[30]

*** Choose the right answer from the given options. [1 Marks Each]**

1. If one zero of the quadratic polynomial x^2+3x+k is 2 , then the value of k is
   (A) 10 (B) -10 (C) 5 (D) -5

2. If α,β are the zeros of the polynomial $f(x)=x^2+x-1$, then $\frac{1}{\alpha}+\frac{1}{\beta}=$
   (A) 1 (B) -1 (C) 0 (D) none of these

3. If α,β are the zeros of the polynomial $p(x)=5x^2+3x-7$, then $\frac{1}{\alpha}+\frac{1}{\beta}$ is equal to
   (A) $-\frac{3}{7}$ (B) $\frac{3}{5}$ (C) $\frac{3}{7}$ (D) $-\frac{5}{7}$

4. The number of polynomials having zeros -3 and 5 is
   (A) 1 (B) 2 (C) 3 (D) more than 3

5. If α,β are the zeros of the polynomial $f(x)=ax^2+bx+c$, then $\frac{1}{\alpha^2}+\frac{1}{\beta^2}=$
   (A) $\frac{b^2-2ac}{a^2}$ (B) $\frac{b^2-2ac}{c^2}$ (C) $\frac{b^2+2ac}{a^2}$ (D) $\frac{b^2+2ac}{c^2}$

6. If α,β are the zeros of polynomial $f(x)=x^2-p(x+1)-c$, then $(\alpha+1)(\beta+1)=$
   (A) $c-1$ (B) $1-c$ (C) c (D) $1+c$

7. What should be subtracted to the polynomial $x^2-16x+30$, so that 15 is the zero of the resulting polynomial?
   (A) 30 (B) 14 (C) 15 (D) 16

8. If $x+2$ is a factor of $x^2+ax+2b$ and $a+b=4$, then
   (A) $a=1,b=3$ (B) $a=3,b=1$ (C) $a=-1,b=5$ (D) $a=5,b=-1$

9. If the zeroes of the quadratic polynomial $x^2+(a+1)x+b$ are 2 and -3 , then
   (A) $a=-7,b=-1$ (B) $a=5,b=-1$ (C) $a=2,b=-6$ (D) $a=0,b=-6$

10. If α and β are the zeroes of the polynomial $x^2-(k+6)x+2(2k-1)$ such that $\alpha+\beta=\frac{\alpha\beta}{2}$, then the value of k is
    (A) 6 (B) 2 (C) 14 (D) 7

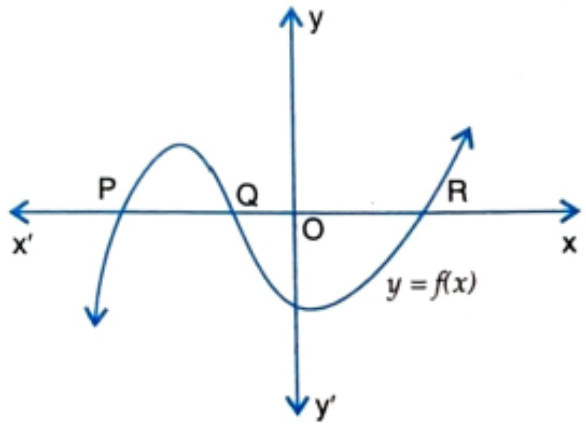
11. If α and β are the zeroes of the polynomial x^2-1 , then the value of $(\alpha+\beta)$ is
    (A) 2 (B) 1 (C) -1 (D) 0

12. Which of the following is a quadratic polynomial having zeroes $-\frac{2}{3}$ and $\frac{2}{3}$?
    (A) $4x^2-9$ (B) $\frac{4}{9}\left(9x^2+4\right)$ (C) $x^2+\frac{9}{4}$ (D) $5\left(9x^2-4\right)$

13. If α,β are the zeroes of the polynomial $p(x)=4x^2-3x-7$, then $\frac{1}{\alpha}+\frac{1}{\beta}$ is equal to
    (A) $\frac{7}{3}$ (B) $-\frac{7}{3}$ (C) $\frac{3}{7}$ (D) $-\frac{3}{7}$

