

Question 5:

$$= \sin 53^{\circ} \cos (90^{\circ} - 53^{\circ}) + \cos 53^{\circ} \sin (90^{\circ} - 53^{\circ})$$

$$= \sin^2 53^\circ + \cos^2 53^\circ = 1 = RHS$$

(ii) LHS =
$$\cos 54^{\circ} \cos 36^{\circ} + \sin 54^{\circ} \sin 36^{\circ}$$

$$= 0 = RHS$$

$$[\because \sin(90^{\circ} - \theta) = \cos\theta \text{ and } \cos ec(90^{\circ} - \theta) = \sec\theta]$$

$$= \left(\frac{1}{\cos 70^{\circ}} \times \cos 70^{\circ}\right) + \left(\cos 20^{\circ} \times \frac{1}{\cos 20^{\circ}}\right)$$

$$= 1 + 1 = 2 = RHS$$

******* END *******