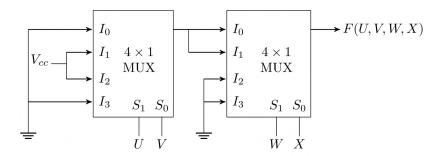
$\mathbf{Q.31}$ A four-variable Boolean function is realized using 4×1 multiplexers as shown in the figure.



The minimized expression for F(U, V, W, X) is

$$\begin{array}{l} {\rm (A)}\ (UV + \overline{U}\,\overline{V})\overline{W} \\ {\rm (C)}\ (U\overline{V} + \overline{U}V)\overline{W} \end{array}$$

(B)
$$(UV + \overline{U}\overline{V})(\overline{W}\overline{X} + \overline{W}X)$$

(C)
$$(U\overline{V} + \overline{U}V)\overline{W}$$

$$\begin{array}{l} \text{(B)} \ (UV + \overline{U} \, \overline{V}) (\overline{W} \, \overline{X} + \overline{W} X) \\ \text{(D)} \ (U\overline{V} + \overline{U} V) (\overline{W} \, \overline{X} + \overline{W} X) \end{array}$$