

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

[10]

1. One of the zeroes of the polynomial $2x^2 + 7x - 4$ is:
 (A) $\frac{1}{2}$ (B) $-\frac{1}{2}$ (C) -2 (D) 2
2. Write the correct answer in the following:
 Which one of the following is a polynomial?
 (A) $\frac{x^2}{2} - \frac{2}{x^2}$ (B) $\sqrt{2x-1}$ (C) $x^2 + \frac{3x^2}{\sqrt{x}}$ (D) $\frac{x-1}{x+1}$
3. If $(x + 1)$ and $(x - 1)$ are factors of $px^3 + x^2 - 2x + p$ then value of p and q are.
 (A) $p = -1, q = 2$ (B) $p = 2, q = -1$ (C) $p = 2, q = 1$ (D) $p = -2, q = -2$
4. If $p(x) = 5x - 4x^2 + 3$ then $p(-1) = ?$
 (A) 2 (B) -2 (C) 6 (D) -6
5. Write the correct answer in the following:
 If $x + 1$ is a factor of the polynomial $2x^2 + kx$, then the value of k is.
 (A) -3 (B) 4 (C) 2 (D) -2
6. The Zero of the polynomial $(x - 2)^2 - (x + 2)^2$ is:
 (A) 1 (B) -2 (C) 0 (D) 2
7. If $x + 2$ and $x - 1$ are the factor of $x^3 + 10x^2 + mx + n$, then the values of m and n are respectively.
 (A) 5 and -3 (B) 7 and -18 (C) 23 and -19 (D) 17 and -8
8. If $(x + y)^3 - (x - y)^3 - 6y(x^2 - y^2) = ky^2$, then k =
 (A) 1 (B) 2 (C) 4 (D) 8
9. The value of the polynomial $5x - 4x^2 + 3$, when $x = -1$ is:
 (A) 6 (B) -6 (C) 1 (D) -1
10. If $x + \frac{1}{x} = 3$, then $x^6 + \frac{1}{x^6} =$
 (A) 927 (B) 414 (C) 364 (D) 322

► Answer the following short questions. [2 Marks Each]

[8]

11. Factorize:
 $2x^2 + y^2 + 8z^2 - 2\sqrt{2}xy + 4\sqrt{2}yz - 8xz$
12. Write the cube in expanded form : $\left(x - \frac{2}{3}y\right)^3$
13. Factorise : $27p^3 - \frac{1}{216} - \frac{9}{2}p^2 + \frac{1}{4}p$.
14. Verify : $x^3 + y^3 = (x + y)(x^2 - xy + y^2)$

► Answer the following questions. [3 Marks Each]

[12]

15. Use suitable identity to find the product:
 $(x + 4)(x + 10)$
16. Verify that $x^3 + y^3 + z^3 - 3xyz = \frac{1}{2}(x + y + z)[(x - y)^2 + (y - z)^2 + (z - x)^2]$.
17. Examine whether $x + 2$ is a factor of $x^3 + 3x^2 + 5x + 6$ and of $2x + 4$.
18. Factorise : $x^3 - 23x^2 + 142x - 120$
