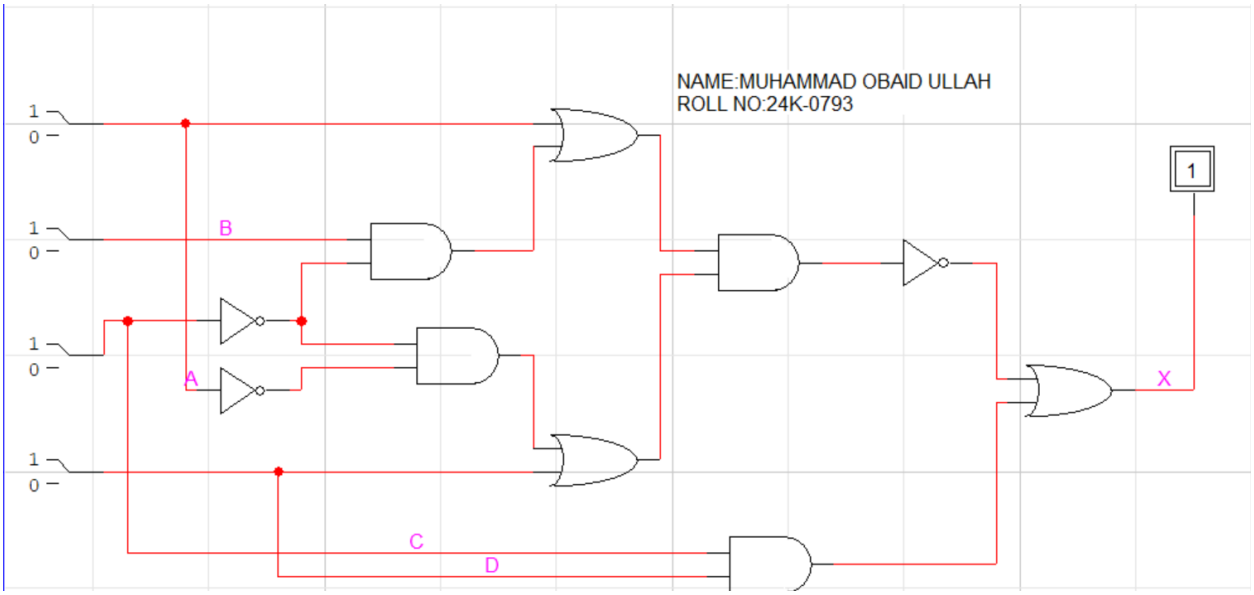
NAME: MUHAMMAD OBAID ULLAH

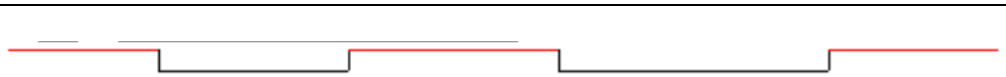
ROLL NO: 24K-0793

POST_LAB_TASKS_LAB_03

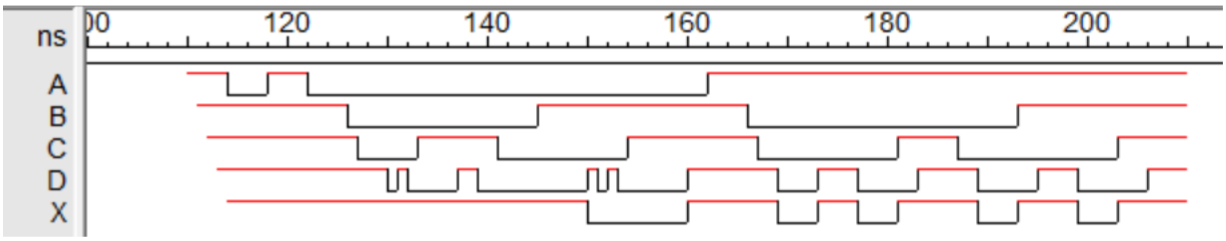
POST_LAB_TASK 1:



TIMING DIAGRAM:

A	
B	
C	
D	
Expected Output	
Actual Output	

SOFTWARE SCREENSHOT:



TRUTH TABLE:

A	B	C	D	X
0	0	0	0	1
0	0	0	1	1
0	0	1	0	1
0	0	1	1	1
0	1	0	0	0
0	1	0	1	0
0	1	1	0	1
0	1	1	1	1
1	0	0	0	1
1	0	0	1	0
1	0	1	0	1
1	0	1	1	1
1	1	0	0	1
1	1	0	1	0
1	1	1	0	1
1	1	1	1	1

POST_LAB_TASK_2:

1. **A + AB = A**

Sol:

