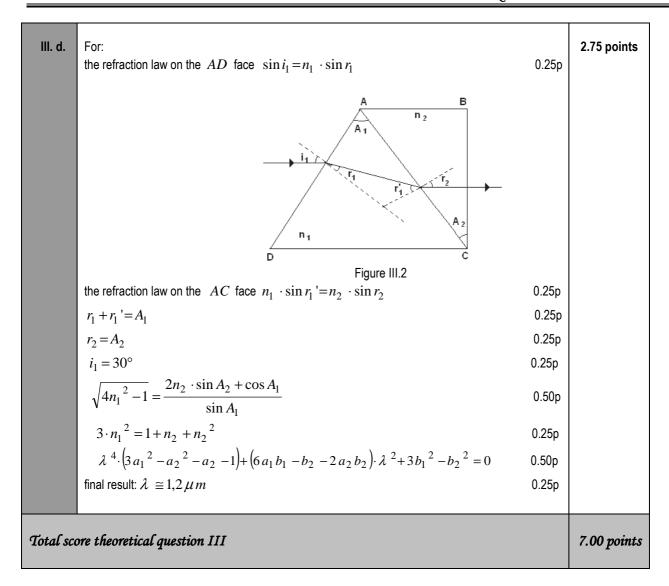
MARKING SCHEME FOR ANSWERS TO THE THEORETICAL QUESTION III -OPTICS

Part	MARKING SCHEME - THE THEORETICAL QUESTION III - PRISMS	Total Scores
III. a.	For: $n_{1}(\lambda_{0}) = n_{2}(\lambda_{0}) \qquad \qquad 0.50 p$ $\lambda_{0} = \sqrt{\frac{b_{1} - b_{2}}{a_{2} - a_{1}}} \qquad \qquad 0.25 p$ final result: $\lambda_{0} = 500 nm \qquad \qquad 0.25 p$	1.25 points
	$n_1(\lambda_0) = n_2(\lambda_0) = 1,5 $ $0.25p$	
III. b.	For the rays with different wavelength (λ_{red} , λ_{0} , λ_{violet}) having the same incidence angle on first prism, the paths are illustrated in the figure III.1	2.00 points
III. c.	For:	1.00 point
	$n_{1}(\lambda_{0}) = n_{2}(\lambda_{0}) = \frac{\sin\frac{\delta_{\min} + A'}{2}}{\sin\frac{A'}{2}}$ $0.25p$	
	$m(\hat{A}') = 30^{\circ} $ 0.25p	
	$\delta_{\min} = 2\arcsin\left(\frac{3}{2}\cdot\sin\frac{A'}{2}\right) - \frac{A'}{2} $ 0.25p	
	final result: $\delta_{\min}\cong 30.7^{\circ}$ 0.25p	

Marking scheme – Prisms Page 1 of 1



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