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

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Name of the Student:_____
Max. Marks : 27 Marks **Time : 27 Minutes**

Mark Schemes

Q1.

(a) they move in random directions

1

they move with a range of different speeds

1

(b) the (mean) speed of the particles would increase

allow kinetic energy increases

1

(c) (if the temperature increases) the pressure increases

allow an explanation in terms of large pressure difference

1

so it could explode

1

(d) p = 0.1 (MPa)

1

(e) $p = 2.25 \times \left(\frac{25}{100}\right)$

allow any correct method of determining 25% of 2.25
allow use of 2.2−2.3

1

p = 0.56

allow 0.55−0.575

1

t = 27 (minutes)

allow 26−28 minutes
allow correct value of t using their calculated value of p

1

*an answer of 27 scores **3** marks*

(f) (the volume of the air) increases

1

[10]

Q2.

(a) 80

1

E = 5.0 × 4200 × 80

1

E = 1 700 000 (J)

an answer of 1 700 000 (J) or
*1 680 000 (J) scores **3** marks*
allow 1 680 000

1

(b) in part **A** the increase in internal energy raises the temperature of the water

1

in part **B** the increase in internal energy changes the state

1

without changing the temperature

1

(c) the heater would continue to transfer energy which would not be transferred to the water

1

so would raise the temperature of the device

1

causing it to be damaged

1

(d) brown

blue

green and yellow stripes

*allow **1** mark for 2 correct*

2

(e) it stops the casing of the appliance becoming live

1

(f) $P = I^2R$

$I = \sqrt{(P/R)}$

1

P = 2 500 (W)

1

$I = \sqrt{(2\ 500 / 17)}$

1

I = 12.1267812

1

I = 12 (A)

*an answer of 12 (A) scores **5** marks*

1

[17]