CSE260 Assignment 2

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SECTION: 06

Assignment 2

(i) (a) $x'yz' + x'yz + xyz + xyz'$

$= x'yz' + x'yz + xyz$ $\quad [x'yz' + x'yz = x'y(z'+z)]$

$= x'y(z'+z) + xyz$

$= (z'+z)(x'y + xyz)$

~~$= y[y\{(x'+x)z\}]$~~

~~$= yy(y+z)$~~

$= (1)[y(x'+xz)]$ $\quad [z'+z=1]$

$= (1)[y\{(x'+x)(x'+z)\}]$ $\quad [(x'+xz)=(x'+x)(x'+z)]$

$= y(1)(x'+z)$

$= x'y + yz$ (Ans)

b) $(x'+y')(x+y)$

$= (x'\cdot x) + (x'\cdot y) + (x\cdot y') + (y\cdot y')$

$= 0 + (x'\cdot y) + (x\cdot y') + 0$

$= x'y + xy'$ (Ans)

$[x\cdot x' = 0], [y'\cdot y = 0]$

c) $(a'+b)'(a+b')'$

$= (a''\cdot b')(a'\cdot b'')$

$= (a\cdot b')(a'\cdot b)$

$= (a\cdot a')(b\cdot b')$

$= 0\cdot 0$

$= 0$ (Ans)

$[(a'+b)' = a''\cdot b'], [(a+b')' = a''\cdot b'']$

$[a\cdot a' = 0], [b\cdot b' = 0]$

(2) (a) $x'y' + xy'$

$= (x' + y')(x + y')$

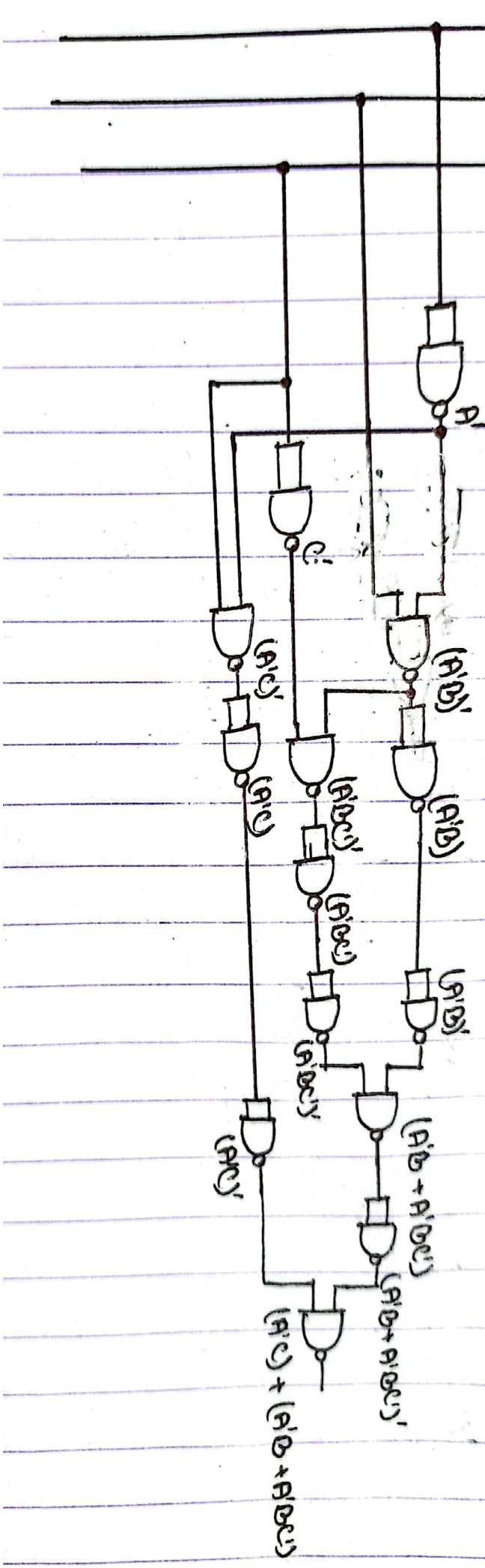
$= (x + y)(x' + y)$ (Ans)

