Practice Question Set For GCSE
Subject : Physics
Paper-1 Topic : 5_Light and Electromagnetic Spectrum

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Name of the Student:_____
Max. Marks : 20 Marks **Time : 20 Minutes**

Mark Schemes
Q1.

Question number	Answer	Additional guidance	Mark
	substitution (1) 330 = f x 0.75 rearrangement (1) (f =) 330 / 0.75 evaluation (1) (f =) 440 (Hz)	substitution and rearrangement may be in either order. f = v / λ if no other marks scored then award 1 mark for an answer that rounds to 0.0023 or 250 award full marks for the correct answer without working	**3** **AO2.1**

Q2.

	Answer	Acceptable answers	Mark
	Substitution into correct	Power of 10 error max 1 mark for	**(3)**

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	equation(1) v = 15 × 125 Evaluation (1) 1875 Unit (1) m/s	numerical answer 2 marks for correct numerical answer even with no working shown ms^{-1} **not** mps 1.875 km/s or 6750 km/h gain 3 marks If numerical answer incorrect, accept any correctly-written unit of speed: eg **k**m/s or km/hr or miles per hour / mph	

Q3.

Question Number	Answer	Additional guidance	Mark
	recall and substitution (1) (v =) 0.25 x 1.5 evaluation (1) 0.38 (m/s)	 accept 0.375 or 0.37 (m/s) accept 37.5, 37 or 38 for 1 mark only award full marks for the correct answer without working	**(2)**

Q4.

Question number	Answer	Additional guidance	Mark
	uses data taken from x axis (1) 28(cm) (1)	 award full marks for correct answer without working	**(2)** **AO3**

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Q5.

	Answer	Acceptable answers	Mark
	transposition $\lambda = v/f$ (1) substitution $\lambda = 3 \times 10^8/7 \times 10^9$ (1) evaluation 0.043 (m) (1) Ignore any unit given by candidate	Subst. and transform. either order 1 mark only can be scored for correct substitution after incorrect transposition. $3 \times 10^8/7 \times 10^9$ gains 2 marks Accept any number of sig.figs. that rounds to 0.04 0.04 , 0.0428 (m) (1) Give full marks for correct answer with no working. 0.04 × any other power of 10 = 2 marks	**(3)**

Q6.

Question Number	Answer	Mark
(i)	**A** longitudinal yes ***B*** *is not correct because sound waves can transfer energy* ***C*** *is not correct because sound waves are longitudinal* ***D*** *is not correct because sound waves are longitudinal and sound waves can transfer energy*	**(1) AO1**

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	Answer	Additional guidance	Mark
(ii)	select wave equation (1) $(v =) f \times \lambda$ evaluation (1) (speed =) 330 (m/s)	 (speed =) freq(uency) × wavelength (speed =) 440 × 0.75 award full marks for the correct answer without working.	**(2)** **AO2**

Q7.

	Answer	Acceptable answers	Mark
(i)	Substitution v = 1920/6.0 (1) Evaluation (1) 320 (m/s)	300 (m/s) give full marks for correct answer, no working (2) Power of 10 error max. 1 mark.	**(2)**
(ii)	Suggestions including the following: • recognition of any difference in speed / velocity (1) • correct difference in speed (1)	e.g. sound travels faster / quicker than light (1) c>v / v<c / c>320 (m/s) Light travels (much) faster (2) RA **Ignore** 'sound takes longer' or other references to time.	**(2)**

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