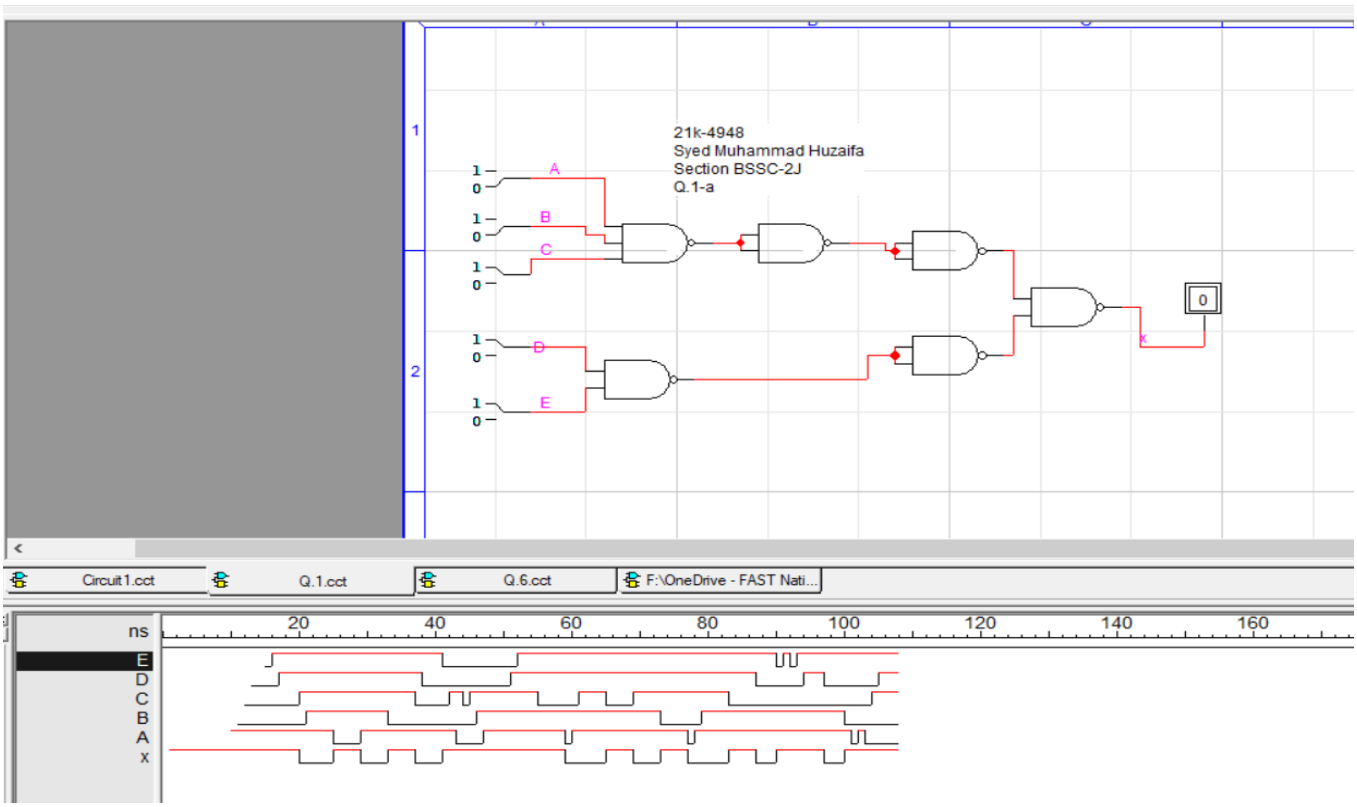
Name: Syed Muhammad Huzaifa Roll No: 21k-4948 Section: BSCS-2J

