

CMOS Compound Gate

Moderate to Advanced Exercises

Set 1: Moderate Level

1. $Y = \overline{A \cdot B + C}$
2. $Y = \overline{AB + D \cdot E}$
3. $Y = \overline{(A + B)(C + D)}$
4. $Y = \overline{A \cdot \overline{B} + C \cdot D}$
5. $Y = \overline{(A + B)(C + \overline{D})}$
6. $Y = AB + BC + AC$
7. $Y = \overline{A + BC + D}$
8. $Y = \overline{AB + CD}$
9. $Y = \overline{A + BC} \cdot \overline{D}$
10. $Y = (A + \overline{B})(C + \overline{D})$

Set 2: Advanced Level

11. $Y = (\overline{A + BC} + D) \cdot \overline{E}$
12. $Y = \overline{A \cdot (B + \overline{C})} + D \cdot \overline{E}$
13. $Y = (A + \overline{B \cdot (C + D)}) \cdot \overline{E + F}$
14. $Y = \overline{(A + B)(C + D)} + E \cdot F$
15. $Y = \overline{(A + \overline{B})(\overline{C} + D)} + \overline{E}$
16. $Y = \overline{(AB + CD) \cdot (E + F)}$
17. $Y = \overline{A + \overline{B \cdot C}} \cdot (D + \overline{E})$
18. $Y = \overline{(A + B)(C + D) + EF}$
19. $Y = (A \cdot \overline{B + C}) \cdot (D + \overline{E \cdot F})$
20. $Y = \overline{(AB + \overline{C})(D + \overline{E + F})}$