Simplification and Implementation

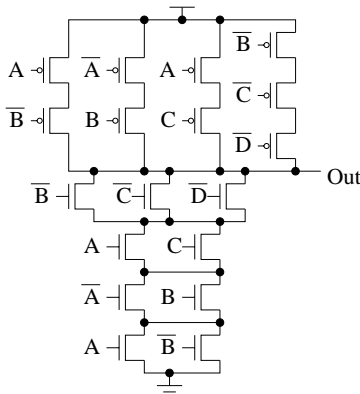**Part A**

prime implicant	essential?
$\overline{A}\,\overline{C}$	yes ☐ no ☒
$\overline{A}\,B$	yes ☒ no ☐
$A\,\overline{B}$	yes ☒ no ☐
$\overline{B}\,\overline{C}$	yes ☐ no ☒
$A\,C\,D$	yes ☐ no ☒
$B\,C\,D$	yes ☐ no ☒
	yes ☐ no ☐

$$F_{(A,B,C,D)}\,(SOP) = \overline{A}\,B + A\,\overline{B} + \overline{A}\,\overline{C} + B\,C\,D$$

Part B

Part C

$$F_{(A,B,C,D)}\,(POS) = (A + B + \overline{C})(\overline{A} + \overline{B} + C)(\overline{A} + \overline{B} + D)$$

Part D