

Name of the Student: _____

Max. Marks : 19 Marks

Time : 19 Minutes

Mark Schemes

Q1.

- | | | | |
|-----|-------|--|---|
| (a) | (i) | 150 | 1 |
| | (ii) | transferred to the surroundings by heating
<i>reference to sound negates mark</i> | 1 |
| | (iii) | 0.75
<i>450 / 600 gains 1 mark</i>
<i>accept 75% for 2 marks</i>
<i>maximum of 1 mark awarded if a unit is given</i> | 2 |
| | (iv) | 20 (s)
<i>correct answer with or without working gains 2 marks</i>
<i>correct substitution of 600 / 30 gains 1 mark</i> | 2 |
| (b) | (i) | to avoid bias | 1 |
| | (ii) | use less power and last longer

1 LED costs £16, 40 filament bulbs cost £80

or

filament costs (5 times) more in energy consumption | 1 |
| | (iii) | any one from: <ul style="list-style-type: none"> • availability of bulbs • colour output • temperature of bulb surface | 1 |

[10]**Q2.**

- | | | | |
|-----|-----|------|---|
| (a) | (i) | live | 1 |
|-----|-----|------|---|

(ii)	react faster	1
(iii)	live and neutral	1
(b)	(i) ammeter	1
	to measure current <i>accept to measure amps</i>	1
	plus any one from:	
	<ul style="list-style-type: none"> • <u>variable resistor</u> (1) to vary current (1) <i>accept variable power supply</i> <i>accept change or control</i> • <i>switch</i> (1) to stop apparatus getting hot / protect battery or <i>to reset equipment</i> (1) • fuse (1) to break circuit if current is too big (1) 	2
(ii)	any two from:	
	<ul style="list-style-type: none"> • use smaller mass(es) • move mass closer to pivot • reduce gap between coil and rocker • more turns (on coil)<i>coil / loop</i> • <u>iron</u> core in coil <i>accept use smaller weight(s)</i> 	2

[9]