



UTM
UNIVERSITI TEKNOLOGI MALAYSIA

LAB 1: COMBINATIONAL LOGIC

SECR1013 DIGITAL LOGIC

SESSION/SEM: SECTION 02/ SEMESTER 1

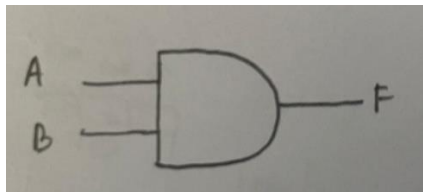
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DATE: 17/11/2020

D. Preliminary Work

1.

AND

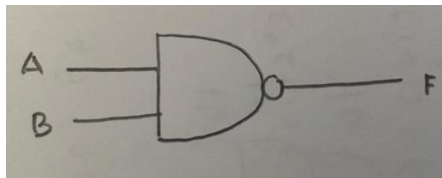


IC Number: 7408

Input		Output
A	B	F
0	0	0
0	1	0
1	0	0
1	1	1

Truth Table 1

NAND



IC Number: 7400

Input		Output
A	B	F
0	0	1
0	1	1
1	0	1
1	1	0

Truth Table 2

2.

A	B	C	F
0	0	0	1
0	1	0	1
1	0	0	1
1	1	1	0

Truth Table 3

3. $C = A.B'$

$D = A'.B$

$F = C+D$ or $F = A.B' + A'.B$

4.

A	B	C	D	F
0	0	0	0	0
0	1	0	1	1
1	0	1	0	1
1	1	0	0	0

Truth Table 4

E. Laboratory Work

Part 1

2.

Input		Output
A	B	F
0	0	0
0	1	0
1	0	0
1	1	1

Truth Table 5

Part 2

4.

A	B	C	F
0	0	0	1
0	1	0	1
1	0	0	1
1	1	1	0

Truth Table 6

5. Both truth table is the same as it is the combination of AND and NOT gate. It is also same as the NAND gate.

Part 3

7.

A	B	C	D	F
0	0	0	0	0
0	1	0	1	1
1	0	1	0	1
1	1	0	0	0

Truth Table 7

8. XOR gate