Practice Question Set For A-Level
Subject : Physics
Paper-1 Topic: Electricity

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Name of the Student:_____
Max. Marks : 17 Marks **Time : 17 Minutes**

Mark Schemes

Q1.

(a) (i) pd across resistor = 12 – 4.5 = 7.5 V

C1

1

(ii) I = (answer to (a) (i))/67 (allow 12/7.5/4.5 for this mark)

C1

0.110/0.112 (A)

A1

2

(b) (i) *360 + 67 (= 427) seen*

C1

$V = 12 \times 360/(360 + 67)$

C1

10.1 V

A1

3

(ii) substitution $P = V^2/R$ allow 360 Ω/67 Ω;
10 V, 10.1 V, 1.9 V, 2 V

C1

$1.9^2/67$

C1

0.053

C1

W or J s^{-1}

A1

4

(c) $1/R = 1/570 + 1/360$

C1

220 [Ω]

C1

total R = 287 Ω

C1

42/41.7 mA 4.2×10^{-2}/4.17×10^{-2}

A1

4

(d) extra charge carriers released as temperature rises

B1

increased thermal agitation of atoms resists flow of charge carriers

B1

1st effect overwhelms 2nd

A1

3

[17]