Practice Question Set For GCSE
Subject : Physics
Paper-2 Topic: Waves (High Demand Questions)

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Name of the Student:_____
Max. Marks : 21 Marks **Time : 21 Minutes**

Mark Schemes

Q1.

(a) changes the sound wave(s)

to a varying **or** changing (electric) potential difference **or** p.d. **or** voltage **or** current **or** to an irregular alternating current or a.c. **or** transfers sound energy to electrical energy (1) mark is vibrations **or** pulses **or** of sound **or** in air become electrical waves

*do not credit just 'to electricity' **or** 'to a.c'*

2

(b) (i) decrease **or** reduce the amplitude

accept less amplitude nothing else added

1

(ii) increase the frequency **or** decrease wavelength

accept higher frequency nothing else added

1

[4]

Q2.

(a) (i) more turns **or** waves per second

*accept spinning **or** turning **or** faster*

1

(ii) less time spent cutting field lines

*accept shorter time in field **or** when the frequency increases (the wavelength decreases)*

1

(iii) more energy given

accept more KE put in
accept a higher voltage produced
do not credit more power

1

(b) more coils

1

more powerful magnets

accept put in better bearings
*do not credit reduce friction **or** add soft iron core*

1

[5]

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Q3.

(i) (incident) ray along the normal

or *(incident) ray at 90° (to the surface)*

1

(ii) (A) total internal reflection

all three words required do not credit total internal refraction

1

(B) **EITHER**

angle of incidence is greater than the critical angle

or *angle of incidence is greater than 42°*

2

OR

angle of incidence is 45°

1

[4]

Q4.

(i) (wave) speed = frequency × wavelength

or *any correctly transposed version*

accept $v = f \times \lambda$

or *transposed version*

accept $m/s = 1 / s \times m$

or *transposed version*



or

but only if subsequently used correctly

1

(i) 325

1

metres per second

or *m / s* ***or*** *0.325 km/s for 2 marks*

1

[3]

Q5.

- Q is louder
- Q is higher (pitch/note but not frequency)

  [if loudness and pitch both mentioned but direction wrong / absent credit 1 mark]
- louder because bigger amplitude/height
- higher pitch because higher frequency/shorter wavelength/waves closer together
- factor of 2 mentioned w.r.t either

  (NB converse answer for P)

  each • for 1 mark

[5]

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