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

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

Mark Schemes

Q1.

(a) they changed direction

allow

deflected/reflected/repelled

1

(b)

an answer of 0.000 03 (nm) or 3.0 × 10^{-5} (nm) scores 2 marks

diameter = $\frac{0.18}{6000}$

1

= 0.000 030 (nm)

allow 3.0 × 10^{-5} (nm)

1

(c) A

1

(d) 1100 (°C)

1

(e) 8 (minutes)

allow 12 (minutes)

1

(f) the rate of change of temperature of the gold

1

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Q2.

(a) gamma

1

(b) alpha

1

(c) gamma

1

(d)

isotope	**number of neutrons**	**number of**

		protons
uranium-238	146	**92**
thorium-234	**144**	90

1

1

(e) $\Delta\theta = 80\ °C$

1

$E = 150 \times 4200 \times 80$

1

$E = 50\ 400\ 000$ (J)

allow 50 000 000 (J)

1

*allow **max 2** marks for correct calculation using incorrect value of $\Delta\theta$*

*allow **1** mark for correct calculation using $\theta = 20$ **or** $\theta = 100$*

*an answer of 50 400 000 scores **3** marks*

[8]

Q3.

(a) ice
water
steam

*allow **1** mark for 1 or 2 correct answers*

2

(b) 1 kg of steam

1

(c) steam

1

(d) $\rho = 11\ 200 / 12.0$

1

$\rho = 933$ (kg/m^3)

*an answer of 933 (kg/m^3) scores **2** marks*

1

(e) the internal energy of the iceberg increases

allow there is a temperature difference between ice and water / air

1

because

therefore

energy is transferred from the sea/water to the ice(berg)

1

[8]