Question number	Answer	Notes	Marks
6 (a) (i)	set-up showing any **two** from- clear indication of equipment needed; correct refraction at one surface of glass block shown; protractor shown in use;	 ray-box or pins Allow ruler for apparent depth method	2
(ii)	angle of incidence; angle of refraction; OR critical angle; idea of grazing emergence;	Allow apparent depth method, i.e. real depth; apparent depth; Accept for two marks	2
(iii)	find sin i and sin r; refractive index is the ratio of sines; OR find sin c; refractive index is 1/ sin c;	• (n =) sin i/sin r • (n =) 1/ sin c • graph of sin i vs sin r Allow refractive index = real depth ÷ apparent depth for two marks	2
(b) (i)	Diagram – reflection at first back surface; reflection at second back surface;	judge by eye • straightness of ray and correctness of angle • emergent ray parallel to incident ray	2
(ii)	Refracted / slows down / wavelength decreases	Ignore: direction change ideas it does nothing / nothing happens	1

Total 9 marks