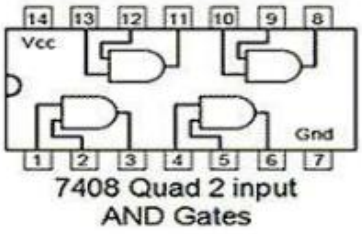
A	F
0	
1	



7404 Hex NOT Gates (Inverters)

d. Quad two-input AND gates

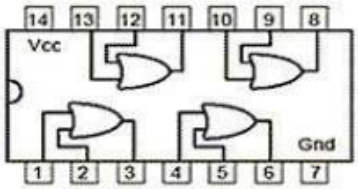
A	B	F
0	0	
0	1	
1	0	
1	1	



7408 Quad 2 input AND Gates

e. Quad two-input OR gates

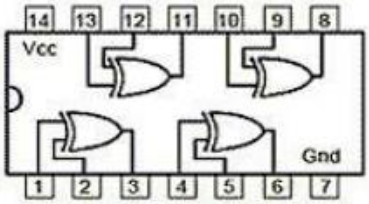
A	B	F
0	0	
0	1	
1	0	
1	1	



7432 Quad 2 input OR Gates

f. Quad two-input XOR gates

A	B	F
0	0	
0	1	
1	0	
1	1	



7486 Quad 2 input XOR Gates

2. Draw the circuit diagram & obtain truth tables for objective 2.

III. LAB:

Components Required:

Sl. No.	Name of the Components	Specification	Quantity

Observation:

IV. CONCLUSION:

V. POST LAB:

1. What is the voltage range for operation of digital circuits?
2. What is the significance of ground and VCC connection?
3. Which gates are known as universal gates & why.