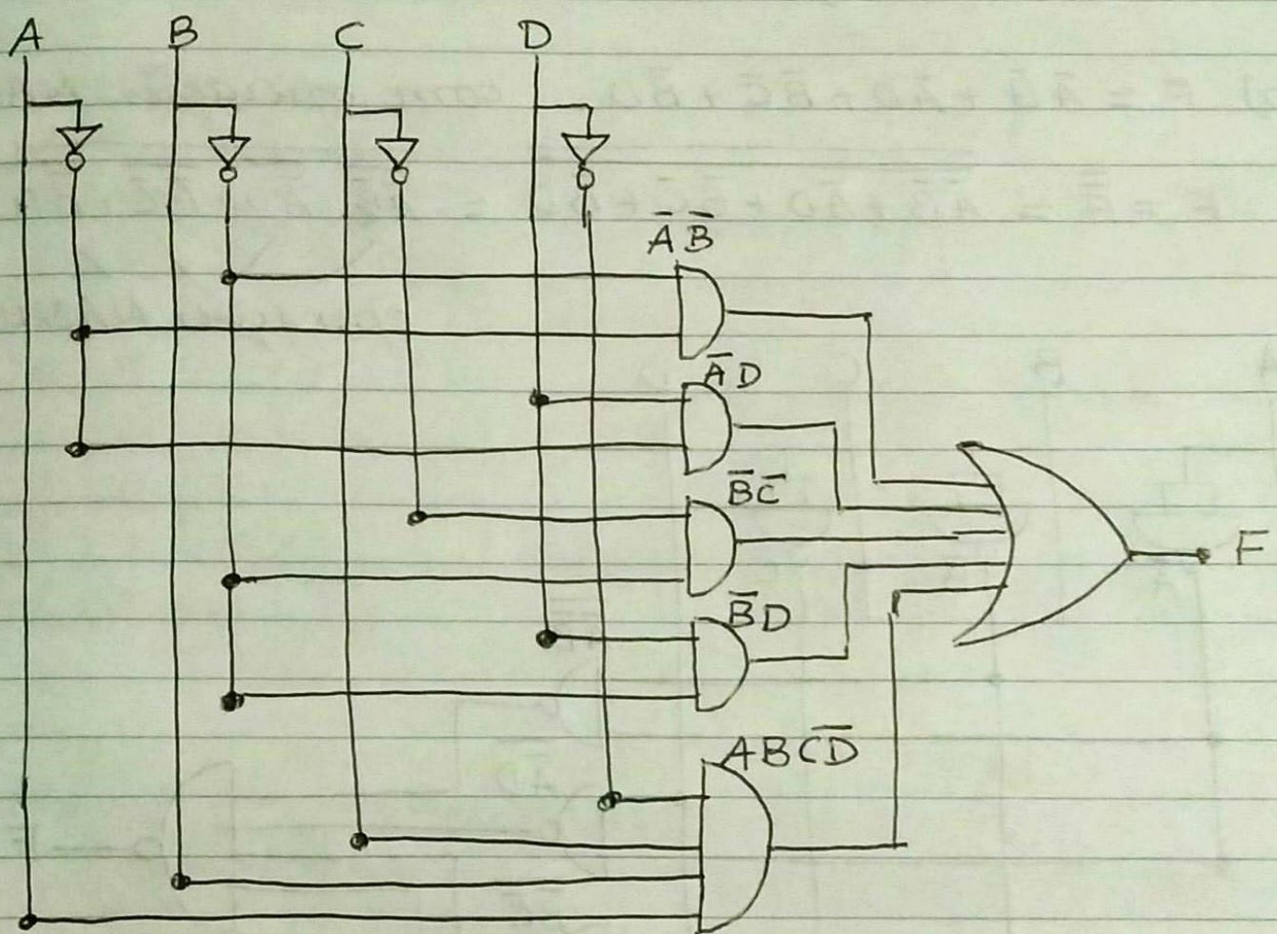
2A.

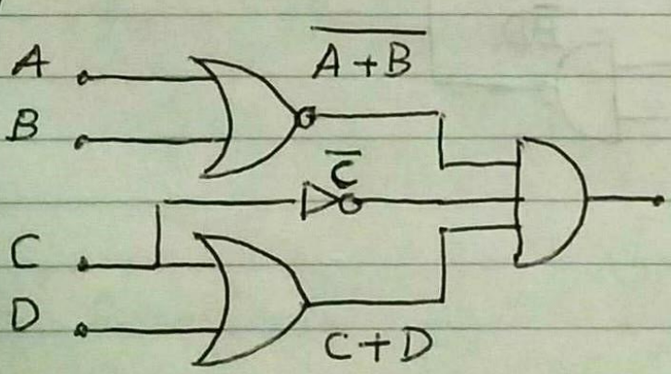
a) $Y = ABC + A\bar{B} + AB\bar{C} = AB(\underbrace{C+\bar{C}}_{1}) + A\bar{B}$

$= AB + A\bar{B} = A(\underbrace{B+\bar{B}}_{1}) = A$

b) $F = \bar{A}\bar{B} + \bar{A}D + \bar{B}\bar{C} + \bar{B}D + ABC\bar{D}$



c)



$Y = \overline{A+B} \cdot \bar{C} \cdot (C+D)$

$Y = \bar{A}\bar{B}\bar{C}(C+D) = \bar{A}\bar{B}\bar{C}\underbrace{C}_{0} + \bar{A}\bar{B}\bar{C}D = \bar{A}\bar{B}\bar{C}D$

(soma de produtos com 1 termo)