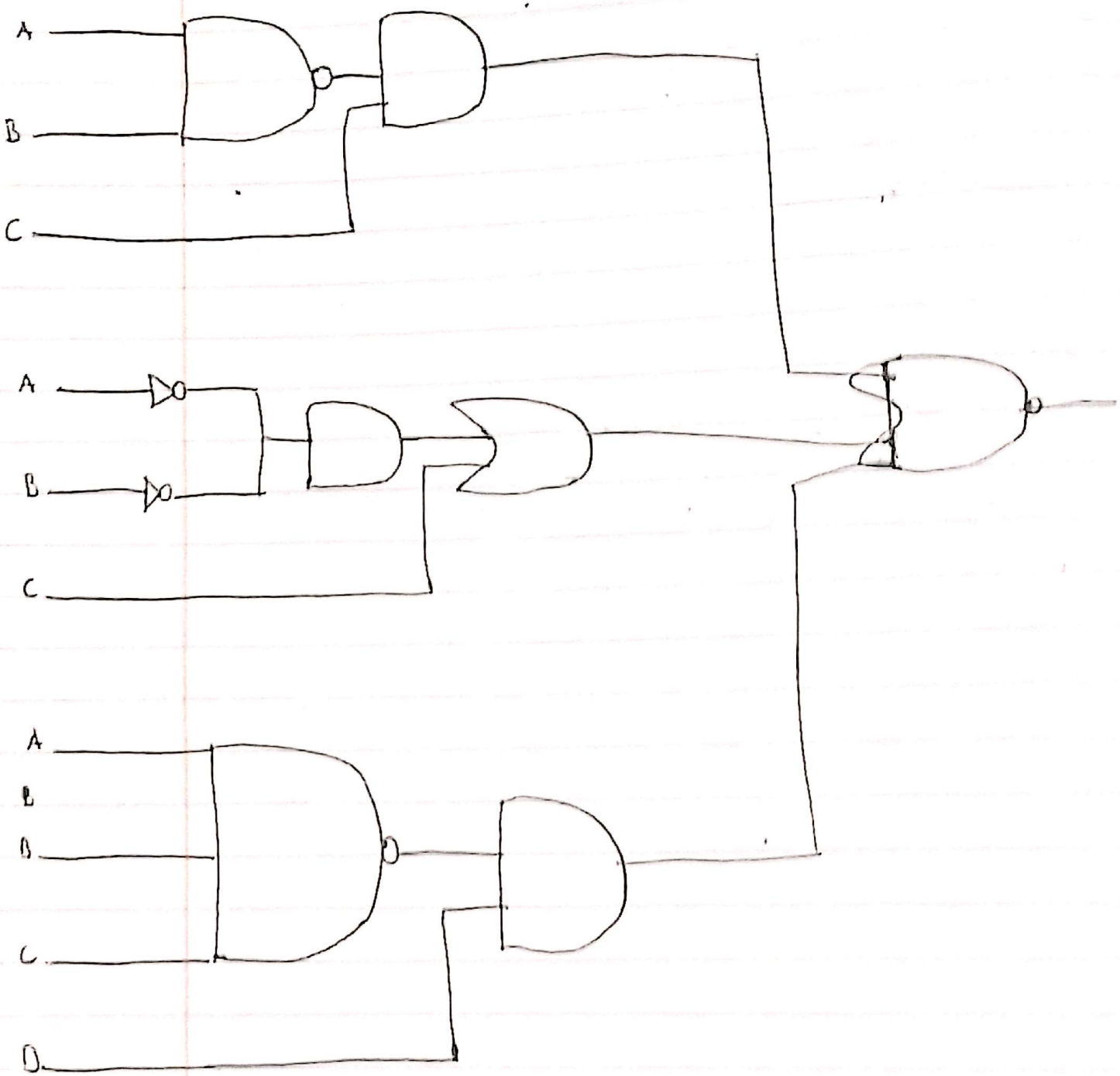
Assignment

1. 2.

2. $(\overline{A+B}) + C \rightarrow C + (C+D)$

5. a



6. $\bar{A} + AB = \bar{A} + B$

$\bar{A} + AB = (\bar{A} + A)(\bar{A} + B)$ → Distributive law

$\bar{A} + A = 1$ → Complement Law

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

$\bar{A} + AB = \bar{A} + B$

(iii) $A + \bar{A}B = A + B$

$A + \bar{A}B = (A + \bar{A})(A + B)$ → Distributive law

$A + \bar{A} = 1$ → Complement law

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

$A + \bar{A}B = A + B$ ✓✓

(iv) $A + A \cdot B = A$

$A(1 + B)$ Identity law: $1 + B = 1$

$A(1) = A$

$A + A \cdot B = A$

(v) $(A + B) \cdot (A + C) = A + B \cdot C$

$A \cdot A + A \cdot C + B \cdot A + B \cdot C$

$A(1 + C + B + 1) + BC$

$1 + A = 1$ → Identity law

$A + 1 + C + B = 1$

$A(1) + BC$

$= A + BC$