

Name of the Student: \_\_\_\_\_

Max. Marks : 20 Marks

Time : 20 Minutes

Mark Schemes

**Q1.**

(a) C

*award mark if A and B identified as not filament lamp*

1

resistance increases

*negated by wrong statement e.g. current goes down*

1

as the lamp gets hot

*accept as current (through lamp) **or** voltage (across lamp) increases  
do **not** accept non-ohmic reason independent of choice of component*

1

(b) ammeter wire and battery only in series

*non standard symbols acceptable if correctly identified (labelled) for  
ammeter, voltmeter and battery*

1

voltmeter only in parallel with wire **or** battery

*all in series **or** ammeter in parallel neither of these two marks awarded*

1

all symbols correct

*ignore lines drawn through centres of symbols*

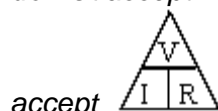
1

(c) (i) voltage = current  $\times$  resistance

*accept  $V = I \times R$*

*accept volts = amps  $\times$  ohms*

*do **not** accept  $V = C \times R$*



*if subsequent method correct*

1

(ii) 30

*accept correct substitution for 1 mark (9/0.3)*

2

ohms

- (iii) goes up  
*must be a comparison*  
*accept calculation if answer is larger than c (ii)*

1

[11]

**Q2.**

- (a) Mains socket – once only  
Shower cable can get wet  
Trailing cable to fire (not heater unless fire clearly identified)  
Use of fire  
Free running cable from ceiling  
Appliance on side of bath  
Use of ordinary light switch  
Free cable to sink light  
*any 3 each for 1 mark*

3

- (b) (i) 7, 4, 1, 80.5  
*Four right – 2*  
*Three right – 1*  
*All right in W – 1*

2

- (ii) Toaster

1

- (iii) 32p  
*gets 3 marks*

Else  $8 \times 4$   
*gets 2 marks*

Else unit cost = 8p  
*gets 1 mark*

3

[9]