10th MATHS – POLYNOMIALS
MODEL -1   Total Marks -30

VERY SHORT ANSWER TYPE QUESTIONS

Marks – 5 x 2 = 10

Q1. If one zero of the quadratic polynomial $x^2 - 5x - 6$ is 6, then find the other zero.

Q2. If both the zeroes of the quadratic polynomial $ax^2 + bx + c$ are equal and opposite in sign, then find the value of 'b'?

Q3. Can $x^2 - 1$ be the quotient on division of $x^6 + 2x^3 + x - 1$ by a polynomial in x of degree 5? Q4. If 1 is a zero of the polynomial $p(x) = ax^2 - 3(a-1)x - 1$, then find the value of 'a' ?

Q4. If on division of a polynomial $p(x)$ by a polynomial $g(x)$ the quotient is zero, what is the relation between degree of $p(x)$ and $g(x)$?

Q5. If 1 is a zero of the polynomial $p(x) = ax^2 - 3(a-1)x - 1$, then find the value of 'a' ?

SHORT ANSWER TYPE QUESTIONS

Marks – 4 x 3 = 12

Q6. What number should be added to the polynomial $x^2 - 5x + 4$, so that 3 is the zero of the polynomial? Q7. If α and β are zeros of $p(x) = x^2 + x - 1$, then find $1/\alpha + 1/\beta$?

Q7. If α and β are the zeros of the quadratic polynomial $f(x) = 2x^2 - 5x + 7$, find a polynomial whose zeros are $2\alpha + 3\beta$ and $3\alpha + 2\beta$?

Q8. If one of the zeros of the cubic polynomial $x^3 + ax^2 + bx + c$ is -1, then what will be the product of the other two zeros?

LONG ANSWER TYPE QUESTIONS

Marks – 2 x 4 = 8

Q9. Obtain all other zeros of the polynomial $2x^4 - 9x^3 + 5x^2 + 3x - 1$, if two of its zeros are $2 - \sqrt{3}$ and $2 + \sqrt{3}$?

Q10. Find the zeros of the polynomial $f(x) = x^3 - 5x^2 - 2x + 24$, if it is given that the product of its two zeros is 12?