

NCERT EXEMPLAR SELECTED PROBLEMS :

PROBLEM 4

Q49. The value of $\sin 50^\circ - \sin 70^\circ + \sin 10^\circ$ is equal to

- (a) 1
- (b) 0
- (c) 1
- (d) 2

Sol. (b)

$$\begin{aligned} & \sin 50^\circ - \sin 70^\circ + \sin 10^\circ \\ &= 2 \cos\left(\frac{50^\circ + 70^\circ}{2}\right) \sin\left(\frac{50^\circ - 70^\circ}{2}\right) + \sin 10^\circ \\ &= -2 \cos 60^\circ \sin 10^\circ + \sin 10^\circ = -2 \cdot \frac{1}{2} \sin 10^\circ + \sin 10^\circ = 0 \end{aligned}$$