



JAYAM TUITION CENTRE.

VETTAVALAM. TIRUVANNAMALAI-DT.

STD: 12
SUB: MATHS
MARKS: 25

EXERCISE TEST - 8 (EX:3-3,4)

2 Mark Questions

5 X 2 = 10

1. If the roots of $x^3 + px^2 + qx + r = 0$ are in H.P., prove that $9pqr = 27r^2 + 2q^3$. Assume $p, q, r \neq 0$.
2. Solve the equation $x^4 - 9x^2 + 20 = 0$.
3. Determine k and solve the equation $2x^3 - 6x^2 + 3x + k = 0$ if one of its roots is twice the sum of the other two roots.
4. Solve the cubic equations: $8x^3 - 2x^2 - 7x + 3 = 0$.
5. Solve the following equation: $x^4 - 10x^3 + 26x^2 - 10x + 1 = 0$.

5 Mark Questions

3 X 5 = 15

6. If $2 + i$ and $3 - \sqrt{2}$ are roots of the equation $x^6 - 13x^5 + 62x^4 - 126x^3 + 65x^2 + 127x - 140 = 0$ find all roots.
7. Solve the equation $(2x - 3)(6x - 1)(3x - 2)(x - 2) - 5 = 0$.
8. Find all zeros of the polynomial $x^6 - 3x^5 - 5x^4 + 22x^3 - 39x^2 - 39x + 135$, if it is known that $1 + 2i$ and $\sqrt{3}$ are two of its zeros.