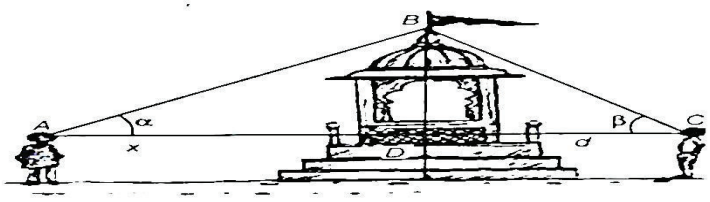
INVERSE TRIGONOMETRIC FUNCTIONS

Case based Question

Two men on either side of a temple of 30 m high observe its top at the angles of elevation α and β respectively,



The distance between the two men is $40\sqrt{3}$ m and the distance between the first person A and the temple is $30\sqrt{3}$ m.

Answer the following questions using the above information.

(i) $\angle CAB = \alpha =$ $(a)\left(\frac{2}{\sqrt{3}}\right)$ (b) $\left(\frac{1}{2}\right)$ (c) (2) (d) $\left(\frac{\sqrt{3}}{2}\right)$

(ii) $\angle CAB = \alpha =$ $(a)\left(\frac{1}{5}\right)$ (b) $\left(\frac{2}{5}\right)$ (c) $\left(\frac{4}{5}\right)$ (d) $\left(\frac{\sqrt{3}}{2}\right)$

(iii) $\angle BCA = \beta =$ $(a)\left(\frac{1}{2}\right)$ (b) (2) (c) $\left(\frac{1}{\sqrt{3}}\right)$ (d) $\left(\sqrt{3}\right)$

(iv) $\angle ABC =$ $(a)\frac{\pi}{4}$ (b) $\frac{\pi}{6}$ (c) $\frac{\pi}{2}$ (d) $\frac{\pi}{3}$

Ans:. (i) (b) (ii) (d) (iii) (d) (iv) (c)