Practice Question Set For GCSE
Subject : Physics
Paper-1 Topic : Waves

Name of the Student:_____
Max. Marks : 16 Marks **Time : 16 Minutes**

Mark Schemes

Q1.

Question Number	Answer	Additional guidance	Mark
(i)	recall speed = $\frac{\text{distance}}{\text{time}}$	accept any correct rearrangement or use of s, d and t may use v for speed and x for distance ignore use of triangles	**(1)** AO 1 1

Question Number	Answer	Additional guidance	Mark
(ii)	substitution (1) (speed) = $\frac{220}{0.7(0)}$ evaluation (1) 310 (m/s)	allow ecf from part (i) for this mark only allow any numbers that round to 310 e.g. 314 award full marks for the correct answer without working	**(2)** AO 2 1

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Q2.

	Answer	Additional guidance	Mark
(i)	12		(1) AO1

	Answer	Additional guidance	Mark
(ii)	$\frac{42}{12}$ (1) 3.5 (cm) (1)	 ecf from2ai allow 0.035 for 1 mark award full marks for the correct answer without working	(2) AO1

	Answer	Additional guidance	Mark
(iii)	A description to include: **either** time a crest/ripple/wavefront (1) (moving) between **P** and **Q** (1) use (wave speed =) $\frac{\text{distance}}{\text{time}}$ (1) **or** count number of crests /ripples /wavefronts passing (eg P) (1) in a given time (to find f) (1) use (v =) $f\lambda$ (1)	 allow 'how long it takes' allow 'wave' for crest allow – over the 42 cm over a (set) distance allow waves if no other mark scored measure frequency for 1 mark	(3) AO1

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Q3.

Question number	Answer	Additional guidance	Marks
(i)	speed = frequency × wavelength (1)	allow v (or c) = fλ or correct equivalent, with other recognisable symbols, including w for wavelength ignore triangles	(1)

Question number	Answer	Additional guidance	Marks
(ii)	substitution (1) 0.40 × 1.2 evaluation (1) 0.48 (m/s)	apply ecf from an incorrect equation in i (or in ii) for 1 mark maximum accept 0.5 (m/s) correct answer without working gets 2 marks	(2)

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Q4.

Question Number	Answer	Additional guidance	Mark
(i)	evidence of use of scale on horizontal distance axis only (1) 12 (cm) (1)	may be seen on the diagram range 11.5 to 12.5 (cm) award full marks for the correct answer without working 6 (cm) or 30(cm) scores 1 mark (evidence of use)	**(2)**

Question Number:	Answer	Additional guidance	Mark
(ii)	a description to include: moves up and down (1) at right angles / normal / perpendicular to (direction of) wave/travel (1)	independent marking points vertical (oscillations) not in the (direction of) wave / travel accept 'transverse wave' for 2nd MP	**(2)**

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