L.H.S = A + AB

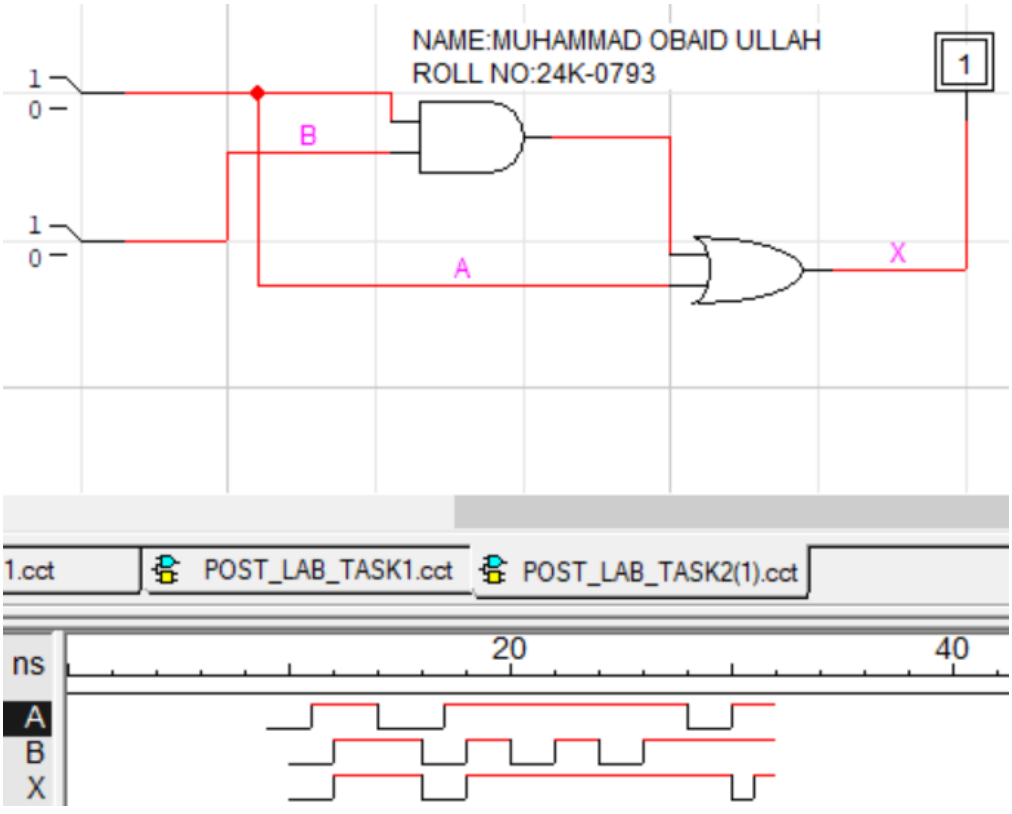
L.H.S = A . (1 + B)

L.H.S = A . 1

L.H.S = A

L.H.S = R.H.S

CIRCIUT DIAGRAM:



2. (A + B)(A + C) = A + BC

Sol :

L.H.S = (A + B)(A + C)

