

Practice Question Set For GCSE
Subject : Physics
Paper-1 Topic: Energy (Low Demand)

Name of the Student: _____

Max. Marks : 19 Marks

Time : 19 Minutes

Mark Schemes

Q1.

(a) light

correct order only

1

electrical

1

(b) 0.2 or 1/5

accept 20% for both marks

allow 1 mark for correct substitution ie
$$\frac{35\,000}{175\,000}$$

answers of 0.2% or 20 gain 1 mark only

2

(c) any **one** from:

- produces no (pollutant) gases

or

no greenhouse gases

accept named gas

accept no air pollution

*do **not** accept no pollution*

accept less global warming

accept harmful for pollutant

accept produces no carbon

*do **not** accept environmentally friendly*

- produces no / less noise

- less demand for fuels

accept any other sensible environmental advantage

1

[5]

Q2.

(a) (i) correct data point identified (4, 0.96)

1

(ii) a decrease in

1

- (b) (i) no / less atmospheric pollution
accept specific examples eg no CO₂ / greenhouse gases produced
accept no harmful gases / fumes
accept reduced pollution from transportation (of coal)
accept does not contribute to global warming
it / they refers to solar cells
*do **not** accept no / less pollution*
does not harm the environment is insufficient
it is a renewable energy source is insufficient 1
- (ii) 8

$$\frac{7600}{950}$$
allow 1 mark for showing correct method ie $\frac{7600}{950}$ provided that no subsequent step is shown 2
- (iii) increase 1
- (iv) **these marks can score even if (b)(iii) is wrong**
 less / no electricity generated
accept energy for electricity
accept reduced power / voltage output 1
- (because) lower light intensity (hitting solar panel / cell)
or
 so decreases money paid / gained (from selling electricity)
allow less light / sun (hitting solar panel / cell) 1

[8]

Q3.

- (a) (i) any **one** from:
- produces no (air / atmospheric) pollution
accept named pollutant eg CO₂
accept no harmful gases
accept produces no emissions
accept does not add to global warming
environmentally friendly is insufficient
 - energy (source) is free
accept no fuel costs
accept the wind / it is free 1
- (ii) any **one** from:
- waves
 - tides

- falling water
 accept hydroelectric
 do **not** accept water (flow)
- solar
 accept Sun / sunlight
 accept solar panels / cells
- geothermal
- biofuel / biomass
 accept a named biofuel

1

- (b) (i) 3000 (kilowatts)
 accept 3 megawatts / MW
 accept 3 000 000 watts / W

1

- (ii) (average) wind speed below 6 m/s
 answers giving a wind speed greater than 3 but less than 6 m/s gain both marks
 allow 1 mark for calculating the output as 500 kW (maximum)
 and
 allow 1 mark for wind speed too low or wind not strong enough
 do **not** accept wind above 25 m/s
 do **not** accept the turbines are frozen

2

- (iii) A small amount of nuclear fuel generates a large amount of electricity.
 both required

Nuclear power stations do not depend on the weather to generate electricity.

1

[6]