Amir Pirhosseinloo, 401443029, HW5

$p = a \oplus b$

a) clauses
a, b

b) Refer to the truth table below.

c) Empty cells means F.

	a	b	p	P_a	P_b
1	T	T	F	T	T
2	T	F	T	T	T
3	F	T	T	T	T
4	F	F	F	T	T

d) GACC
a: {1,2} * {3,4}
b: {1,3} * {2,4}

e) CACC
a: (1,3) U (2,4)
b: (1,2) U (3,4)

f) RACC
a: (1,3) U (2,4)
b: (1,2) U (3,4)

g) GICC
Null

h) RICC
Null

p = a ∨ b ∨ (c ∧ d)

a) clauses
a, b, c, d

b) Refer to the truth table below.

c) Empty cells are False.

	a	b	c	d	p	P_a	P_b	P_c	P_d
1	T	T	T	T	T				
2	T	T	T		T				
3	T	T		T	T				
4	T	T			T				
5	T		T	T	T				
6	T		T		T	T			
7	T			T	T	T			
8	T				T	T			
9		T	T	T	T				
10		T	T		T		T		
11		T		T	T		T		
12		T			T		T		
13			T	T	T			T	T
14			T			T	T		T
15				T		T	T	T	
16						T	T		

d) GACC
a: {6, 7, 8} * {14, 15, 16}
b: {10, 11, 12} * {14, 15, 16}
c: (13, 15)
d: (13, 14)

e) CACC
a: {6, 7, 8} * {14, 15, 16}
b: {10, 11, 12} * {14, 15, 16}
c: (13, 15)
d: (13, 14)

f) RACC
a: (6,14) U (7, 15) U (8, 16)
b: (10, 14) U (11, 15) * (12, 16)
c: (13, 15)
d: (13, 14)

g) GICC
a: Null for p = F; {1, 2, 3, 4, 5} * {9, 10, 11, 12, 13} for p = T
b: Null for p = F; {1, 2, 3, 4, 9} * {5, 6, 7, 8, 13} for p = T
c: (14, 16) for p = F; {1, 2, 5, 6, 9, 10} * {3, 4, 7, 8, 11, 12}for p = T
d: (15, 16) for p = F; {1, 3, 5, 7, 9, 11} * {2, 4, 6, 8, 10, 12} for p = T

h) RICC
a: Null for p = F; (1,9) U (2, 10) U (3,11) U (4,12) U (5,13) for p = T
b: Null for p = F; (1,5) U (2,6) U (3,7) U (4,8) U (9, 13) for p = T
c: (14, 16) for p = F; (1,3) U (2,4) U (5,7) U (6,8) U (9,11) U (10,12) U for p = T
d: (15, 16) for p = F; (1,2) U (3,4) U (5,6) U (7,8) U (9,10) U (11,12) U for p = T

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p = (a ∧ b) ∨ (b ∧ c) ∨ (a ∧ c)

a) clauses
a, b, c

b) Refer to the truth table below.

c) Empty cells mean False.

	a	b	c	p	P_a	P_b	P_c
1	T	T	T	T			
2	T	T		T	T	T	
3	T		T	T	T		T
4	T					T	T
5		T	T	T		T	T
6		T			T		T
7			T		T	T	
8							

d) GACC
a: {2,3} * {6,7}
b: {2,5} * {4,7}
c: {3,5} * {4,6}

e) CACC
Like GACC

f) RACC
a: (2,6) U (3,7)
b: (2,4) U (5,7)
c: (3,4) U (5,6)

g) GICC
a: (4,8) for p = F; (1,5) for p = T
b: (6,8) for p = F; (1,3) for p = T
c: (7,8) for p = F; (1,2) for p = T

h) RICC
same as above