

Name of the Student: _____

Max. Marks : 24 Marks

Time : 24 Minutes

Mark Schemes

Q1.

- (a) switch

allow answer circled in box

1

- (b) 24

1

- (c) equal to 0.25 A

1

- (d) 4

1

[4]

Q2.

- (a) repel

1

opposite

1

attract

1

correct order only

- (b) refuelling an aircraft

reason cannot score if refuelling aircraft is not chosen

1

a spark may cause an explosion / fire / ignite the fuel

accept the static for a spark

accept named fuel

there must be a consequence of having a spark

*do **not** accept answers in terms of people getting a shock or electrocuted*

1

[5]

Q3.

- (a) a light-dependent resistor

1

- (b) any **three** from:
- resistance starts at 500 (kilohms)
 - (resistance) falls rapidly as intensity increases from 0
accept resistance falls
accept brightness for intensity
 - (resistance) halves between 10 and 20 lux
 - (resistance) falls slightly between 20 and 50 lux
or
 - (resistance) almost constant / levels out between 20 and 50 lux
 - at 50 lux, resistance = 10 (kilohms)
for full credit the word resistance must be used correctly at least once
an answer resistance falls as intensity increases gains 2 marks - this may be combined with one of the bullet point marks for full credit
- 3
- (c) (i) decrease
- 1
- (ii) resistance increases
this can score without (c)(i)
- 1
- (d) A circuit to switch on security lighting when it gets dark.
- 1

[7]

Q4.

- (a) (i) 2(.0)
accept 2000 W or 2000 watt(s)
accept answer given in table
*do **not** accept 2000*
- 1
- (ii) 4.5
allow 1 mark for correct substitution
ie 1.5×3
allow 1 mark for the answers 1.5 or 6(.0)
- 2
- (iii) 54
or
their (a)(ii) $\times 12$ correctly calculated
allow 1 mark for correct substitution
ie 4.5×12
or
their (a)(ii) $\times 12$
allow 1 mark if correct answer is given in pounds eg £54
- 2
- (b) (i) 6 pm
- 1

temperature starts to rise faster

only scores if 6 pm given

or

graph (line) is steeper / steepest

it refers to graph gradient or temperature

accept answers in terms of relative temperature rise

eg 5 to 6 pm 2 °C rise, 6 to 7 pm 6 °C rise

accept temperature rises sharply / rapidly / quickly

*do **not** accept temperature starts to rise*

1

(ii) middle box ticked

1

[8]