#### 1

# Assignment-1

## M Pavan Manesh - EE20MTECH14017

#### Download the codes from

https://github.com/pavanmanesh/EE5803/tree/main/assign1

### 1 Problem

Verify the following using Boolean Laws.

$$A' + B'.C = A'.B'.C' + A'.B.C' + A'.B.C + A'.B'.C + A.B'.C$$

### 2 Solution

From the Figure 0, We can see that the right hand side expression is simplified to that of left side expression.

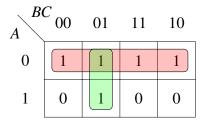


Fig. 0: K-Map

### 3 TRUTH TABLE

The truth table corresponding to the given expression:

A	В	C	LHS	RHS
0	0	0	1	1
0	0	1	1	1
0	1	0	1	1
0	1	1	1	1
1	0	0	0	0
1	0	1	1	1
1	1	0	0	0
1	1	1	0	0

TABLE 0: Truth Table

### 4 IMPLEMENTATION USING NAND LOGIC

$$\overline{A} + \overline{B}.C = \overline{\overline{A} + \overline{B}.C} = \overline{\overline{A}.(\overline{B}.C)} = \overline{A.(\overline{B}.C)}$$

$$(4.0.1)$$