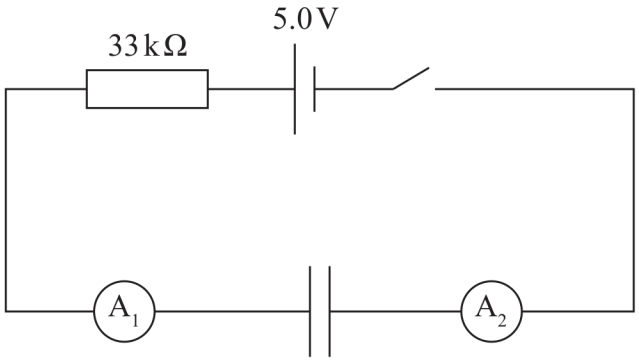
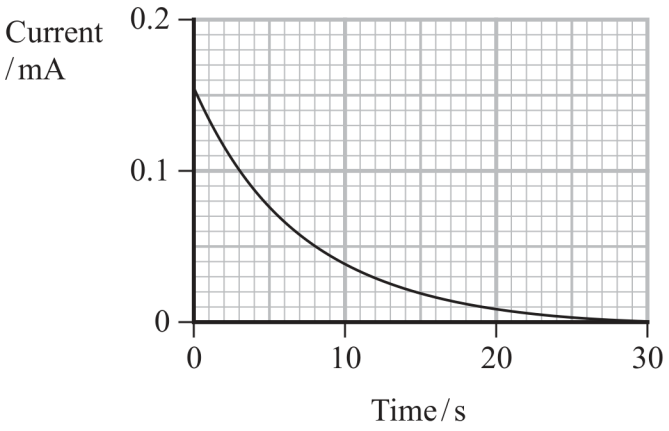
14 A student built the circuit shown. The capacitor was initially uncharged.



She closed the switch and plotted a graph of current on ammeter A_1 against time.



(a) Determine whether the initial value of current on the graph is consistent with the values stated on the circuit diagram.

(2)

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(b) Explain how the current on ammeter A_2 would vary over the same time interval.

(2)

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(c) Determine the capacitance of the capacitor.

(3)

Capacitance = ...

(d) Determine the charge stored on the capacitor after 30 s.

(2)

Charge stored on capacitor after 30 s = ...

(e) Determine the maximum energy stored by the capacitor.

(2)

Maximum energy = ...

(Total for Question 14 = 11 marks)