

PQ 3e

Q

# Q1

There is a current of 40 mA in a lamp filament for 16 s. Calculate the quantity of charge that passes any fixed point in the circuit in this time.

## Q2

A flash of lightning lasts for 1 ms. The charge transferred between the cloud and the ground in this time is 5 C. Calculate the mean current in this flash of lightning.

# Q3

The current in a circuit is  $2.5 \times 10^{-2}$  A. How long does it take for 500 C of charge to pass any given point in the circuit?

# Q4

A resistor of value  $180\ \Omega$  has a current of  $68.0\ \text{mA}$  flowing through it. What is the p.d. across it?

# Q5

What current flows through a  $4.7 \text{ k}\Omega$  when the p.d across it is  $98.4 \text{ V}$ ?

# Q6

A p.d. of 450 V is placed across a resistor of 33.0 k $\Omega$ . Calculate the current flowing through it.

# Q7

The power dissipated by a  $3.3 \text{ k}\Omega$  resistor is  $250 \text{ mW}$ . Find the p.d. across the resistor.

# Q8

A  $27 \Omega$  resistor has a current of  $0.573 \text{ A}$  flowing through it. Determine the power of the resistor.

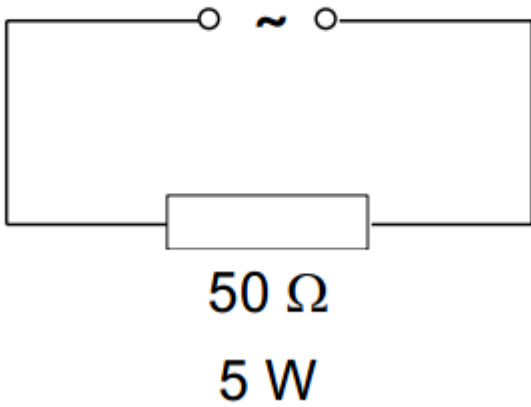
# Q9

A 60 W filament lamp is connected to the mains supply (230 V). What current flows in the filament?

# Q10

Calculate the p.d. across the  $50\ \Omega$  load resistor in each of the following circuits.

(a)



(b)