L.H.S = A . A + A . C + B . A + B . C

L.H.S = A + A . C + B . A + B . C

L.H.S = A . (1 + C + B) + B . C

L.H.S = A (1 + B) + B . C

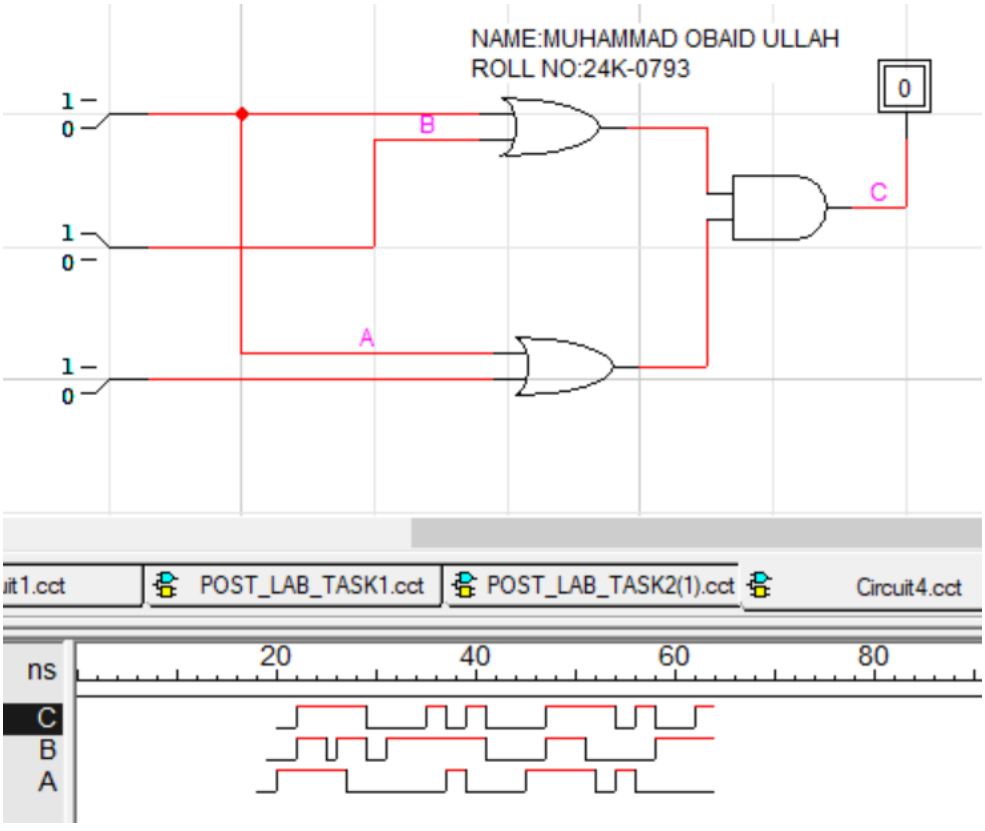
L.H.S = A . 1 + B . C

L.H.S = A + BC

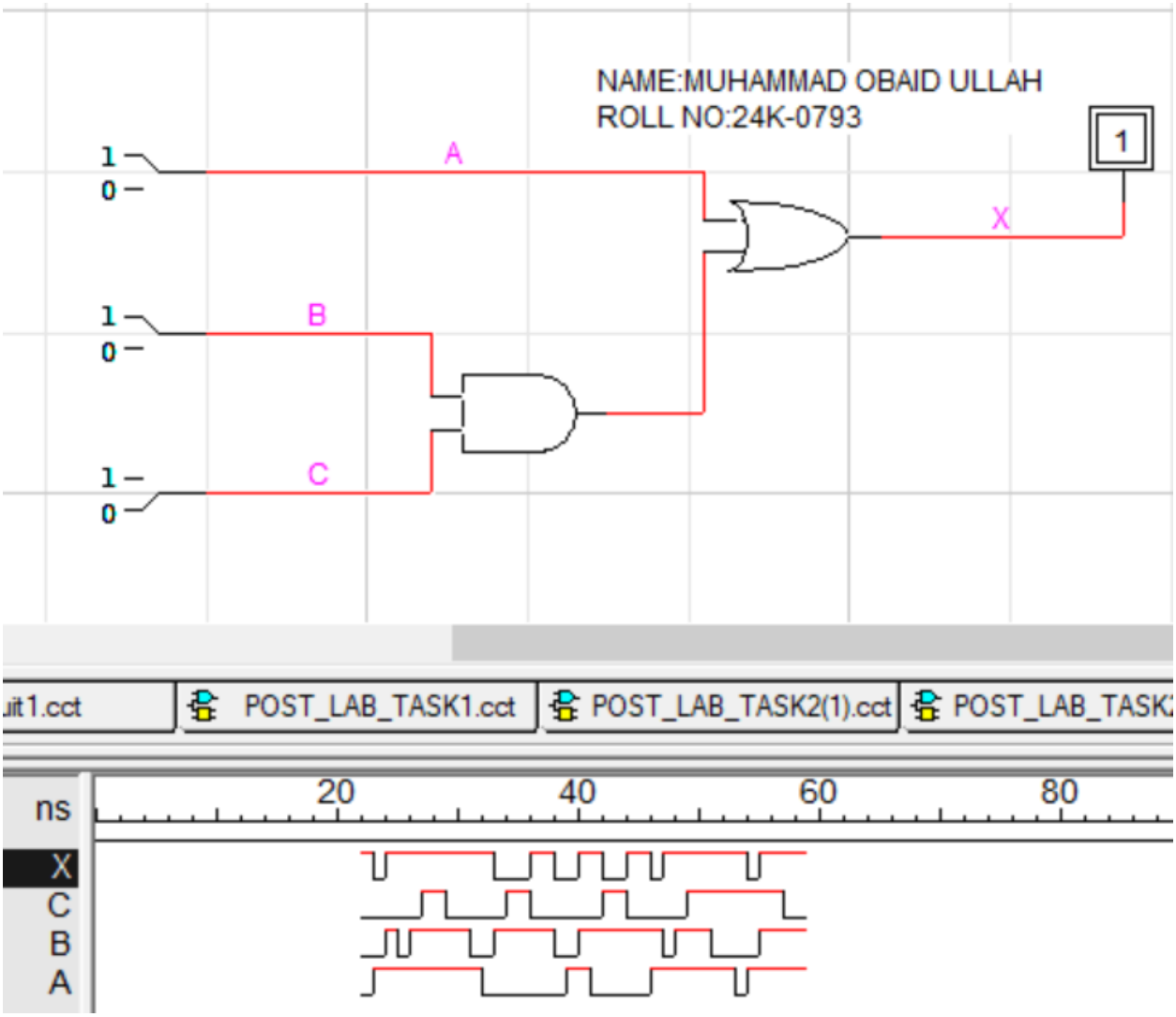
L.H.S = R.H.S

Circuit diagram:

1. (A + B)(A + C)



2. A + BC


NAME:MUHAMMAD OBAID ULLAH
ROLL NO:24K-0793
1
A
X
1
0
1
B
0
1
C
0
1
POST_LAB_TASK1.cct
POST_LAB_TASK2(1).cct
ns
20
40
60
80
X
C
B
A

POST_LAB_TASK_3:

BOOLEAN EXPRESSION:

$$X = (A' B + AB')'C + (A'B+AB')C'$$

Since in XOR , $Z=A \oplus B=A'B+AB'$

X = Z'C + ZC'

Circuit Diagram: