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

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

Mark Schemes

Q1.

(a) $\Delta E = 4.0 \times 420 \times 50$

1

$\Delta E = 84\,000$ (J)

1

(b) the total kinetic energy and potential energy of the steel particles

1

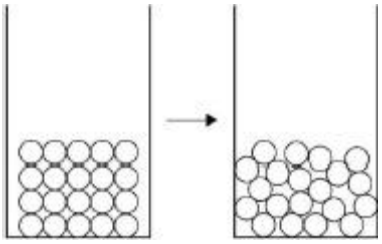
(c) the particles are in fixed positions

1

(d) stays the same

1

(e)



1

(f) (the space between the particles) increases
allow the particles move further apart

1

(g) physical

1

(h) $\text{mass per kg} = \frac{18}{4.0}$

1

mass per kg = 4.5 g

1

medium carbon
dependent on MP2

OR

mass in 4.0 kg of medium carbon steel = 4.5 × 4.0 (1)

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allow mass in 4.0 kg of low carbon steel = 8 (g)
allow mass in 4.0 kg of high carbon steel = 28 (g)

mass in 4.0 kg of medium carbon steel = 18 g (1)
dependent on MP1

medium carbon (1)
dependent on MP2

1

(i) $280\,000 = 4.0 \times L$

1

$$L = \frac{280\,000}{4.0}$$

1

$L = 70\,000$ (J/kg)

1

[14]

Q2.

(a) the same distance as the lift

1

(b) it decreases

1

(c) $E = 1300 \times 9.8 \times 4.0$

1

$E = 50960$ (J)
allow 51000 (J)

1

(d) kinetic

1

internal

1

this order only

(e) the distance moved by the lift

1

the weight of the people in the lift

1

(f) $E_e = 0.5 \times 880\,000 \times 0.015^2$

1

$E_e = 99$ (J)

1

(g) less energy is transferred

1

[11]

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