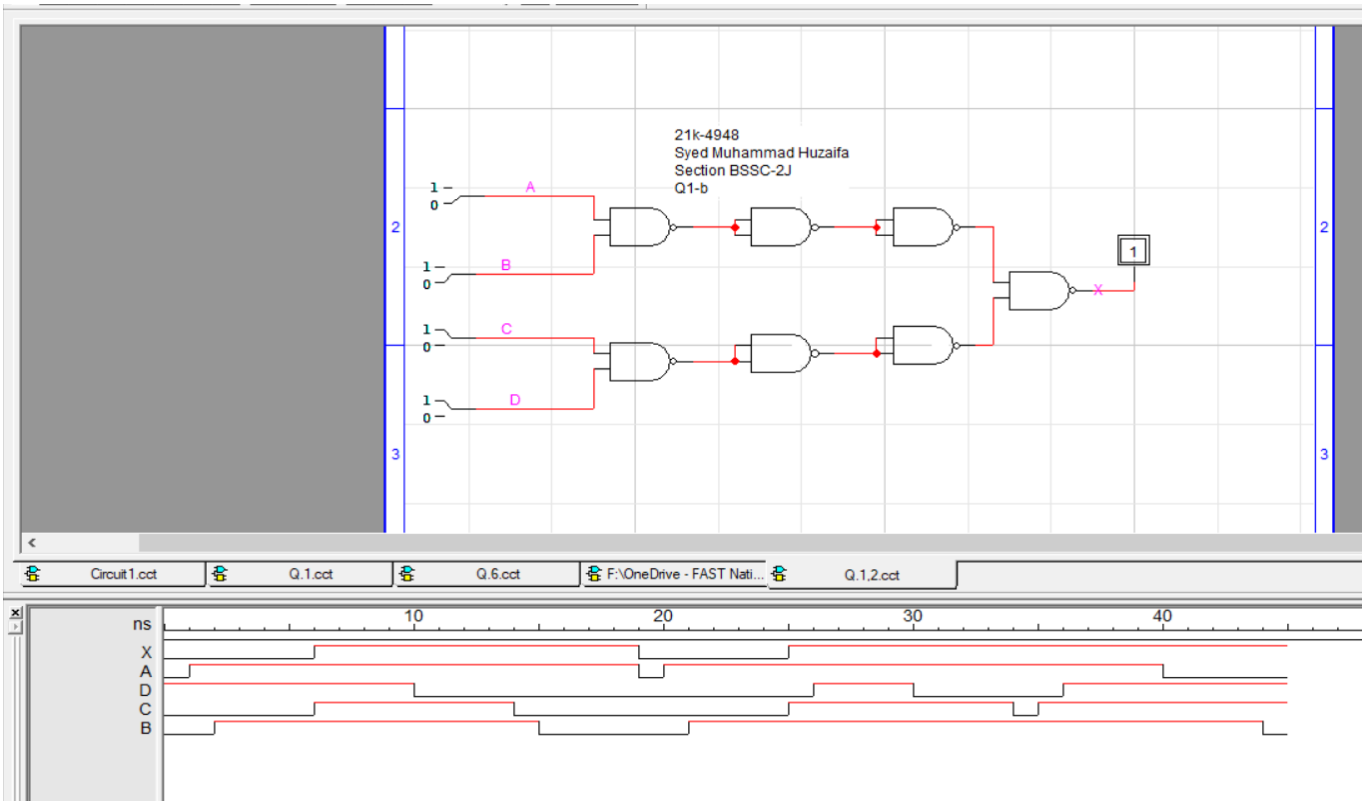
Teacher: Miss Sadaf Ayesha

Question No 1

Q.1-a



Q1-b



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