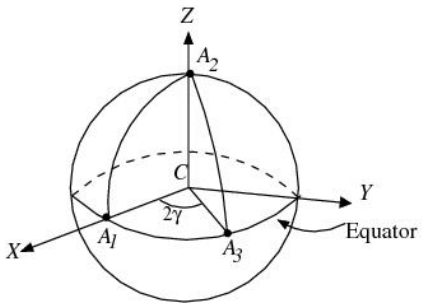
Question	Answer	Maximum Marks
III.1	$I(\theta) = \beta E_0^2 \left[1 + \cos\left(\frac{\omega d \sin\theta}{c}\right)\right]$	**1.0**
III.2	$I(\theta) = \beta E_0^2 \left[1 + \cos\frac{\omega}{c}\left(d\sin\theta - t(\mu - 1)\right)\right]$	**1.0**
III.3	a. $I(\theta) = \beta E_0^2 \left[1 + \frac{1}{\sqrt{2}}\cos\left(\frac{\omega d \sin\theta}{c}\right)\right]$ b. $I_{max} = \beta E_0^2 \left[1 + \frac{1}{\sqrt{2}}\right]$ c. $I_{min} = \beta E_0^2 \left[1 - \frac{1}{\sqrt{2}}\right]$	**2.0**
III.4	a. $\vec{E}_1(z = b) = \frac{1}{\sqrt{2}} E_0 \cos(\omega t - kb - \gamma)\, \hat{\imath}'$ b. $\vec{E}_1(z = c) = \frac{1}{\sqrt{2}} E_0 \cos\gamma \cos(\omega t - kc - \gamma)\, \hat{\imath}$ c. $\alpha = \gamma$	**2.0**
III.5	a. $\vec{E}_{\text{Eq}} = E_0 \cos(\omega t)\, \hat{\imath}'$ b. State of polarization = Linear	**0.5**
III.6	a. $\vec{E}_{\text{NP}} = \frac{E_0}{\sqrt{2}}(\hat{\imath}\cos(\omega t) + \hat{\jmath}\sin(\omega t))$ b. State of polarization = Circular	**0.5**

III.7		**1.5**
III.8	$S = 2\alpha$	**1.5**