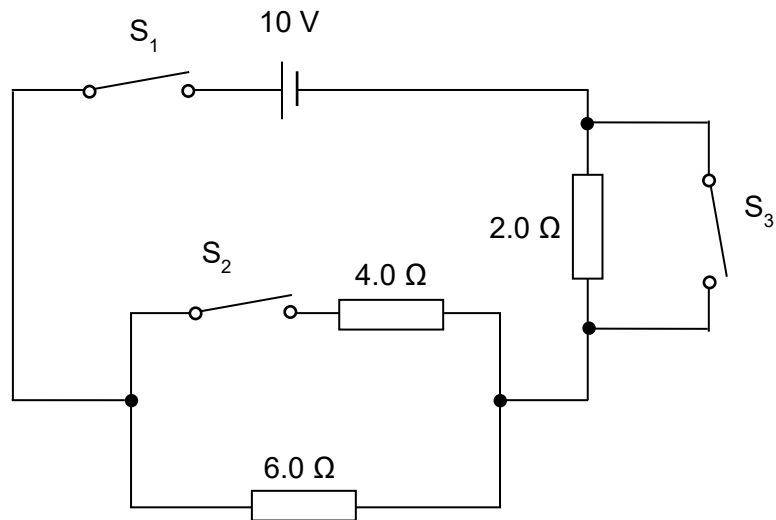


- 21** A battery of e.m.f. 10 V and negligible internal resistance is connected to a network of resistors and switches.



At time  $t = 0$ , switches  $S_1$ ,  $S_2$  and  $S_3$  are closed.

At time  $t = 1.0$  minute,  $S_2$  and  $S_3$  are opened.

At time  $t = 2.0$  minute,  $S_1$  is opened.

How much charge passes through the battery during the 2.0 minutes before  $S_1$  is opened?

**A** 211 C

**B** 325 C

**C** 350 C

**D** 540 C