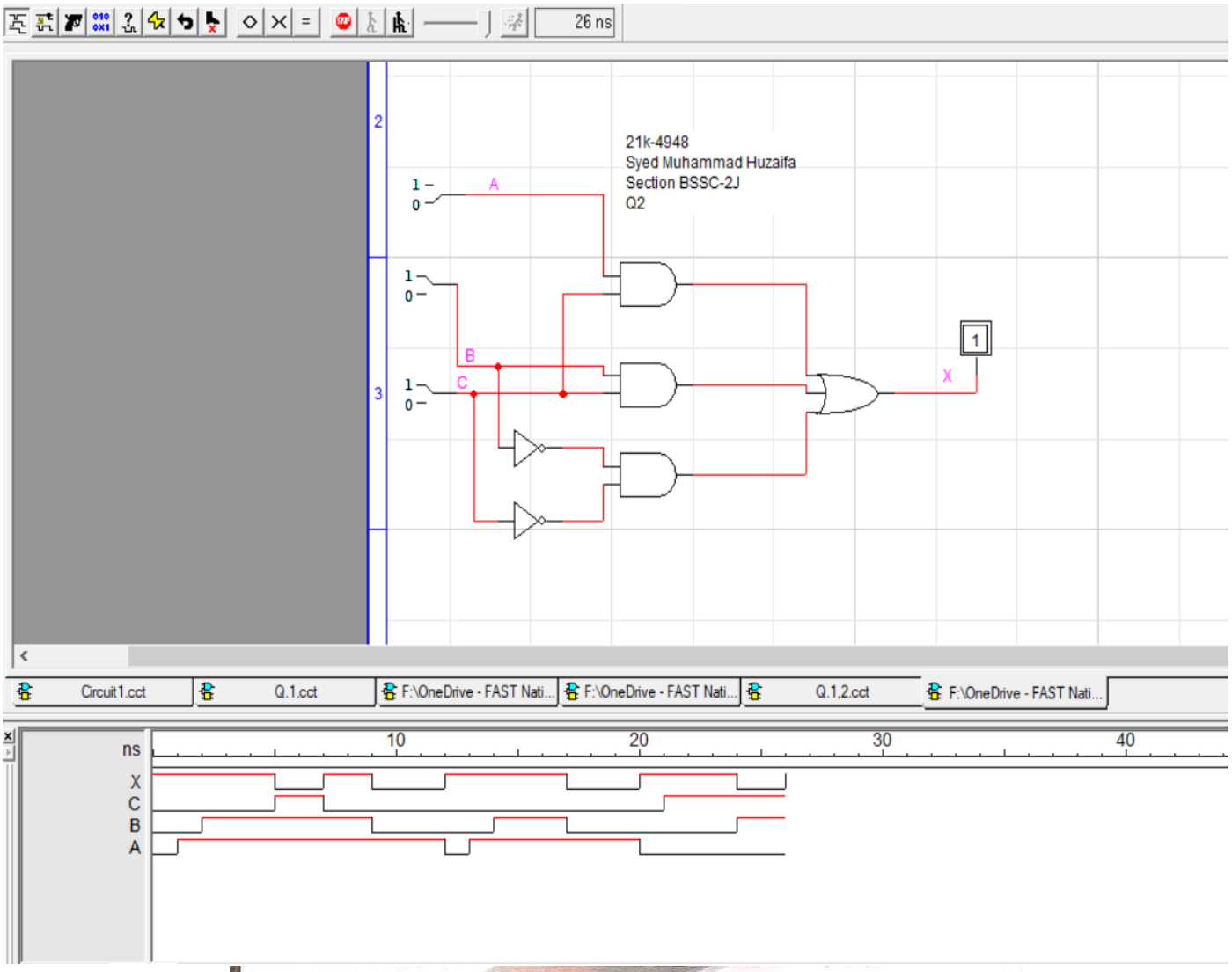
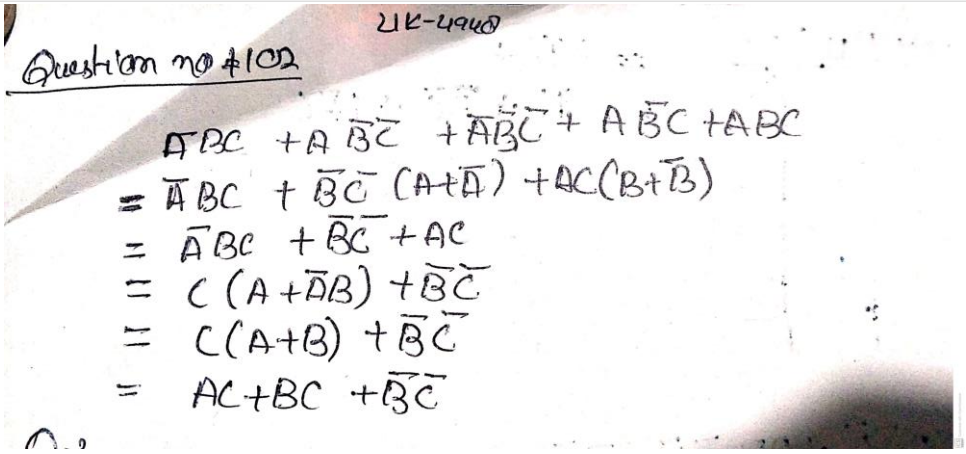
Question No 2





