

Name of the Student: _____

Max. Marks : 18 Marks

Time : 18 Minutes

Mark Schemes

Q1.

- (a) pin
made from brass because it is (hard and) a (good electrical) conductor
accept copper for brass
metal is insufficient
heat conductor on its own negates 1
- outer case
plastic/rubber because it is a (good electrical) insulator
heat insulator on its own negates 1
- (b) (i) live 1
- (ii) makes it hot/warm
melts is insufficient 1
- (iii) 8.7
accept an answer that rounds to 8.7
allow 1 mark for correct substitution ie $2000 = 230 \times I$
an answer of 0.0087 or 0.009 or 3.0(4) or 5.65 or 5.7 gains 1 mark 2
- (c) a (large) current goes from the live wire to the earth wire
accept metal case for live wire
accept a current goes from live to earth
do not accept electricity for current 1
- (which causes) the fuse to (overheat and) melt
accept blow for melt
break is insufficient
do not accept snap / blow up for melt 1
- (d) reduce chance of an electric shock
accept to reduce the risk of an accident
accept prevent electric shock
accept prevent electrocution

accept prevent or reduce the risk of an (electrical) fire
 accept an electric shock can kill you
 accept it can kill you
 accept so you can use it safely

1

[9]

Q2.

(a) filament bulb

1

(b) (i) 6 V

1

(ii) 3 Ω or their $\frac{(i)}{2}$ correctly calculated
 allow 1 mark for correct substitution ie
 $6 = 2 \times R$
 or their $(i) = 2 \times R$

2

(iii) 1 A

1

(iv) 6 Ω or their (i) / their (iii) correctly calculated

1

(v)

Decrease	Stay the same	Increase
	✓	
✓		
✓		

1

1

1

[9]