GATE

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1. Figure 1 A four-variable Boolean function is realized using $4X1$ multiplexers as shown in the figure.
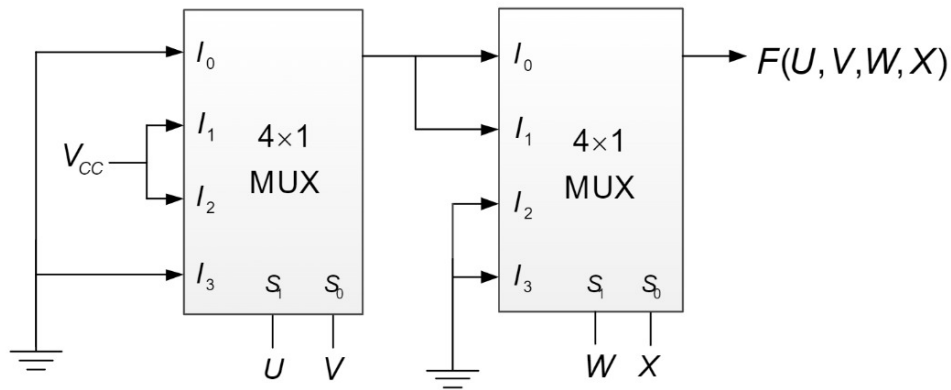
(GATE IN 2018)

Figure 1: circuit

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

(a) $\left(UV + \bar{U}\bar{V}\right)\bar{W}$

(b) $\left(UV + \bar{U}\bar{V}\right)\left(\bar{W}\bar{X} + \bar{W}X\right)$

(c) $\left(U\bar{V} + \bar{U}V\right)\bar{W}$

(d) $\left(U\bar{V} + \bar{U}V\right)\left(\bar{W}\bar{X} + \bar{W}X\right)$