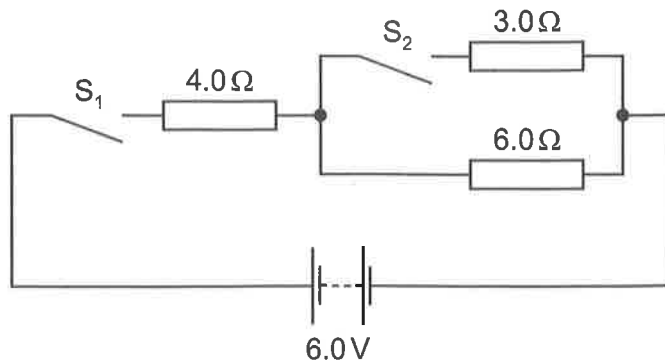


- 22** A battery of e.m.f. 6.0 V and negligible internal resistance is connected to a network of resistors and switches.



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

At time $t = 1.0$ minute, S_2 is opened.

At time $t = 3.0$ minutes, S_1 is opened.

How much charge passes through the cell during the 3.0 minutes before S_1 is opened?

- A** 100 C **B** 130 C **C** 150 C **D** 170 C

- 23** Two electrical components are connected in series with an ammeter in the circuit shown. The