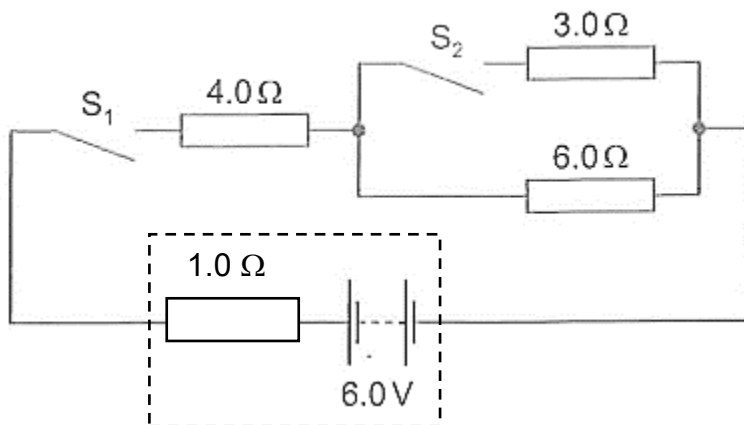A battery of e.m.f. 6.0 V and internal resistance 1.0 Ω is connected to a network of resistors and switches.

At time $t = 0$, switches S_1 and S_2 are closed.

At time $t = 2.0$ minutes, S_2 is opened.

At time $t = 4.5$ minutes, S_1 is opened.

How much charge passes through the cell during the 4.5 minutes before S_1 is opened?

A

100 C

B

130 C

C

180 C

D

210 C