Indian Institute of Information Technology Vadodara International Campus Diu

Practical Workbook

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Branch.	:	Computer Science and Engineering
Batch	:	2022
Subject	:	Digital Logic Design

Certificate

This is certify that **Shreyas Ladhe** of B.tech of semester III .Enrollment Number **202211081** Branch Computer Science and Engineering (CSE) has been found satisfactory in the continuous internal evaluation of laboratory, practical and term work in the subject EC261 for the academic year 2022-23.

Signature

List of Experiments

Lab No.	Lab Name	Date
1	Familiarity with Logic Gates	22 - 09 - 2023

1 Lab-1 : Gradient, Divergence and Curl

1.1 Aim

Basic familiarity with logic gate. Verify the truth table of given 74 series IC.

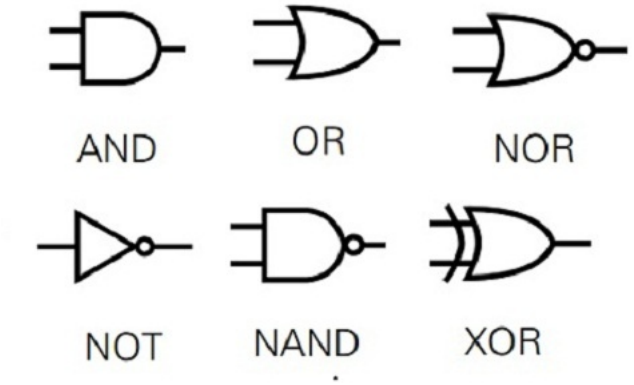
- AND
- NAND
- NOT
- NOR
- OR
- XOR

1.2 Apparatus

Sr No.	Components	Quantity
1	Digital Trainer Kit	1
2	NAND (7400)	1
3	NOR (7402)	1
4	NOT (7404)	1
5	AND (7408)	1
6	OR (7432)	1
7	XOR (7486)	1
8	Connecting Wires	As Required
9	Bread board	1

1.3 Theory

Here is a small rundown about the logic gates we are working on:



1.4 Observation

We verified the following truth tables for the logic gates: The sequence is as follows (left to right):-

- AND
- OR
- NOT
- NAND
- NOR
- XOR

Inputs		Output
A	B	AB
0	0	0
0	1	0
1	0	0
1	1	1

Inputs		Output
A	B	A + B
0	0	0
0	1	1
1	0	1
1	1	1

Inputs	Output
A	B
0	1
1	0

Inputs		Output
A	B	$\overline{AB}$
0	0	1
0	1	1
1	0	1
1	1	0

Inputs		Output
A	B	$\overline{A+B}$
0	0	1
0	1	0
1	0	0
1	1	0

Inputs		Output
A	B	A ⊕ B
0	0	0
0	1	1
1	0	1
1	1	0

1.5 Conclusion

Learned about different IC and hands on experience on working with logic gates. Verified the working of all the logic gates.