POLYNOMIALS

SECTION -3 (8X2=16m)

Answer the following 8X2=16m

21. Check whether -2 and 3 are the zeroes of the polynomial $p(x) = x^2 - x - 6$?

22. Why are $\frac{1}{4}$ and -1 zeroes of the polynomial $p(x) = 4x^2 + 3x - 1$?

23. Let $p(x) = x^2 - 4x + 3$. Find the value of $p(0), p(1), p(2), p(3)$ and obtain zeroes of the polynomial $p(x)$.?

24. Find the zeroes of the polynomial $p(x) = x^2 + 7x + 10$ and verify the relation ship between the zeroes and coefficients?

25. Find the zeroes of the polynomial $p(x) = x^2 - 2x - 8$ and verify the relation ship between the zeroes and coefficients?

26. Find a quadratic polynomial if the zeroes of it are 2 and -1/3 respectively?

27. Divide $3x^3 + x^2 + 2x + 5$ by $1 + 2x + x^2$?

28. Find a quadratic polynomial , the sum and product of whose zeroes are 1/4 and -1 respectively?

SECTION -4 (5X4=20m)

Answer the following 5X4=20m

29. Verify that 1, -1 , -3 are the zeroes of the polynomial $x^3 + 3x^2 - x - 3$ and then verify the relationship between the zeroes and coefficients?

<div align="center">OR</div>

Verify that 3, -1 , -1/3 are the zeroes of the polynomial $3x^3 - 5x^2 - 11x - 3$ and then verify the relationship between the zeroes and coefficients?

30. Find all zeroes of $2x^4 - 3x^3 - 3x^2 + 6x - 2$,if you know that two of its zeroes are $\sqrt{2}$ and $-\sqrt{2}$?

<div align="center">OR</div>

Find all zeroes of $3x^4 + 6x^3 - 2x^2 - 10x - 5$,if you know that two of its zeroes are $\sqrt{\frac{5}{3}}$ and $-\sqrt{\frac{5}{3}}$?

31. Draw the graph of $y = x^2 - 5x + 6$, find the zeroes of $y = x^2 - 5x + 6$?

<div align="center">OR</div>

Draw the graph of $y = x^2 - 2x - 8$, find the zeroes of $y = x^2 - 2x - 8$?

32. Divide $3x^2 - x^3 - 3x + 5$ by $x - 1 - x^2$, and verify the division algorithm?

<div align="center">OR</div>

Find a cubic polynomial with the sum, sum of the product of its zeroes taken two at a time, and the product of its zeroes as 2, –7, –14 respectively.?

33. On dividing $x^3 - 3x^2 + x + 2$ by a polynomial $g(x)$, the quotient and remainder were $x - 2$ and $-2x + 4$, respectively. Find $g(x)$.?

<div align="center">OR</div>

Give examples of polynomials $p(x)$, $g(x)$, $q(x)$ and $r(x)$, which satisfy the division algorithm and (i) deg $p(x)$ = deg $q(x)$ (ii) deg $q(x)$ = deg $r(x)$ (iii) deg $r(x) = 0$?