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

Name of the Student:_____
Max. Marks : 23 Marks **Time : 23 Minutes**

Mark Schemes

Q1.

(a) decreases

1

(b) increases

1

(c) $E_p = 2.5 \times 9.8 \times 3.4$

1

$E_p = 83.3$ (J)
allow 83 (J)

1

(d) $E_k = 0.5 \times 2.5 \times 4.8^2$

1

$E_k = 28.8$ (J)
allow 29 (J)

1

(e) some energy is transferred to the surroundings

1

(f) speed will increase

1

(because work done against) friction decreases

1

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Q2.

(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

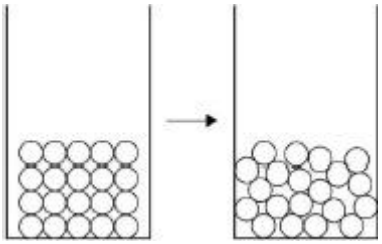
(c) the particles are in fixed positions

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)

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 × *L*

1

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

1

L = 70 000 (J/kg)

1

[14]