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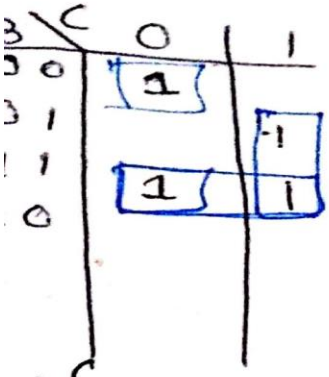
Question No 3

Q.3

(i)

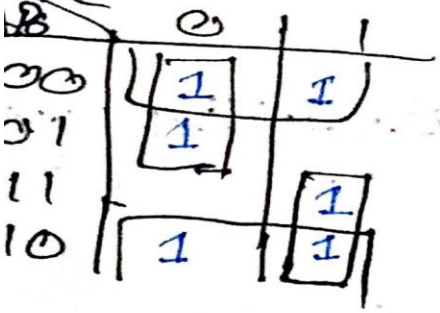


(a.) By group of ones = SOP

$= \overline{A}\,\overline{B}\,\overline{C} + AB + BC$

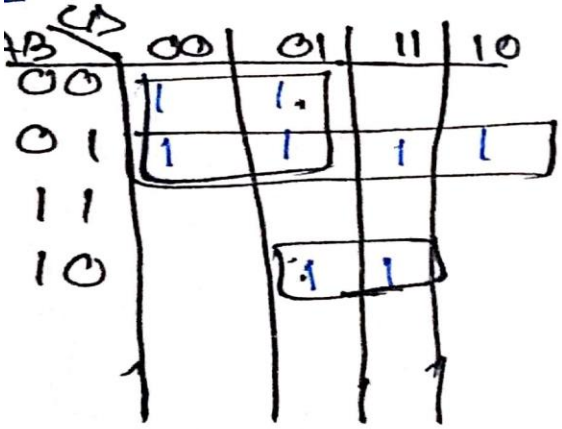
(b) $(0+0+1)(0+1+0)(1+0+0)(1+0+1)$

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



$= \overline{B} + \overline{A}\,\overline{C} + AC$

2.



$= \overline{A}\,\overline{C} + \overline{A}B + A\overline{B}C$

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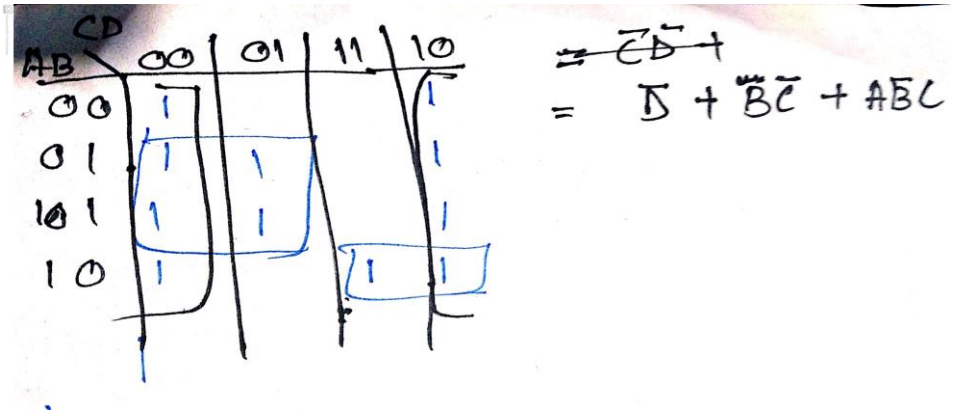

