3 A 12 V cell of internal resistance 30 Ω, a light-dependent resistor (LDR) and a 600 Ω resistor are connected as shown in Fig. 3.1.

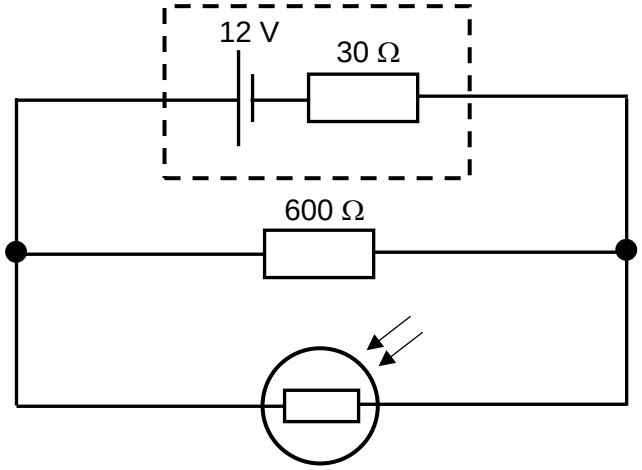

Fig. 3.1

(a) In conditions of low intensity light, the resistance of the LDR is 3000 Ω.

(i) Show that the current through the LDR is 3.8 mA.

[3]

(ii) Hence or otherwise, determine the power dissipated in the LDR.

power = …… W [1]

(b) The LDR is exposed to bright sunlight.

State and explain what would happen to the terminal potential difference.

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…… [3]

[Total: 7]