Page No.:

Rayat Shikshan Sanstha's

Name of the college : S.G.M collage Karad

Subject: Digital Electronics

Expt. No.

Date

Name : Pankaj mane Class: BCS-I Batch: Roll No.: 12

Title of Expt.: Demorgan's Theorem

Aim: To study Demorgan's Theorem

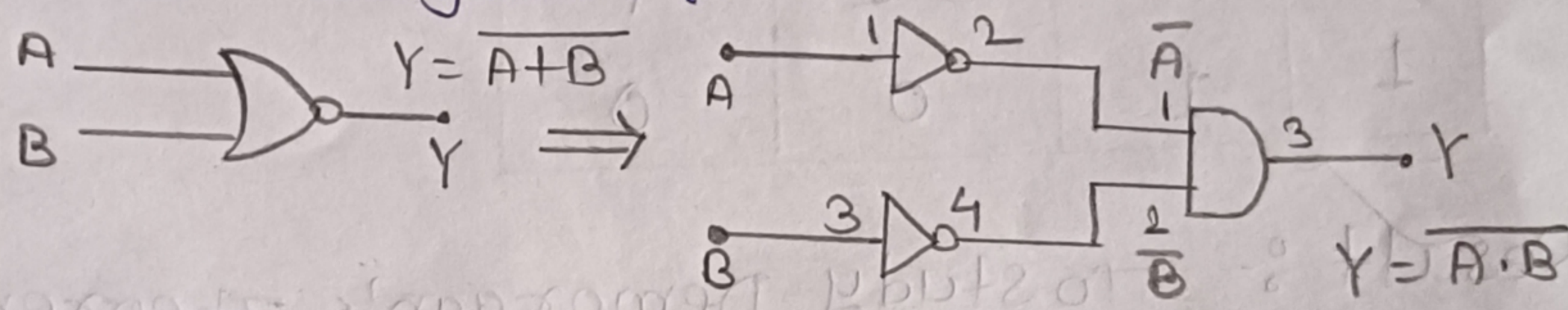
Apparatus: +5V supply, multimeter, IC's etc.

1. Demorgan's First Theorem:

The compliment of sum is equal to the product of their individual compliment

$$\overline{A+B} = \overline{A}\cdot\overline{B}$$

Circuit Diagram :-



Truth table :

Input		LHS	RHS
A	B	$\overline{A+B}$	$\overline{A}\,\overline{B}$
0	0	1	1
0	1	0	0
1	0	0	0
1	1	0	0

Remarks

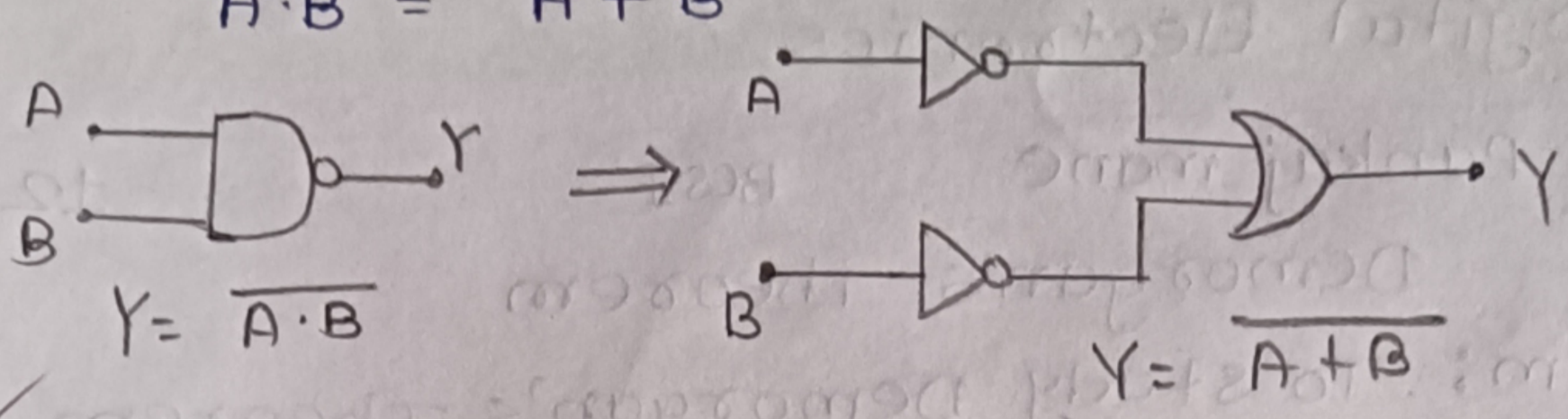
Signature

21/10/23

2) Demorgan's seacond theorem :

The compliment of product is equal to the sum of their individual compliment.

$$\overline{A \cdot B} = \overline{A} + \overline{B}$$



$Y = \overline{A \cdot B}$ $\qquad$ $Y = \overline{A + B}$

Truth table :-

Input		L.H.S	R.H.S
A	B	$\overline{A \cdot B}$	$\overline{A} + \overline{B}$
0	0	1	1
0	1	1	1
1	0	1	1
1	1	0	0

Result :- To study Demorgan's Theorem and Hence all operations are verified.