Question No 4

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

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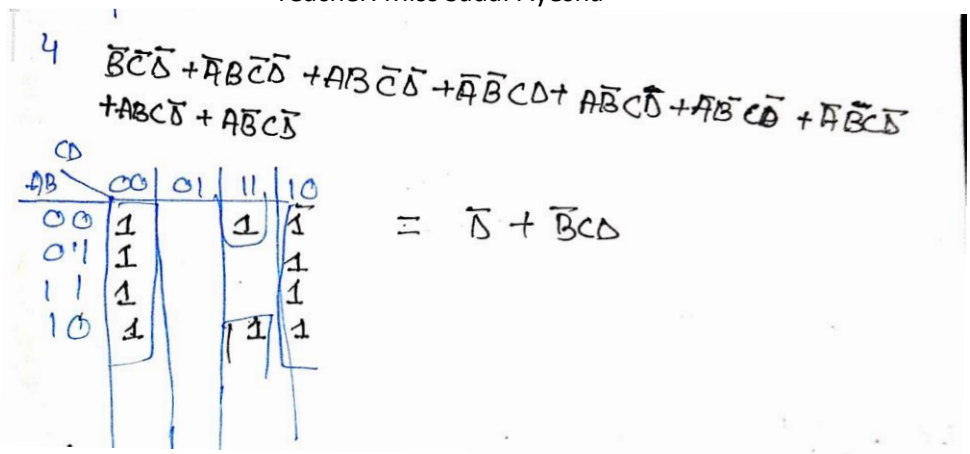

Question No 5

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

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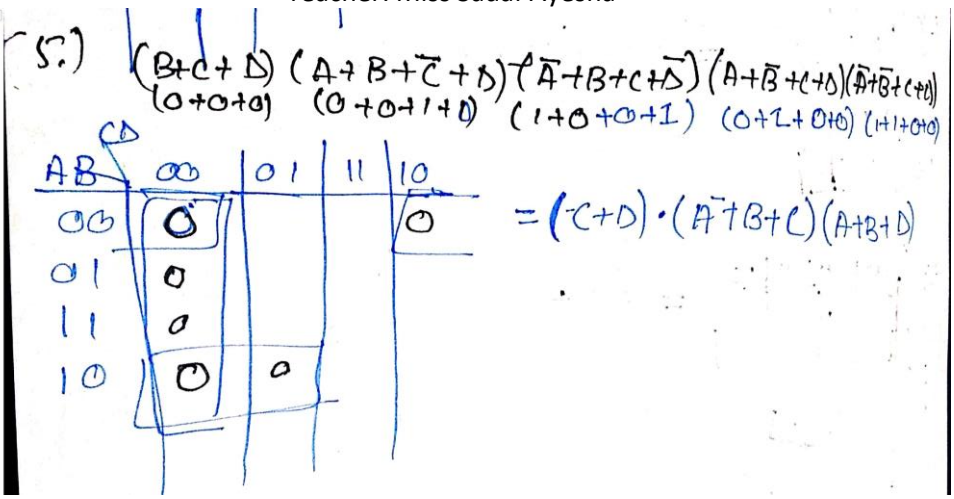
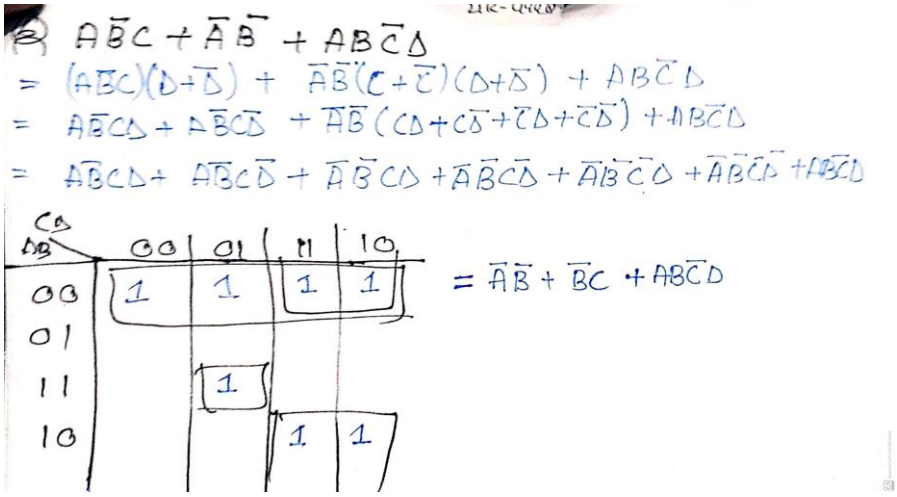


