6 **(a)** Fig. 6.1 shows a circuit which includes an LDR (light-dependent resistor).

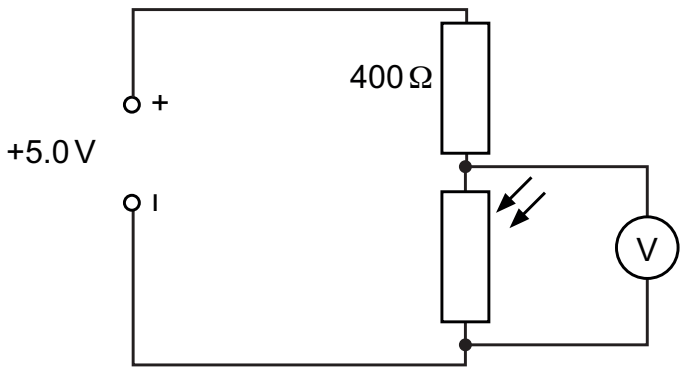

Fig. 6.1

The LDR is in a brightly lit room. The voltmeter reads 1.8 V.

(i) Calculate the current in the 400 Ω resistor.

current = ... [3]

(ii) The light level in the room changes from bright to dark.

State and explain the effect on the voltmeter reading.

statement .....

explanation .....

.....

.....

.....

[3]

(b) Fig. 6.2 shows two light-emitting diodes (LEDs) connected in parallel in a circuit. R is a red LED and G is a green LED.

The voltmeter across the LEDs shows a potential difference (p.d.) of 2.0 V.

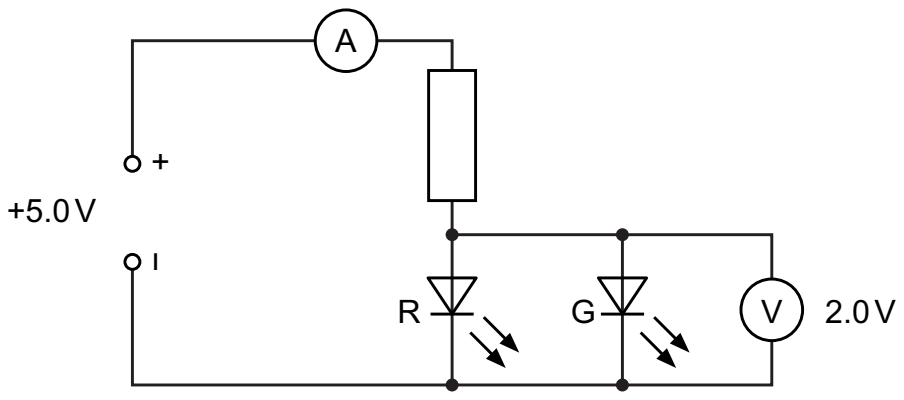

Fig. 6.2

(i) Fig. 6.3 shows a current-p.d. graph for the LEDs.

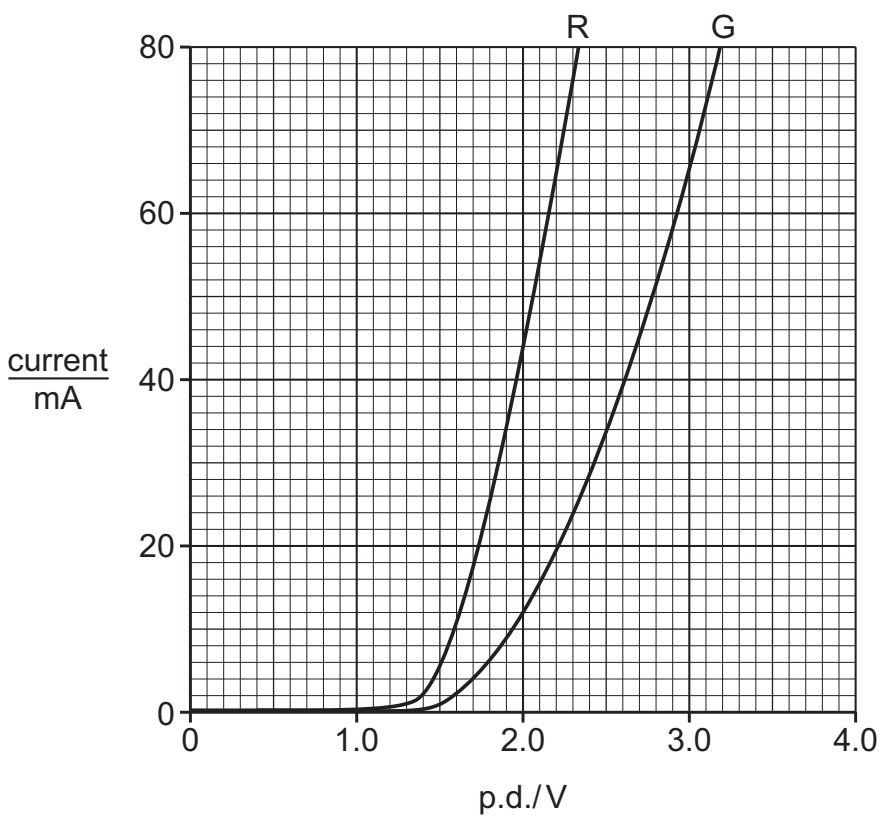

Fig. 6.3

Use Fig. 6.3 to determine the current in the ammeter.

current = ... [2]

(ii) The connections to the power supply are reversed. State the reading on the ammeter.

current = ... [1]

[Total: 9]