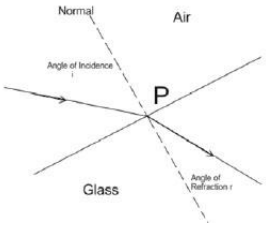
Practice Question Set For GCSE
Subject : Physics
Paper-1 Topic : 5_ Light And Electromagnetic Spectrum

Merit Minds
www.merit-minds.com
Exam Preparation and Free Resources

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

Mark Schemes

Q1.

	Answer	Acceptable answers	Mark
(i)	An explanation linking: Angle (of incidence) in glass (1) greater than critical angle / 42° (1)	Angle in air cannot be greater than 90° for 1 mark Glass has a higher refractive index than air for 1 mark	**(2)**
(ii)	 angle i from normal in air (1) angle r from normal in glass (1)	accept for 1 mark angle i in air <u>and</u> angle r in glass/ <u>both</u> angles measured from normal	**(2)**
(iii)	☒ **C** speed decreases		**(1)**

Q2.

Question Number	Answer	Mark
(i)	**D** refraction **The only correct answer is D** *A 'deflection' is an incorrect distracting description* *B 'incidence' is incorrect, that would be angle X* *C 'reflection' is incorrect, no reflection being shown in the diagram*	**(1)** AO 1 1

Downloaded from www.merit-minds.com

Question Number	Answer	Additional guidance	Mark
(ii)	any pair of coordinates selected from the line (1) in range → 0.6(0) to 0.7(0) (1)	e.g. 20 and (13 or 14) or 10 and (6 or 7) ignore any units given award full marks for a correct answer without working	(2) AO 2 1

Question Number	Answer	Additional guidance	Mark
(iii)	an explanation linking: repeat (1) different angles / more values of X (1) for larger angles / values of X (1)	 allow 'more measurements' / 'repeat experiment' / collect more data > 20°	(3) AO 3 3a

Q3.

	Answer	Acceptable answers	Mark
(a)(i)	☒ C on a screen		(1)
(a)(ii)	Explanation linking the following:- (measure) distance / length / from / line (1) lens to image / screen / focal point (1)	how far away use ruler / tape measure measure u(object distance) and v(image distance) calculate focal length using 1/u + 1/v = 1/f (measure) from lens to image (2)	(2)
(b)(i)	A description including the following: • magnifies • the image	brings nearer / zooms in / looks closer / makes bigger / enlarges intermediate / real	(2)

Downloaded from www.merit-minds.com

	• refracts the light	image	
(b)(ii)	☒ B energy		**(1)**
(c)(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)**
(c)(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)**

Downloaded from www.merit-minds.com