

## **A level Physics B**

**H557/01** Fundamentals of physics

### **Question Set 36**

1 (a)

Fig. 1.1 shows the voltage–current characteristic for an illuminated solar cell.

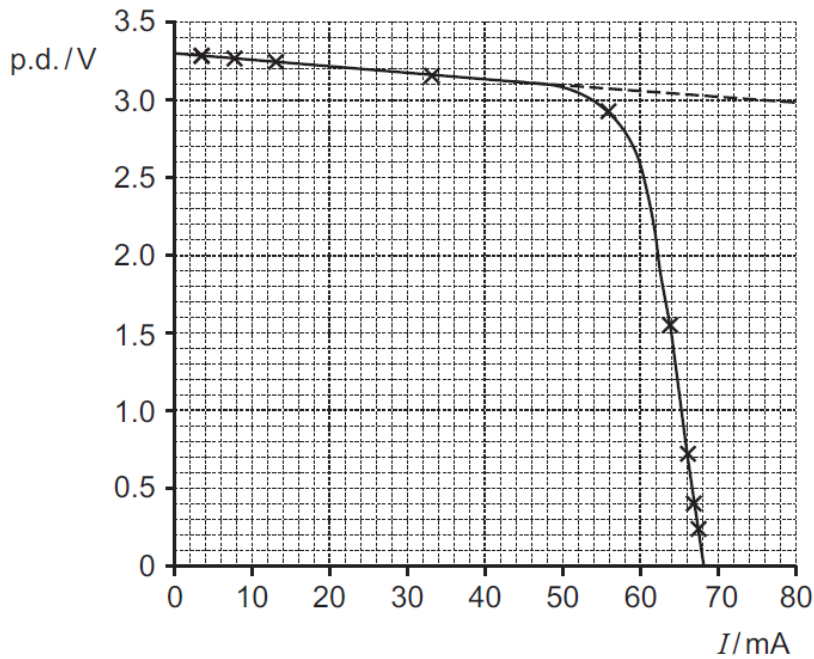


Fig. 1.1

- (i) Use the initial gradient of the graph to calculate the internal resistance of the cell under this illumination.

internal resistance = .....  $\Omega$

[1]

- (ii) Calculate the maximum number of electrons per second that the cell can produce.

electrons per second = .....  $s^{-1}$

[2]

- (iii) Suggest a reason for this maximum rate in the case of the solar cell.

[1]

(b)\*

Describe the experiment you would use to obtain the data to plot the graph in Fig. 1.1.

Include a circuit diagram with your method, give estimated values of circuit components, and explain any precautions you would take to ensure reliability.

[6]

**Total Marks for Question Set: 10**

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