14. If a polynomial $p(x)$ is given by $p(x)=x^2-5x+6$, then the value of $p(1)+p(4)$ is
    (A) 0 (B) 4 (C) 2 (D) -4

15. The graph of a polynomial $f(x)$ is shown in Fig. The number of zeroes of $f(x)$ is



(A) 3 (B) 2 (C) 1 (D) 4

16. If the sum of the zeroes of the polynomial $p(x) = 2x^2 - k\sqrt{2}x + 1$ is $\sqrt{2}$, then the value of k is
(A) $\sqrt{2}$ (B) 2 (C) $2\sqrt{2}$ (D) $1/2$

17. If one zero of the polynomial $6x^2 + 37x - (k-2)$ is reciprocal of the other, then what is the value of k ?
(A) -4 (B) -6 (C) 6 (D) 4

18. The zeroes of the polynomial $p(x) = x^2 + 4x + 3$ are given by
(A) 1,3 (B) $-1, 3$ (C) $1, -3$ (D) $-1, -3$

19. The zeroes of a polynomial $x^2 + px + q$ are twice the zeroes of the polynomial $4x^2 - 5x - 6$. The value of p is
(A) $-\frac{5}{2}$ (B) $\frac{5}{2}$ (C) -5 (D) 10

20. If α and β are the zeroes of the quadratic polynomial $p(x) = x^2 - ax - b$, then the value of $\alpha^2 + \beta^2$ is
(A) $a^2 - 2b$ (B) $a^2 + 2b$ (C) $b^2 - 2a$ (D) $b^2 + 2a$

21. If $(a-2)x^2 + 3x - 5$ is a quadratic polynomial, then
(A) a can take any real value (B) a can take any non-zero value
(C) $a \neq 2$ (D) $a = 2$

22. If zeroes of the quadratic polynomial $f(x) = \left(k^2 + 4\right)x^2 + 7x + 4k$ are reciprocal of each other, then the value (s) of k is (are)
(A) 1 (B) -1 (C) 2 (D) -2

23. The zeroes of the polynomial $x^2 + \frac{1}{6}x - 2$ are
(A) $-3, 4$ (B) $-\frac{3}{2}, \frac{4}{3}$ (C) $-\frac{4}{3}, \frac{3}{2}$ (D) $-\frac{4}{3}, -\frac{3}{2}$

24. If the product of two zeros of the polynomial $f(x) = 2x^3 + 6x^2 - 4x + 9$ is 3 , then its third zero is
(A) $\frac{3}{2}$ (B) $-\frac{3}{2}$ (C) $\frac{9}{2}$ (D) $-\frac{9}{2}$

25. If two zeros of the polynomial $f(x) = x^3 + x^2 - 5x - 5$ are $\sqrt{5}$ and $-\sqrt{5}$, then its third zero is
(A) 1 (B) -1 (C) 2 (D) -2

26. If α, β, γ are the zeroes of the polynomial $f(x) = ax^3 + bx^2 + cx + d$, then $\alpha^2 + \beta^2 + \gamma^2 =$
(A) $\frac{b^2 - ac}{a^2}$ (B) $\frac{b^2 - 2ac}{a}$ (C) $\frac{b^2 + 2ac}{b^2}$ (D) $\frac{b^2 - 2ac}{a^2}$

27. If α, β, γ are the zeroes of the polynomial $f(x) = x^3 - px^2 + qx - r$, then $\frac{1}{\alpha\beta} + \frac{1}{\beta\gamma} + \frac{1}{\gamma\alpha}$ is equal to
(A) $\frac{r}{p}$ (B) $\frac{p}{r}$ (C) $-\frac{p}{r}$ (D) $-\frac{r}{p}$

28. If α, β are the zeros of the polynomial $f(x) = x^2 - p(x+1) - c$ such that $(\alpha + 1)(\beta + 1) = 0$, then $c =$
(A) 1 (B) 0 (C) -1 (D) 2

29. The zeros of the quadratic polynomial $f(x) = x^2 + 99x + 127$ are
(A) both positive (B) both negative
(C) one positive and one negative (D) both equal

30. What should be added to the polynomial $x^2 - 5x + 4$, so that 3 is the zero of the resulting polynomial?
(A) 1 (B) 2 (C) 4 (D) 5

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