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Section: 05

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CSE260   Quiz- 2

1a) $F(x, y, z) = (xy+z)(xy'+yz)$

$\Rightarrow (x+z)(y+z)(xy'+yz)$ $\left[\begin{array}{l} x+xyz = (x+y)(x+ \\ (xy'+yz) \end{array}\right.$

$\Rightarrow xy+(x+z)(y+z)(x+z+yy')(y+z+xx')(xy+z+yz)$

$\Rightarrow (x+z+y)(x+z+y')(y+z+x)(y+z+x)(xy'+y)(xy'+z)$

$\Rightarrow (x+z+y)(x+z+y')(x+y)(y+y')(x+z)(y'+z)$

$\Rightarrow (x+z+y)(x+z+y')(x+y+zz)(x+z+yy')(y'+z+xx')$

$\Rightarrow (x+y+z)(x+y'+z)(x+y+z)(x+y+z')(x+y+z)(x+y'+$

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

$\Rightarrow (x+y+z)(x+y'+z)(x+y+z')(x'+y'+z).$

Truth table :

x	y	z	$x+y+z$	$x+y'+z$	$x+y+z'$	$x'+y'+z$	F
0	0	0	0	1	1	1	0
0	0	1	1	1	1	1	1
0	1	0	1	0	1	1	0
0	1	1	1	1	1	1	1
1	0	0	1	1	1	1	1
1	0	1	1	1	1	1	1
1	1	0	1	1	1	0	0
1	1	1	1	1	1	1	1

$$\therefore \text{Max terms} = \pi (0, 2, 6).$$

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