***2.2***

***(e) (a + b + c')(a'b' + c) = aa'b' + ac + ba'b' + bc + c'a'b' + c'c = ac + bc +a'b'c'***

***(f) a'b'c + ab'c + abc + a'bc = b'c + bc = c***

***2.4***

***(d) (A' + C)(A' + C')(A + B + C'D) = (A' + CC')(A + B + C'D)***

***= A'(A + B + C'D) = AA' + A'B + A'C'D = A'(B + C'D)***

***(e)A'BD' + ABC'D' + ABCD' = BD'(A' + AC' + AC)***

***= BD'***

***2.9***

***(c) F′ = [z + z'(v'w + xy)]' = z'[z'(v'w + xy)]'***

***= z'[z'v'w + xyz']' = z'[(z'v'w)'(xyz')']***

***= z'[(z + v + w') +( x' + y' + z)]***

***= z'z + z'v + z'w' + z'x' + z'y' +z' z***

***= z'(v + w' + x' + y')***

***2.11***

***(b) F = ac + bc' = abc + ab'c + abc' + a'bc'***

***F(a, b, c) = (2, 5, 6, 7)***

***a b c F***

***0 0 0 0***

***0 0 1 0***

***0 1 0 1***

***0 1 1 0***

***1 0 0 0***

***1 0 1 1***

***1 1 0 1***

***1 1 1 1***

***2.14***

***(b) F = x′y′ + x′z + xy = (x + y)′ + (x + z′)′ + (x′ + y′)′***

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***2.22***

***(b) x' + z (x + y') (y + z') = x' + (xz + zy') (y + z') = x' + xyz***

***= x' + yz → SOP form***

***= (x' + y)(x' + z) → POS form***

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