

JSUNIL TUTORIAL, SAMASTIPUR

Chapter: 01- Polynomial Test paper – 01
2 marks questions

FM: 35

Time: 60 min

1. If $x=1$ is a zero of a polynomial $f(x) = x^3 - 2x^2 + 4x + k$. Write the value of k (Ans. $k = -3$)
2. For what value of k , -4 is a zero of the $p(x) = x^2 - x - (2k+2)$? (Ans. $= 9$)
3. Verify whether 3 and 2 are the zeros of the poly. $(x - 2)(x - 3)$?
4. Find the zeros of the polynomial $f(x) = 4x^2 + 8x$ (Ans. 0, -2)
5. Find a quadratic polynomial each with the given zeros as sum and the product of its zeros respectively (a) $\frac{1}{4}, -1$ (b) $\sqrt{2}, \frac{1}{3}$ {Ans. (a) $4x^2 - x - 4$, (b) $3x^2 - 3\sqrt{2}x + 1$ }

3 marks questions

1. Using division algorithm, find the quotient and the remainder on dividing $f(x)$ by $g(x)$, where $f(x) = 6x^3 + 13x^2 + x - 2$ and $g(x) = 2x + 1$ [Ans. $q(x) = 3x^2 + 5x - 2$, $r(x) = 0$]
2. If α, β are the zeros of $2y^2 + 7y + 5$ write the value of $\alpha + \beta + \alpha\beta$. (Ans. -1)
3. Find the zeros of a quadratic polynomial $5x^2 - 4 - 8x$ and verify the relationship between the zeros and the coefficients of the polynomial. (Ans. 2, -2/5)
4. If α, β are the zeros of the poly. $f(x) = x^2 - px + q$, find the value of
(a) $\alpha^2 + \beta^2$ (b) $1/\alpha + 1/\beta$ (Ans. $P^2 - 2q, p/q$)
5. On dividing $x^3 + 2x^2 - 5x - 6$ by a polynomial $g(x)$ the quotient and remainder were $x + 1$ and $-4x - 4$ respectively Find the polynomial $g(x)$ (Ans. $x^2 + x - 2$)
6. If $(x + a)$ is a factor of $2x^2 + 2ax + 5x + 10$. Find a . (Ans. $a = 2$)
7. Find all the zeros of $2x^4 - 9x^3 + 5x^2 + 3x - 1$, if two of its zeros are $2 + \sqrt{3}$ & $2 - \sqrt{3}$
8. If the polynomial $6x^4 + 8x^3 + 17x^2 + 21x + 7$ is divided by another polynomial $3x^2 + 4x + 1$, the remainder comes out to be $(ax + b)$, find a and b .
9. Find all other zeroes of the polynomial $p(x) = 2x^3 + 3x^2 - 11x - 6$, if one of its zero is -3 .
10. If one zero of the polynomial $(a^2 + 9)x^2 + 13x + 6a$ is reciprocal of the other. Find the value of a .