MULTIPLE CHOICE QUESTIONS

Choose the correct alternatives in each of the following :

1. The degree of polynomial $a^2b + 6ab^2 + 5a^2b^3$ is
    (a) 3   (b) 2   (c) 5   (d) 1

2. The value of expression $\dfrac{3x^2 - 5}{2 - x}$ for $x = -2$ is
    (a) $\dfrac{7}{4}$ (b) 0   (c) $-\dfrac{7}{4}$ (d) infinite

3. What must be added to $1 - 2x$ to get $-2 + 5x$?
    (a) $3 - 7x$ (b) $-1 + 3x$ (c) $7x - 3$ (d) $3x + 1$

4. The statement, "4 times a number p is added to 3 times a number q" is expressed in algebraic expression as
    (a) $(4 + p) + (3 + q)$ (b) $4p + 3q$ (c) $3p + 4q$ (d) None of these

5. The expression $2z - 5x + 7y$ is a
    (a) binomial   (b) trinomial   (c) monomial   (d) cubic polynomial

6. Coefficient of $-x^2$ in $-5x^3$ is
    (a) -5 (b) $5x$ (c) $-5x$ (d) $-5x^2$

7. $7x^2y$ is a
    (a) cubic polynomial   (b) quadratic polynomial
    (c) linear polynomial   (d) none of these

8. On subtracting $x^2 - y^2$ from $y^2 - x^2$, we get
    (a) 0   (b) $2y^2$ (c) $-2(x^2 - y^2)$ (d) $-2x^2$

9. What must be subtracted from $3x^2y$ to get $-7x^2y$?
    (a) $4x^2y$ (b) $10x^2y$ (c) $-4x^2y$ (d) $-10x^2y$

10. If $p = -10$, then the value of $p^2 - 2p - 100$ is
    (a) 20   (b) -220 (c) 180   (d) -20

MENTAL MATHS CORNER

Fill in the blanks :

1. A symbol which takes various numerical values is called a ....
2. The terms not having same variable factors are called ....
3. The degree of non-zero constant polynomial is ....
4. Linear polynomial is a polynomial of degree ....
5. A polynomial of degree three is called a ....
6. A binomial has .... terms.
7. The value of $\dfrac{5-x}{x}$, when $x = -2$ is ....
8. On subtracting $3xy$ from $-7xy$, we get ....
9. .... must be added to $a^3 - b^3$ to get $-2b^3$.
10. .... must be subtracted from $-10ab^2c$ to get $4ab^2c$.

REVIEW EXERCISE

1. Write the degree of the following polynomials :

    (i) $6x^2y - 2x^2y^3 - xy + 7$

    (ii) $xyz - x^3 + 6x^2$

2. For the polynomial : $9y^2 - 4x + 7y^3 - 5$, find

    (i) its degree

    (ii) number of terms

    (iii) constant term

    (iv) coefficient of x.

3. Simplify : $5x^2 + 7 - 2x + 3x^2 + 4x + 1$

4. Find the value of the expression for the indicated value of the variables :

    (i) $-\dfrac{2}{3}x^2 + 5x - 2$ for $x = -3$

    (ii) $\dfrac{3a + 2b - 5}{a + b}$ for $a = 2, b = -1$

5. Add :

    (i) $7x^3 + 2x^2 - 5x - 7$ and $-5x^2 + x^3 + 4x - 5$

    (ii) $3x - x^2 + 1$, $2x$ and $1 + x^2$

6. Subtract :

    (i) $-10x + 8y$ from $2y - 5x$

    (ii) $9a^3 - 7a^2 + 5a + 7$ from $-4a^3 + 5a^2 - 3a - 2$

Algebraic Expressions **131**

7. What should be added to $7x^2 - 5x + 1$ to get $-3x^2 + 4x + 7$?

8. Subtract $2x + 6$ from the sum of $x^2 + 4x + 6$ and $8 - x^2 + 6x$.

9. What should be subtracted from $17x^3 - 8x^2 + 11$ to obtain $14x^3 + 8x^2 - 5x + 6$?

10. If $P = x^2 + 6$, $Q = 3x^2 - x + 2$ and $R = x^2 - 4x$, then find $P + Q - R$.

11. Evaluate :

$$7x - 2y + 5xy + \frac{1}{3}x^2 \quad \text{for } x = -1 \text{ and } y = 2.$$