Brainbox learn easy

Chapter 02

POLYNOMIALS

Formation of a cubic polynomial:

Example:

Form a cubic polynomial whose 3 zeroes are 1, -1, 2.

Solution:

Let $\alpha = 1, \beta = -1, \gamma = 2$

$S = \alpha + \beta + \gamma = 1 - 1 + 2 = 2.$

$S^1 = \alpha\beta + \beta\gamma + \gamma\alpha = (1)\times(-1) + (-1)(2) + (2)(1) = -1 - 2 + 2 = -1.$

$P = \alpha.\beta.\gamma = (1)(-1)(2) = -2.$

Required cubic polynomial = $\lambda\left[x^3 - Sx^2 + S^1x - P\right]$,

λ = any non-zero real number

$= \lambda\left[x^3 - 2x^2 - x + 2\right]$

If $k = 1$,

$\therefore$ Required cubic polynomial = $x^3 - 2x^2 - x + 2$.