Question No 6



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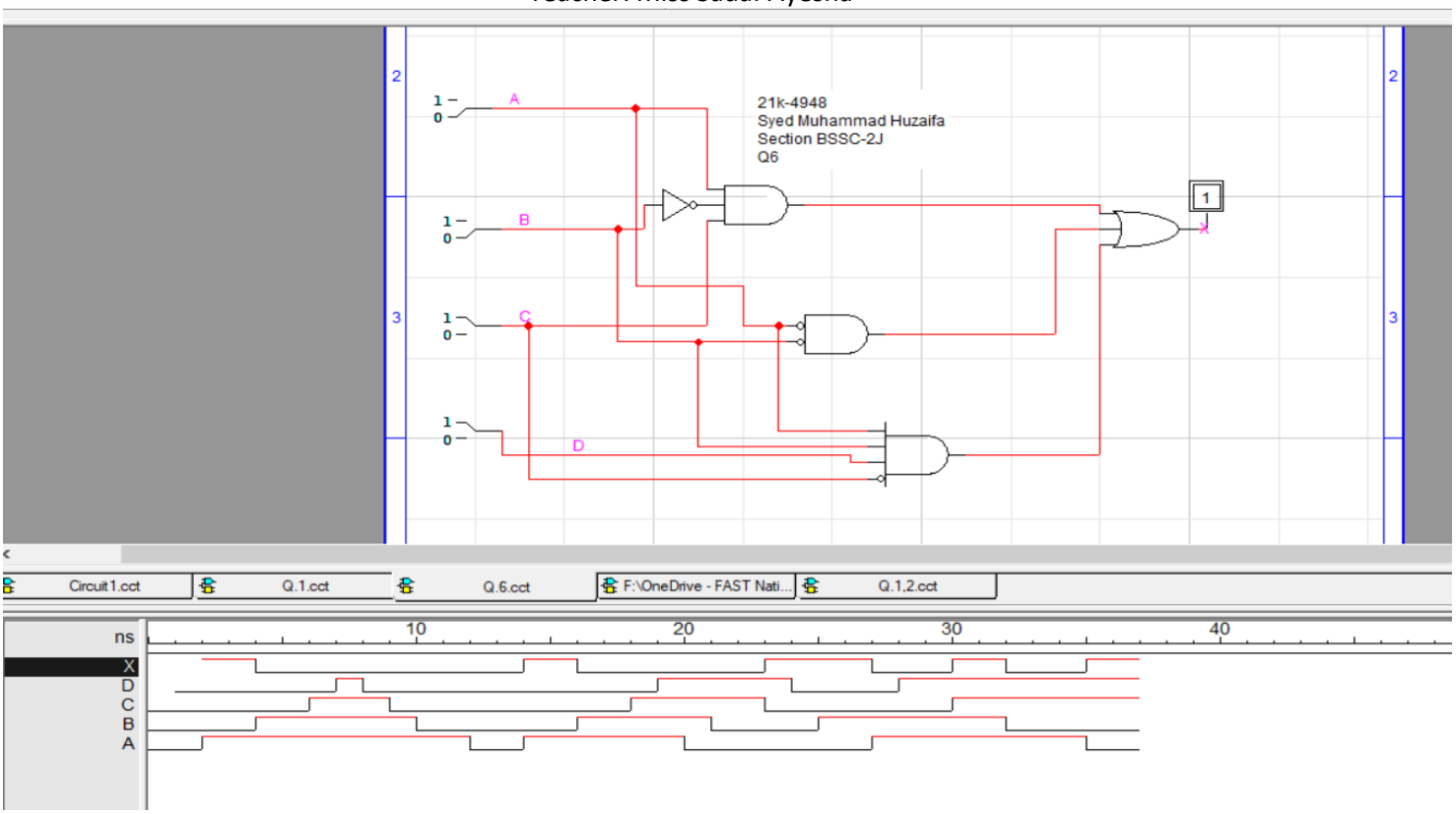

Question No 7

(7) $(A+\bar{B}+C)(\bar{B}+C+\bar{D})(A+B+\bar{C}+D)$

$= \{(A+\bar{B}+C)(D\cdot\bar{D})\}\{(\bar{B}+C+\bar{D})(A\cdot\bar{A})\}(A+B+\bar{C}+D)$

$= (A+\bar{B}C+D)(A+\bar{B}+C+\bar{D})(\bar{B}+C+\bar{D}+A)(\bar{A}+\bar{B}+C+\bar{D})$
$(A+\bar{B}+\bar{C}+D)$

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