BATCH COURSE TIMINGS 7:15P.M-8:15 P.M(EMERGE CLASS 11th)/5 P.M-6:30P.M (EXPERT BATCH)

JAI SHREE RAM

1. Let α and β be the roots of the equation $x^2+x+1=0$, the equation whose roots are α^{19}, β^7 is

(a) $x^2-x-1=0$ (b) $x^2-x+1=0$

(c) $x^2+x-1=0$ (d) $x^2+x+1=0$

2. If one root of a quadratic equation is $\frac{1}{2+\sqrt{5}}$, then the equation is

(a) $x^2+4x+1=0$ (b) $x^2+4x-1=0$

(c) $x^2-4x+1=0$ (d) None of these

3. If one of the roots of the equation $x^2+ax+b=0$ and

$x^2+bx+a=0$ is coincident. Then the numerical value of

$(a+b)$ is

(a) 0 (b) - 1 (c) 1 (d) 5

4. Let p and q be the roots of the equation x^2 - 2x + A = 0 and let r and s be the roots of the equation x^2 - 18x + B = 0. If p < q < r < s are in arithmetic progression then the values of A and B are given by

(a) A = 3, B = 77 (b) A = 3, B = 7

(c) A = -3, B = 77 (d) A = 3, B = -7

5. The value of 'a' for which one root of quadratic equation $(a^2 - 5a + 3)x^2 + (3a - 1)x + 2 = 0$ is twice as large as other is :

(a) 2/3 (b) -2/3 (c) 1/3 (d) -1/3

6. If x = $\sqrt{1+\sqrt{1+\sqrt{1+.....\infty}}}$ then x is equal to :

(a) $\frac{1+\sqrt{5}}{2}$ (b) $\frac{1-\sqrt{5}}{2}$ (c) $\frac{1\pm\sqrt{5}}{2}$ (d) None of these

7. The value of 'a' for which the sum of the squares of the roots of the equation x^2 - (a - 2)x - a - 1 = 0 assumes the least value is :

(a) 0 (b) 1 (c) 2 (d) 3

8. If α, β be the roots of $ax^2 + bx + c = 0$; γ ,δ be the roots of $px^2 + qx + r = 0$; and D_1, D_2 the respective discriminants. If α, β, γ, δ are in A.P. then $D_1 : D_2$ =

(a) $\frac{a^2}{b^2}$ (b) $\frac{a^2}{p^2}$ (c) $\frac{b^2}{q^2}$ (d) $\frac{c^2}{r^2}$

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9. If α, β are roots of $x^2 - 3x + 1 = 0$ then the equation whose roots are $\frac{1}{\alpha - 2}, \frac{1}{\beta - 2}$ is -

(a) $x^2 + x - 1 = 0$ (b) $x^2 + x + 1 = 0$

(c) $x^2 - x - 1 = 0$ (d) None of these

10. If $x^2 - 3x + 2$ be a factor of $x^4 - px^2 + q$, then (p, q) =

(a) (3, 4) (b) (4, 5) (c) (4, 3) (d) (5, 4)

11. Let α, β be the roots of $x^2 - x + p = 0$ and γ, δ be root of $x^2 - 4x + q = 0$. If $\alpha, \beta, \gamma, \delta$ are in G.P., then the integral value of p and q respectively are

(a) - 2, - 32 (b) - 2, 3 (c) - 6, 3 (d) - 6, - 32

12. If 1 - i is a root of the equation $x^2 + ax + b = 0$, then the values of a and b are

(a) 2, 1 (b) - 2, 2 (c) 2, 2 (d) 2, - 2

13. Let α, β be the roots of the equation $(x - a)(x - b) = c$, $c \neq 0$, then the roots of the equation $(x - \alpha)(x - \beta) + c = 0$ are

(a) a, c (b) b, c (c) a, b (d) a, d

14. If the roots of the equation $x^2 - px + q = 0$ differ by unity then

(a) $p^2 = 1 - 4q$ (b) $p^2 = 1 + 4q$

(c) $q^2 = 1 - 4p$ (d) $q^2 = 1 + 4p$

15. If p and q are the roots of the equation $x^2 + px + q = 0$, then

(a) p = 1, q = -2 (b) p = 0, q = 1

(c) p = -2, q = 0 (d) p = -2, q = 1

ANSWER

1)D 2)B 3)B 4)B 5)A 6)A 7)B 8)B 9)C 10)D 11)A 12)B 13)C 14)B `15)A

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