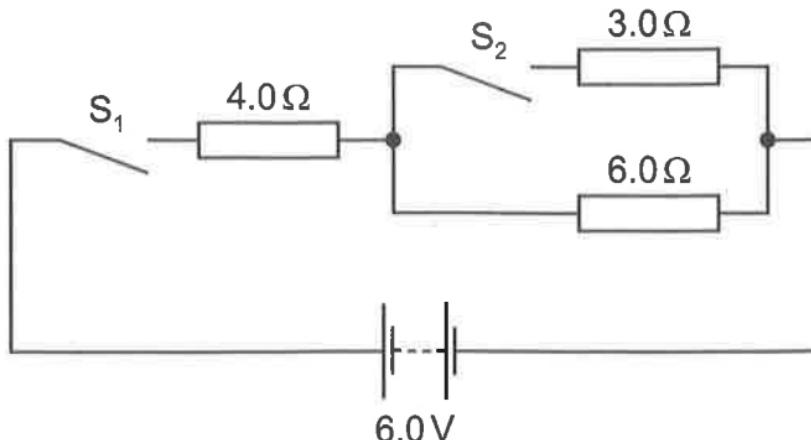


- 22 A battery of e.m.f. 6.0V and negligible internal resistance is connected to a network of resistors and switches.



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 100C      B 130C      C 150C      D 170C

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