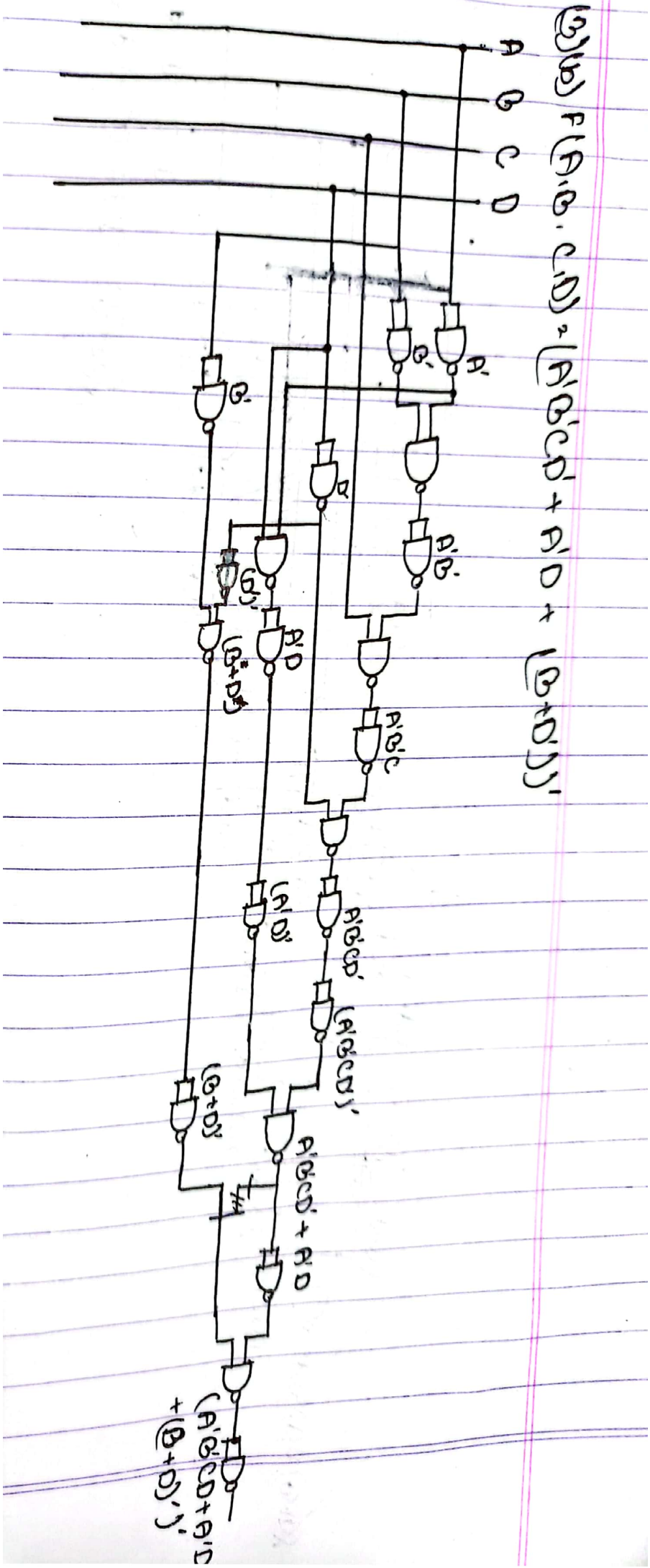
(b) $(x' + y + z')(x' + y')(x + z')$

$= (x'y + z') + (x'y') + (xz')$

$= (xy + z') + (xy) + (x'z')$ (Ans)

(3) $F(A,B,C) = \bar{A}\bar{B}\cdot\bar{C} + \bar{A}\bar{B} + \bar{A}\bar{B}\bar{C} + \bar{A}\bar{C}$





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