Practice Question Set For GCSE
Subject : Physics
Paper-1 Topic: Particle Model Of Matter (Low Demand)

Name of the Student:_____
Max. Marks : 25 Marks **Time : 25 Minutes**

Mark Schemes

Q1.

(a) 300 (W/m^2)

1

(b) (cities closer to the equator) receive a greater solar intensity

allow (cities closer to the equator) receive more radiation/energy

ignore they get more sunshine

ignore they are hotter

1

(c) carbon dioxide

1

(d) 0.61 × 1100

1

671 (W)

allow 670 (W)

1

(e) larger heating panels have a greater input power

allow larger heating panels have a greater input energy (per second)

1

(f) the energy required to increase the temperature of 1kg of water by 1 °C

1

(g) 8 400 000 = 80 × 4200 × Δθ

1

$\Delta\theta = \frac{8400000}{80 \times 4200}$

1

Δθ = 25 (°C)

1

(h) thermal insulation decreases the rate of energy transfer

1

(i) B

1

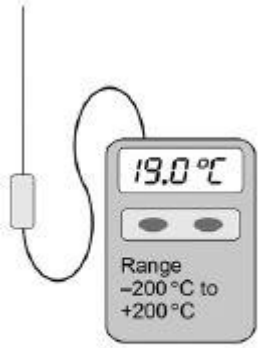
[12]

Q2.

(a) at random speeds in random directions

1

(b) 3rd thermometer ticked



1

(c) to prevent (frost/cold) burns

allow to prevent frostbite

or

to prevent injury from the cold nitrogen

1

(d) decreased

1

decreased

1

(e) $860 = 0.00320 \times c \times 215$

1

$$c = \frac{860}{0.00320 \times 215}$$

1

c = 1250 (J/kg°C)

1

(f) temperature stays the same

1

(g) a change of state from liquid to gas

1

(h) $1440 = 0.0072 \times L$

1

$$L = \frac{1440}{0.0072}$$

1

L = 200 000 (J/kg)

1

[13]