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 : 21 Marks **Time : 21 Minutes**

Mark Schemes

Q1.

Question Number	Answer	Acceptable answers	Mark
(i)	**D** dark : rough		**(1)**

Question Number	Answer	Acceptable answers	Mark
(ii)	**C** the container is losing thermal energy at the same rate it is absorbing it	Heat for thermal Same amount in same time for same rate	**(1)**

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Q2.

Question Number	Answer	Acceptable answers	Mark
(a)(i)	B (50 m)		**(1)**

Question Number	Answer	Acceptable answers	Mark
(a)(ii)	kinetic (1) electrical (1) in this order.	movement electric, electricity poor spellings of electrical electronic Reject 2 forms of energy in one answer	 **(2)**

Question Number	Answer	Acceptable answers	Mark
(b)(i)	140 (J)	200 – 60 140 in words	 **(1)**

Question Number	Answer	Acceptable answers	**Mark**
(b)(ii)	• substitution (1) $\frac{60}{200} \times 100$ % • evaluation (1) 30 %	$\frac{60}{200}$ 0.3 ignore units Award full marks for correct answer with no working	 **(2)**

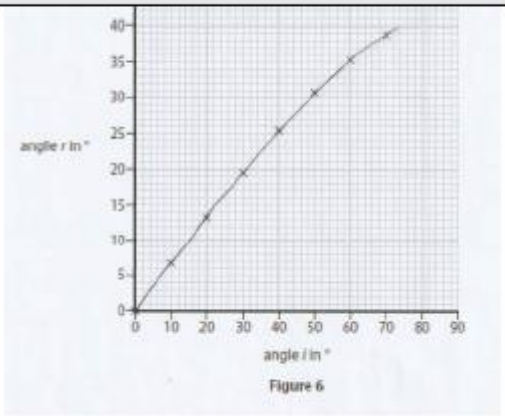
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Question Number	Answer	Acceptable answers	Mark
(b)(iii)	explanation linking: • energy supplied and radiated (1) • (at) equal (rate) (1)	allow used for radiated heat gained = heat lost 2 marks input energy = output energy 2 marks input power = output power 2 marks input = output 1 mark	**(2)**

Question Number	Answer	Acceptable answers	Mark
(c)	• substitution (1) $\frac{6000}{250}$ • evaluation (1) 24 (years)	Award full marks for correct answer with no working ignore units	**(2)**

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Q3.

Question number	Answer	Additional guidance	Mark
(i) CS3	curve through origin, through all points – by eye (1)	 Figure 6	(1) AO1

Question number	Answer	Additional guidance	Mark
(ii) CS3	(***r*** =) 42(°) ± 2(°) (1)	ECF their graph	(1) AO3

Question number	Answer	Additional guidance	Mark
(iii) CS3	Description to include two from: ***r*** increases as ***i*** increases (1) (but) not in proportion (1) increase in ***r*** becomes less (for same increase in ***i***) (1)	 ***r*** increases as ***i*** increases (but) not in even steps/not straight line/non-linear/gradient changes ***r*** always less than ***i***	(2) AO3

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Q4.

Question	Answer	Additional guidance	Mark
(i)	An explanation linking UVC/it has the smallest wavelength / highest frequency/ highest energy/most ionising (1) (it doesn't cause harm to people because) 100% absorbed by the Earth's atmosphere/no UVC reaches the Earth's surface/people (1)	allow shortest wavelength allow smaller for smallest / higher for highest / more for most	**2 AO3.2**

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Question	Answer	Additional guidance	Mark
(ii)	wavelength 280(nm) (1) substitution and rearrangement (1) $f = \frac{3.0 \times 10^{8}}{280 (\times 10^{-9})}$ evaluation (1) 1.07×10^{15} (Hz)	allow 2.8 to any power of ten accept numbers that round up to 1.1 x 10^{15} (Hz) award 2 marks for values that round up to 1.1 to any other power of ten if no other mark scored allow substitution and rearrangement using an incorrect wavelength for 1 mark award full marks for correct answer without working	**3 AO2.1**

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