

## NCERT Maths Solutions by Dev Anoop (Bathinda)

$$\begin{aligned}
 2\text{①} \quad & \text{Sum of zeros (S)} = \frac{1}{4} \\
 & \text{Product of zeros (P)} = -1 \\
 & \text{required polynomial} \\
 & = k(x^2 - Sx + P) \\
 & = k\left(x^2 - \frac{1}{4}x - 1\right) \\
 & = 4\left(\frac{4x^2 - x - 4}{4}\right) \quad (k=4) \\
 & = 4x^2 - x - 4
 \end{aligned}$$

$$\begin{aligned}
 2\text{②} \quad & \text{Sum of zeros} = \sqrt{2} \quad (S) \\
 & \text{Product of zeros} = \frac{1}{3} \quad (P) \\
 & \text{required polynomial} \\
 & = k(x^2 - Sx + P) \\
 & = k\left(x^2 - \sqrt{2}x + \frac{1}{3}\right) \\
 & = 3\left(\frac{3x^2 - 3\sqrt{2}x + 1}{3}\right) \quad (k=3) \\
 & = 3x^2 - 3\sqrt{2}x + 1
 \end{aligned}$$

$$\begin{aligned}
 2\text{③} \quad & \text{Sum of zeros (S)} = 0 \\
 & \text{Product of zeros (P)} = \sqrt{5} \\
 & \text{required polynomial} = k(x^2 - Sx + P) \\
 & = k(x^2 - 0x + \sqrt{5}) \\
 & = 1(x^2 + \sqrt{5}) \quad (k=1) \\
 & = x^2 + \sqrt{5}
 \end{aligned}$$