Practice Question Set For GCSE
Subject : Physics
Paper-2 Topic: GCSE Triple Science_Waves (SDQ)

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Name of the Student:_____
Max. Marks : 22 Marks **Time : 22 Minutes**

Mark Schemes

Q1.

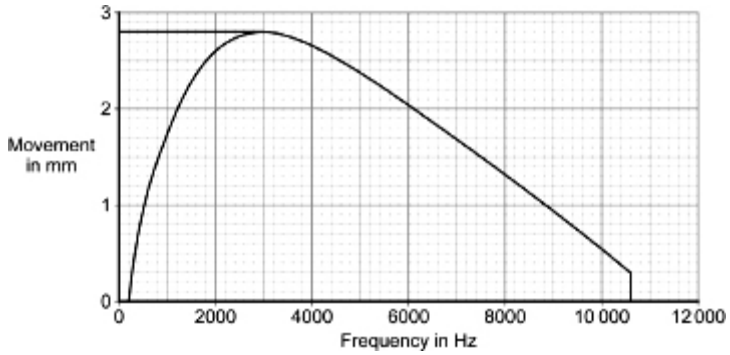
(a) 10 600 (Hz)

accept 10.6 kHz

1

(b) 3000 (Hz)

*allow **1** mark for a line drawn to show greatest movement*
(allow only if frequency is between 2800 and 3200)
accept other indication of correctly using the graph



2

(c) (No)

no marks for just the ticked box
reasons can score even if yes is ticked

(human hearing) range is 20 – 20 000 (Hz)

accept (most) people hear up to 20 000 (Hz) / 20 kHz

1

any **one** from:

- range on graph is within this range
- range on graph starts after 20 Hz
- range on graph is from to 200 – 10 600 (Hz)
- range on graph finishes before 20 000 Hz

1

(d) reliability

this answer only

1

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(e) only 1 variable affects dependent variable / size of movement

accept 'results' for 'size of movement'

or

there is only one independent variable

fair test is insufficient

*do **not** accept to control the experiment*

or

to be able to compare (effect of different frequencies)

1

[7]

Q2.

(a) (i) radiation

ignore thermal / infrared

1

(ii) black is a better / good absorber (of heat / radiation)

ignore reference to black being a good emitter

black absorbs heat is insufficient

*do **not** accept black attracts / absorbs the Sun*

*do **not** accept black attracts heat*

1

(so) temperature rises faster

must be an indication of heating up quicker

or

white is a worse / poor absorber (of heat / radiation) (1)

accept white is a better / good reflector (of heat / radiation)

(so if white faces) temperature would rise slower (1)

ignore any reference to light

1

(b) (i) 1.2 (hours) **or** 1 hour 12 minutes

no tolerance

1

(ii) increases (rapidly at first then increases at a slower rate)

*do **not** accept increases at a steady rate*

1

(c) (i) any **two** from:

- (fill with) same mass / volume / amount of water
- same level of (sun)light / sunshine

  accept same heat / light source

  accept same place
- outside for the same (length of) time
- outside at same time (of day / year)
- initial water temperature
- the side of the bag facing the Sun

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*do **not** accept any factors to do with the construction of plastic bags eg thickness*

2

(ii) curved line drawn above given line

both lines must start from the same point

ignore if continues beyond one hour or levels off after 1 hour

*do **not** accept a straight line*

1

[8]

Q3.

(a) microphone

1

(c) (i) vertical line from any maxima or minima to axis

*do **not** penalise minor errors but*

*do **not** allow unless intention is clear*

1

(ii) loudness / volume / intensity / energy

*do **not** accept noise*

1

(c) 17

this answer only

1

(d) the greater the distance, the smaller the amplitude

accept volume / intensity / energy / loudness for amplitude

or

there is a (strong) negative correlation between distance and amplitude

or

there is an inverse square relationship between distance and amplitude

*do **not** accept distance and amplitude are inversely proportional*

1

(e) 20 Hz

either order

1

20,000 Hz

accept 20 kHz provided unit has been clearly changed

1

[7]

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