

Name of the Student: _____

Max. Marks : 17 Marks

Time :17 Minutes

Mark Schemes

Q1.

- (a) use a tape measure

allow use a metre rule

allow use a laser measure

1

one person holding the top and another person holding the bottom

or

use a set square to ensure tape measure is vertical

allow use a plumb-line to ensure tape measure is vertical

or

take repeat readings and calculate a mean

1

- (b) $E_p = 45 \times 9.8 \times 2.0$

an answer of 880 (J) or 882 (J) scores 2 marks

1

$$E_p = 880 \text{ (J)}$$

1

- (c) any **3** from:

- change in vertical height
- mass / weight
- speed / velocity
- air resistance or drag

allow body position

allow wind

- friction (between zip line and pulley)
- gradient / angle (of the zip wire)
- length of zip wire

ignore gravitational field strength

3

[7]

Q2.

- (a) carbon dioxide released

*greenhouse gases is insufficient carbon emissions is
insufficient allow CO₂*

1

causing global warming

allow climate change

allow named consequence of global warming

allow greenhouse effect

air pollution is insufficient

OR

particulates released (1)

causing global dimming (1)

OR

sulfur dioxide released (1)

allow SO₂

causing acid rain (1)

1

(b) any **2** from:

*do **not** accept solar*

- wind
- tidal
- wave
- hydroelectric

allow pumped storage

hydro is insufficient

- geothermal
- biofuel

allow biomass or named biofuel, eg wood

2

(c)

*an answer of 22 (%) scores **2** marks*

100 – 78

*allow **1** mark for calculating percentage of named resources (78%)*

1

22 (%)

1

(d)

*an answer of 12 500 (MW) scores **2** marks*

maximum demand = 37 500 (MW)

and

minimum demand = 25 000 (MW)

1

difference in demand = 12 500 (MW)

1

(e) solar panels generate electricity from light

solar panels make energy is insufficient

1

power output would increase throughout the morning

or

power output would increase (between 06:00 and 09:00)

or
(between 06:00 and 09:00) the Sun is rising / shining

1

[10]