

6.4

	ab	00	01	11	10
cd					
00		0	1	1	0
01		0	1	1	0
11		0	0	1	0
10		0	0	0	0

Therefore, $F = bc' + abd$

6.5

	ab	00	01	11	10
cd					
00		1	0	1	0
01		0	0	1	0
11		0	0	1	0
10		1	0	1	0

Therefore, $F = ab + a'b'd'$

6.6

	ab	00	01	11	10
c					
0		0	0	0	0
1		1	*	1	*

Therefore, $F = c$

6.7

	ab	00	01	11	10
cd					
00		0	0	*	0
01		0	1	*	0
11		*	*	*	*
10		0	0	*	1

Therefore, $F = bd + ac$

6.8

	ab	00	01	11	10
c					
0		0	1	0	0
1		1	1	1	1

Therefore,

implicants : $a'bc, a'c, c, bc, a'bc', ab$

non implicants : $a'b'c', a'b'$

6.9

prime implicants are c and $a'b$

6.10

	ab	00	01	11	10
c					
0		0	1	0	0
1		1	1	1	1

prime implicants : $c, a'b$

essential prime implicants : $c, a'b$

6.11

	ab	00	01	11	10
cd					
00		0	0	0	1
01		0	0	1	1
11		0	1	1	0
10		0	1	0	0

prime implicants : $a'bc, cdb, abd, ac'd,$

$ab'c'$

essential prime implicants : $a'bc, ab'c'$

6.12

$F(a,b,c,d) = a'bc + abd + ab'c'$

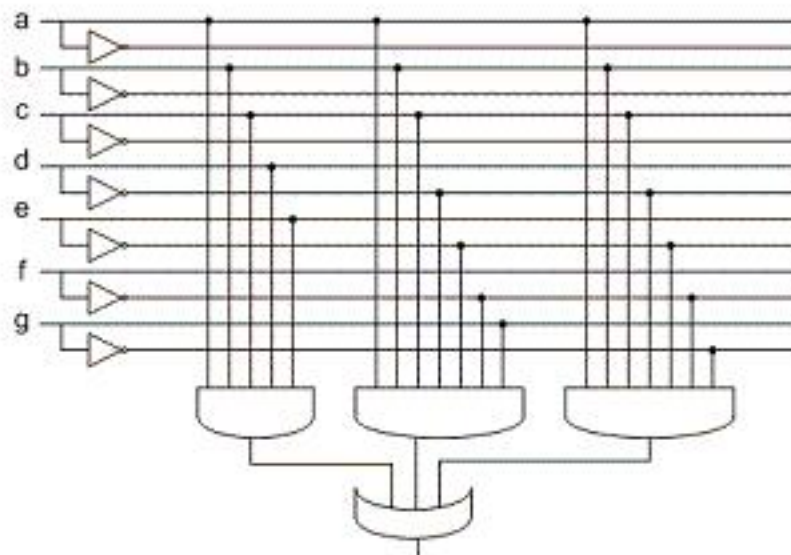
6.3

	ab			
	00	01	11	10
c	0	0	1	1
	1	1	1	1

$$F = a + c$$

6.15

$$F = abcde + abcd'efg + abcd'ef'g' // 2 \text{ gate delay, maximal 7 inputs}$$



$$F = abc(de + d'e'(fg + f'g')) // 5 \text{ gate delay, maximal 2 inputs}$$

