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| CLASS 10 |  MATHEMATICS 041 |  |
| QUESTION BANK |  CHAPTER:POLYNOMIALS |  |

1. The maximum number of zeroes that a polynomial of degree 4 can have is
(a) One
(b) Two
(c) Three
(d) Four

2. The graph of the polynomial p(x) = 3x – 2 is a straight line which intersects the x-axis at exactly one point namely
(a) (−23, 0)
(b) (0, −23)
(c) (23, 0)
(d) 23, −23

3. In fig. given below, the number of zeroes of the polynomial f(x) is

(a) 1
(b) 2
(c) 3
(d) None

4. The graph of the polynomial ax² + bx + c is an upward parabola if
(a) a > 0
(b) a < 0
(b) a = 0
(d) None

5. A polynomial of degree 3 is called
(a) a linear polynomial
(b) a quadratic polynomial
(c) a cubic polynomial
(d) a biquadratic polynomial

6. If α, β are the zeroes of the polynomial x² – 16, then αβ(α + β) is
(a) 0
(b) 4
(c) -4
(d) 16

7. Zeroes of the polynomial x² – 11 are
(a) ±17−−√
(b) ±3–√
(c) 0
(d) None

8. If α, β, γ are the zeroes of the cubic polynomial ax³ + bx² + cx + d then α + β + γ is equal
(a) −ba
(b) ba
(c) ca
(d) da

9. If the sum of the zeroes of the polynomial f(x) = 2x³ – 3kx² + 4x – 5 is 6, then the value of k is
(a) 2
(b) 4
(c) -2
(d) -4

10.If a polynomial of degree 4 is divided by quadratic polynomial, the degree of the remainder is
(a) ≤ 1
(b) ≥ 1
(c) 2
(d) 4

2 MARKS QUESTIONS

11. **Find the value of “p” from the polynomial x2 + 3x + p, if one of the zeroes of the polynomial is 2.**

**12.  Find the quadratic polynomial if its zeroes are 0, √5.**

**13.** If the sum of zeroes of the quadratic polynomial 3x2 – kx + 6 is 3, then find the value

 of k.

14.If α and β are the zeroes of the polynomial ax2 + bx + c, find the value of α2 + β2.

15.If the sum of the zeroes of the polynomial p(x) = (k2 – 14) x2 – 2x – 12 is 1, then find

 the value of k

16.If α and β are the zeroes of a polynomial such that α + β = -6 and αβ = 5, then find

 the polynomial.

17.Find the condition that zeroes of polynomial p(x) = ax2 + bx + c are reciprocal of

 each other.

18. Form a quadratic polynomial whose zeroes are 3 + √2 and 3 – √2.

19. Find a quadratic polynomial, the stun and product of whose zeroes are √3

 and 1√3 respectively.

20. Find the zeroes of the quadratic polynomial √3 x2 – 8x + 4√3.

**4 MARKS QUESTIONS**

**21.How many zeros does the polynomial (x – 3)2 – 4 have? Also, find its zeroes.**

**22.α and β are zeroes of the quadratic polynomial x2 – 6x + y. Find the value of ‘y’ if 3α + 2β = 20.**

**23. If the zeroes of the polynomial x3– 3x2+ x + 1 are a – b, a, a + b,**then find the value of a and b.

**24.Obtain all other zeroes of 3x4+ 6x3– 2x2– 10x – 5, if two of its zeroes are √(5/3) and-√(5/3).**

**25.**Divide the polynomial f(x) = 3x2 – x3 – 3x + 5 by the polynomial g(x) = x – 1 – x2 and verify the

 division algorithm.

26.For what value of k, is the polynomial f(x) = **3x4 – 9x3 + x2 + 15x + k** completely divisible by 3x2 –

 5?

27.If 4 is a zero of the cubic polynomial x3 – 3x2 – 10x + 24, find its other two zeroes**.**

**28.Compute the zeroes of the polynomial 4x2 – 4x – 8. Also, establish a relationship between the zeroes and coefficients.**