CBSE TEST PAPER-02

Class X - Mathematics (polynomials)

1. If p (x) = $2x^2 - 3x + 5, 3x + 5$, then P(-1) is equal to [1]
   (a) 7 (b) 8
   (c) 9 (d) 10

2. Zeros of p (x) = $x^2 - 2x - 3$ are [1]
   (a) 3 and 1 (b) 3 and -1
   (c) -3 and -1 (d) 1 and -3

3. If α and β are the zeros of $2x^2 + 5x - 10$, then the value of $\alpha\beta$ is [1]
   (a) $-\frac{5}{2}$ (b) 5
   (c)-5 (d) $\frac{2}{5}$

4. A quadratic polynomial, the sum and product of whose zeros are 0 and $\sqrt{5}$ respectively is [1]
   (a) $x^2+\sqrt{5}$ (b) $x^2-\sqrt{5}$
   (c) $x^2 - 5$ (d) None of these

5. Find the value of 'k' such that the quadratic polynomial $x^2 - (k + 6) x + 2 (2k +1)$ has sum of the zeros is half of their product. [2]

6. If α and β are the zeros of the quadratic polynomial $f(x) = x^2 - p (x + 1) - c$, show that $(\alpha +1) (\beta +1)= 1 - c$. [2]

7. If the sum of the zeros of the quadratic polynomial $f (t) = kt^2 + 2t + 3k$ is equal to their product, find the value of 'k'. [2]

8. Divide $(x^4 - 5x + 6)$ by $(2 - x^2)$. [2]

9. Find all the zeros of the polynomial $f (x) = 2x^4 - 3x^3 - 3x^2 +6x - 2$, if being given that two of its zeros are $\sqrt{2}$ and $-\sqrt{2}$. [3]

10. On dividing $x^3 - 3x^2 + x + 2$ by a polynomial g (x) the quotient and the remainder were (x – 2) and -2x + 4 respectively, find g (x). [3]

11. Find all zeros of $f (x) = 2x^3 - 7x^2 + 3x + 6$ if its two zeros are $-\sqrt{\frac{3}{2}}$ and $\sqrt{\frac{3}{2}}$. [3]

12. Obtain all zeros of the polynomial $f (x) = 2x^4 + x^3 - 14x^2 - 19x - 6$, if two of its zeros are -2 and -1. [3]