**1/2 mark and 1mark questions**

1. What is zero of a Polynomial?
2. “We can write a trinomial having degree 7”. Justify this statement by giving an example?
3. Write a quadratic polynomial having no zeroes?
4. If p(x) = x3 – 3x² + 2x – 3, then find the value of p(1)?
5. Srikar says that the order of the polynomial (x² - 5) (x3 + 1) is 6. Do you agree with Srikar?
6. Find the zeroes of p(x) = x² - 4?
7. Verify the relation between zeroes and the coefficients the quadratic polynomial x² - 4?
8. Whether 1/2 and 1 are zeroes of the polynomial 2x² - 3x + 1 or not? Justify?
9. If p(x) = x4 + 1, then find p (2) – p (-2)?
10. -3, 0 and 2 are the zeroes of the polynomial x3 + (a – 1) x² + bx + c. Find the values of a, b and c?
11. Find the sum of zeroes of the polynomial 6x² - 5x + 1?
12. Write the quadratic polynomial whose zeroes are ?
13. If 4 is one zero of the polynomial x² + kx – 8 then find the value of ‘k’?
14. If the zeroes of the polynomial x² + 6x + 5 are α and β then find α + β + αβ?
15. If x ≠ -1, then find the value of ?
16. What is the degree of the polynomial
17. If 2 and 3 are zeroes of the polynomial x3 - 5x² + 6x, find the third zero?
18. If the polynomial x² - 8x + k is divided by (x – 1), the remainder comes out to be 6 then find the value of ‘k’?
19. Find the product of zeroes of the polynomial x3 + 3x² - x + 2?
20. If one of the zeroes of the polynomial x² - 4x + 1 is 2 + √3, then find write the other zero?
21. If α and β are the zeroes of a polynomial and α + β = 6, αβ = 4, then find the quadratic polynomial?
22. If (x + 1) is a factor of the polynomial ax3 + bx² + cx + d, then write the relation between the coefficients?
23. Write a quadratic polynomial having only one zero?
24. How can you verify a polynomial whether it has only one zero?
25. How many polynomials can we write having the zeroes 2 and -5?
26. If the zeroes of the polynomial ax² + bx + c, c ≠ 0 are equal then ( )

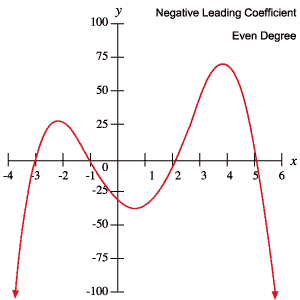
A) c and a have opposite signs

B) c and b have opposite signs

C) c and a have same signs

D) c and b have same signs

1. Describe the graph of the polynomial y = 6 – x – x²?
2. Write how the graph of the polynomial y = x² - x – 6 is differ to the graph of the polynomial y = 6 – x – x²?
3. At which point the graph of the linear polynomial y = ax + b intersects the X – axis?
4. Write division Algorithm?
5. No. of zeroes of the following graph is \_\_\_\_



1. Give an example of a polynomials f(x), g(x), q(x) and r(x) satisfying f(x) = g(x) × q(x) + r(x) where degree of r(x) = 0?
2. For what value of ‘k’, is 3 a zero of the polynomial 2x² + x + k?
3. Sisir said that if p(k) = 0, then k is zero of the polynomial p(x). Sita said that if p(K) = 0, then (x – k) is a factor of the polynomial p(x). With whom you will agree? Justify.
4. If α, β, γ are zeros of the polynomial ax3 + bx² + cx + d, then match the following.

Group A Group B

1. α + β + γ ( ) P. c/a

2. αβ + βγ + γα ( ) Q. -b/a

3. αβγ ( ) R. -d/a

S. -c/a

A) 1-P, 2-Q, 3- R B) 1-Q, 2-S, 3-R C) 1-Q, 2-P, 3-R D) 1-Q, 2-R, 3-S

1. “If the zeroes of the quadratic polynomial ax² + bx + c are reciprocal to each other then a = c”. Justify.

**Two marks questions**

1. For what value of ‘k’, -4 is zero of the polynomial x² - x – (2k + 2)?
2. Use the table given below to draw the graph. Use the graph drawn to find the values a and b?

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| X | -2 | 0 | 2 | 1 | b |
| y | -3 | 1 | a | 3 | -7 |

1. Length of a rectangle is 5 units more than its breadth. Express its perimeter in polynomial form.
2. Show that 2 and -1/3 are zeroes of the polynomial 3x² - 5x – 2?
3. Which of and 2 is a zero of the polynomial x3 – 2x? why?
4. Divide x3 – 3x² + 5x – 3 by x² - 2. And verify the division lemma?
5. Complete the following table for the polynomial y = x3 – 2x + 3.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| x | -1 | 0 | 1 | 2 |
| x3 |  |  |  |  |
| -2x |  |  |  |  |
| 3 |  |  |  |  |
| Y |  |  |  |  |
| (x, y) |  |  |  |  |

1. If one of the zero of the cubic polynomial p(x) = ax3 + bx² + cx + d is zero, then find the product of other zeroes (a ≠ 0)?
2. Divide x3 – 4x² + 5x – 2 by x – 2?
3. Find the zeros of the quadratic polynomial x² - 2x – 8 and verify the relationship between zeroes and co-efficient?
4. Find a quadratic polynomial, the sum and product of whose zeroes are 1/4 and -1 respectively.
5. Why 1/4 and -1 are zeroes of the polynomial 4x² + 3x = 1?
6. Check whether the polynomial x² + 3x + 1 is a factor of the polynomial 3x4 + 5x3 – 7x² + 2x + 2 by doing division?
7. Find the cubic polynomial whose zeroes are 3, -1 and -1/3?
8. Given p(x) = x² - 4x + 3, find the value of p(0), p(1), p(2), p(3) and obtain the zeroes of the polynomial p(x).

**Four marks questions**

1. Lakshmi does not want to disclose the length, breadth, and height of a cuboid of her project. She has constructed a polynomial x3 – 6x² + 11x – 6 by taking the values of length, breadth and height as its zeros. Can you open the secret? (Find the length, breadth on the height)
2. Draw the graph of the polynomial p(x) = x² + 3x – 4 and find its zeroes from the graph?
3. On dividing x3 – 3x² + 5x – 7 by x² - 2x + 4, if the remainder is in the form Ax + B, find the values of A and B?
4. The perimeter of a right-angled triangle is 60cm and its hypotenuse is 25cm. Then find the remaining sides?
5. Total number of pencils required are given by 4x4 + 2x3 – 2x² + 62x – 66. If each box contains x² + 2x – 3 pencils, then find the number of boxes to be purchased?
6. Verify that 4, -2 and 1/2 are the zeroes of the cubic polynomial 2x3 – 5x² - 14x + 8 and check the relationship between zeroes and the coefficients?
7. Find all the zeroes of the polynomial 2x3 + x² - 6x – 3, if two of its zeros are ?
8. Obtain all zeroes of the polynomial x3 + 13x² + 32x + 20, if one of its zeroes is -2?
9. On dividing 6x3 + 11x² - 39x – 65 by g(x), the quotient and remainder were 6x + 5 and -38x – 60 respectively. Find g(x)?
10. If the zeroes of the polynomial x3 – 3x² + x + 1 are (a – b), a, (a + b), find the values of a and b?