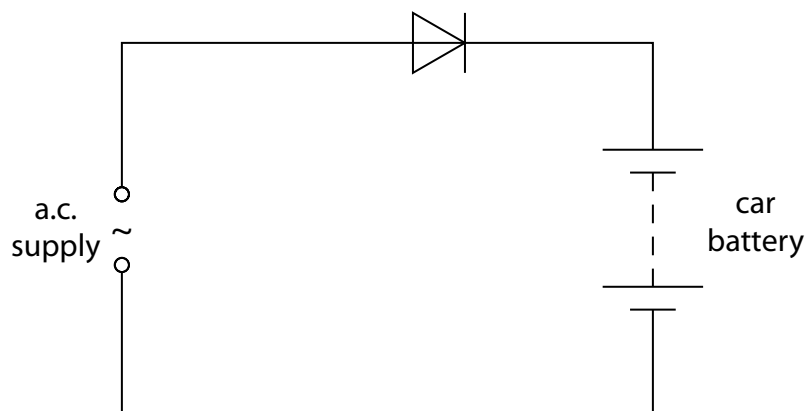


- 7 The circuit shows a car battery charging from an alternating current (a.c.) supply.



- (a) Sketch a graph to show what is meant by a.c.

(2)

- (b) State the reason why the circuit contains a diode.

(1)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

(c) The 12V car battery is connected to two identical filament lamps so that the voltage across each lamp is 6.0V.

(i) Draw the circuit diagram.

(2)

(ii) State the equation relating power, current and voltage.

(1)

(iii) The power of each lamp is 330 mW.

Calculate the current in a lamp.

(2)

current = A

(Total for Question 7 = 8 marks)