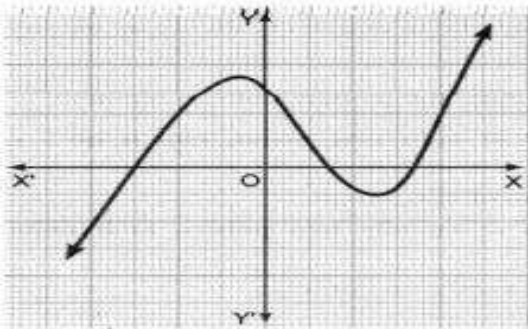


CHAPTER 2 - POLYNOMIALS

SN	MULTIPLE CHOICE QUESTIONS (MCQ- 30 QUESTIONS)
1	Which of the following is not a polynomial? (a) $\sqrt{3}x^3 - 2x - \sqrt{3}$ (b) $x + \frac{1}{x}$ (c) $7x^2 + 5x - \sqrt{2}$ (d) 5
2	Which are the zeroes of $p(x) = 6x^2 - 7x - 3$ (a) 5, -2 (b) -5, 2 (c) -5, -2 (d) none of these
3	The number of zeroes of the polynomial from the graph is (a) 0 (b) 1 (c) 2 (d) 3 
4	Find the quadratic polynomial whose zeros are -3 and 4. (a) $x^2 - 7x - 12$ (b) $x^2 + x + 12$ (c) $x^2 - x - 12$ (d) $x^2 + 3x - 4$
5	Which are the zeroes of $p(x) = x^2 - 8x + 15$ (a) 5, -2 (b) -5, 2 (c) 5, 3 (d) none of these
6	Find the sum and product of the zeroes of polynomial $x^2 - 3x + 5$ (a) -3, 5 (b) 2, 5 (c) 3, 5 (d) -3, 2
7	If one of the zeroes of quadratic polynomial $(k + 3)x^2 + 2kx + 6$ is -3 ,then find value of k. (a) 10 (b) -11 (c) 11 (d) 13
8	A quadratic polynomial whose sum and product of zeroes are -5 and 6 is (a) $x^2 - 5x - 6$ (b) $x^2 + 5x - 6$ (c) $x^2 + 5x + 6$ (d) none of the above.
9	If the product of the zeroes of the quadratic polynomial $3x^2 + 5x + k$ is $-\frac{2}{3}$, then the value of k is (a) -3 (b) -2 (c) 2 (d) 3
10	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

11	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
12	If α and β are the zeroes of the polynomial $f(x) = px^2 - 2x + 3p$ and $\alpha + \beta = \alpha\beta$ then the value of p (a) $-\frac{2}{3}$ (b) $\frac{2}{3}$ (c) $\frac{1}{3}$ (d) $-\frac{1}{3}$
13	The zeroes of the quadratic polynomial $f(x) = x^2 + 99x + 127$ are (a) both negative (b) both positive (c) both equal (d) none
14	The maximum number of zeroes a cubic polynomial can have, is (a) 1 (b) 4 (c) 2 (d) 3
15	If α and β are the zeroes of the polynomial $f(x) = x^2 - ax - b$, then the value of $\alpha^2 + \beta^2$ is (a) $a^2 - 2b$ (b) $a^2 + 2b$ (c) $a^2 - b$ (d) $a^2 + b$
16	The number of polynomials having zeroes -3 and 5 is (a) 1 (b) 2 (c) 3 (d) more than 3
17	If $x + 2$ is 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) $a = 5, b = -1$
18	If α and β are the zeroes of the polynomial $f(x) = 4x^2 - 3x - 7$, then the value of $\frac{1}{\alpha} + \frac{1}{\beta}$ is (a) $\frac{7}{3}$ (b) $-\frac{7}{3}$ (c) $\frac{3}{7}$ (d) $-\frac{3}{7}$
19	If α and β are the zeroes of the polynomial $f(x) = x^2 - ax - b$, then the value of $\alpha^2 + \beta^2$ (a) $a^2 - 2b$ (b) $a^2 + 2b$ (c) $b^2 - 2a$ (d) $b^2 + 2a$
20	A quadratic polynomial, the sum of whose zeroes is - 5 and their product is 6, is (a) $x^2 + 5x + 6$ (b) $x^2 - 5x + 6$ (c) $x^2 - 5x - 6$ (d) $-x^2 + 5x + 6$
21	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) $a = 0, b = -6$
22	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
23	If 2 and $\frac{1}{2}$ are two zeroes of $px^2 + 5x + r$, then (a) $p = r = 2$ (b) $p = r = -2$ (c) $p = 2, r = 2$ (d) $p = -2, r = 2$
24	What should be subtracted from the polynomial $x^2 - 16x + 30$, so that 15 is the zero of the resulting polynomial? (a) 30 (b) 14 (c) 15 (d) 15

ASSERTION -REASON BASED MCQs

Each of the following questions contains STATEMENT-1 (A) and STATEMENT-2 (Reason) and has following four choices (a), (b), (c) and (d), only one of which is the correct answer. Mark the correct choice.

(a) Statement-1 is true, Statement-2 is true; Statement-2 is a correct explanation for Statement-1.

(b) Statement-1 is true, Statement-2 is true; Statement-2 is not a correct explanation for Statement-1.

(c) Statement-1 is true, Statement-2 is false

(d) Statement-1 is false, Statement-2 is true.

25	Statement-1 (A): The polynomial $f(x) = x^2 - 2x + 2$ has two real zeros. Statement-2 (R): A quadratic polynomial can have at most two real zeroes.
26	Statement-1 (A): A quadratic polynomial having $\frac{1}{2}$ and $\frac{1}{3}$ as its zeroes is $6x^2 - 5x + 1$ Statement-2 (R): Quadratic polynomial having α and β as zeroes are given by $f(x) = k\{x^2 - (\alpha + \beta)x + \alpha\beta\}$ where k is a non-zero constant.
27	Statement-1 (A): If one root of the quadratic polynomial $f(x) = (k-1)x^2 - 10x + 3$, $k \neq 1$ is reciprocal of the other, then $k = 4$ Statement-2 (R): The product of roots of the quadratic polynomial $ax^2 + bx + c$, $a \neq 0$ is $\frac{c}{a}$
28	Statement-1 (A): If α and β are zeroes of the quadratic polynomial $x^2 + 7x + 12$, then $\frac{12}{\alpha} + \frac{12}{\beta} - 12\alpha\beta = 395$ Statement-2(R): If α and β are zeroes of the quadratic polynomial $ax^2 + bx + c$, then $\alpha + \beta = -\frac{b}{a}$ and $\alpha\beta = \frac{c}{a}$
29	Statement-1 (A): If α, β and γ are zeroes of the polynomial $6x^3 + 3x^2 - 5x + 1$, then $\alpha^{-1} + \beta^{-1} + \gamma^{-1} = 5$ Statement-2(R): If α, β and γ are zeroes of the cubic polynomial $ax^3 + bx^2 + cx + d$, then $\alpha + \beta + \gamma = -\frac{b}{a}$
30	Statement-1 (A): The polynomial $p(x) = x^2 + 3x + 3$ has two real zeroes. Statement-2(R): A quadratic polynomial can have at most two real zeroes.