RAMA STUDY CENTRE - WHATSAPP - 8754834604

MATHEMATICS - XII STANDARD

CHAPTER - 3 [IMPORTANT QUESTIONS]

If Need answer means cost Rs.25/-

1) If α and β are the roots of quadratic equation $17x^2 + 43x - 73$ construct a quadratic equation whose roots are $\alpha + 2$ and $\beta + 2$

2) If α and β are the roots of quadratic equation $2x^2 - 17x + 13$ construct a quadratic equation whose roots are α^2 and β^2

3) If α, β and γ are the roots of the equation $x^3 + px^2 + qx + r = 0$ find the value of $\sum \frac{1}{\beta\gamma}$ in terms of the coefficient.

4) Find the sum of the squares of roots of $ax^4 + bx^3 + cx^2 + dx + e = 0$

5) If P is real, discuss the nature of roots of the equation $4x^2 + 4Px + P + 2 = 0$ in terms of P

6) Find the sum of the squares of roots of eqn $2x^4 - 8x^3 + 6x^2 - 3 = 0$

7) Solve the equation $x^3 - 9x^2 + 14x + 24 = 0$ if it is given that two of its roots are in the ratio $3:2$

8) If α, β and γ are the roots of the polynomial equation $ax^3 + bx^2 + cx + d = 0$. Find the value of $\sum \frac{\alpha}{\beta\gamma}$ in terms of coefficient

9) If p and q are the roots of equation $lx^2 + nx + n = 0$, show that $\sqrt{p/q} + \sqrt{q/p} + \sqrt{n/l} = 0$

10) If the equations $x^2 + px + q = 0$ and $x^2 + p'x + q' = 0$ have a common root, show that it must be equal to $\frac{pq' - p'q}{q - q'}$ or $\frac{q - q'}{p' - p}$

11) Form a polynomial equation with integer coefficient with $\sqrt{\frac{\sqrt{2}}{\sqrt{3}}}$ as a root

12) Show that if p, q, r are rational. The roots of the equation $x^2 - 2px + p^2 - q^2 + 2qr - r^2 = 0$ are rational.

13) Find a polynomial equation of minimum degree with rational coefficients, having $2 + \sqrt{3}i$ are a root

14) Solve the equation $x^4 - 9x^2 + 20 = 0$

15) Obtain the condition that roots of $x^3 + px^2 + qx + r = 0$ are in A.P

16) If the roots of $x^3 + px^2 + qx + r = 0$ are in H.P. prove that $9pqr = 27r^2 + 2q^3$ Assume $p, q, r \neq 0$

17) 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

18) Find solution, if any, of the equation $2\cos^2 x - 9\cos x + 4 = 0$

19) Find all real numbers satisfying $4^x - 3(2^{x+2}) + 2^5 = 0$

20) Solve: $8x^{3/2n} - 8x^{-3/2n} = 63$

21) Solve : $2\sqrt{\frac{x}{a}} + 3\sqrt{\frac{a}{x}} = \frac{b}{a} + \frac{6a}{b}$

22) Solve the equation $6x^4 - 5x^3 - 38x^2 - 5x + 6 = 0$ if it is known that $1/3$ is a solution.

23) Find the exact number of real zeras and imaginary of the polynomial.

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G. Rajesh M. Sc, B. Ed, MBA,
MSc (psh), MA (Yoga), MA (Eco),
MA (Tam), Dept of mathematics

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