

## CHAPTER-2 | Polynomials

### QUIZ PART-01

1. Which of the following is a polynomial?  
 A. 3  
 B.  $\sqrt{x} + \sqrt{6}$   
 C.  $x^3 + x^2$   
 D.  $x^{-7}$  (C)

**Explanation:** A polynomial consists of terms with non-negative integer exponents.  $x^3 + x^2$  is a polynomial, whereas  $x^{-7}$  is not.

2. The highest exponential value of a variable in a polynomial is called the:  
 A. Term  
 B. Degree of the polynomial  
 C. Constant  
 D. Coefficient (B)

**Explanation:** The degree of a polynomial is determined by the highest exponent of the variable in the polynomial expression.

3. Which of the following expressions is not a polynomial?  
 A.  $3x+2$   
 B.  $x^2 + 5x + 7$   
 C.  $x^{-2} + 4x + 1$   
 D.  $2x^3 + 5x^2 + 7x + 1$  (C)

**Explanation:**  $x^{-2} + 4x + 1$  is not a polynomial because it contains a negative exponent. Polynomials cannot have negative exponents.

4. Which of the following is the degree of the polynomial  $3x^4 + 2x^2 + 1$ ?  
 A. 2  
 B. 4  
 C. 1  
 D. 3 (B)

**Explanation:** The degree of a polynomial is the highest exponent of the variable. In this case, the degree is 4 because the highest exponent of  $x$  is 4.

5. What is the coefficient of  $x^2$  in the polynomial  $3x^2 + 2x + 5$ ?  
 A. 3  
 B. 2  
 C. 5  
 D. 0 (A)

**Explanation:** In the polynomial  $3x^2 + 2x + 5$  the coefficient of  $x^2$  is 3

6. Which of the following expressions is a polynomial in one variable?  
 A.  $x^2 + 2x + 1$   
 B.  $x^{-3} + 2x + 5$   
 C.  $\sqrt{x} + 3x$   
 D.  $\frac{1}{x} + 2x$  (A)

**Explanation:** A polynomial in one variable is an expression where all terms have non-negative integer exponents of the variable.  $x^2 + 2x + 1$  is a polynomial in one variable.

7. Which of the following is an example of a polynomial of degree 3?  
 A.  $2x^3 + 4x^2 + 3x + 1$   
 B.  $x^3 + 2x + 1$   
 C.  $x^2 + 4x + 2$   
 D.  $5x + 3$  (A)

**Explanation:** The degree of a polynomial is determined by the highest exponent of the variable.  $2x^3 + 4x^2 + 3x + 1$  has the highest exponent of 3, so its degree is 3.

8. Which of the following is a constant in the polynomial  $3^4 - 5x^3 - 2x^2 - 7x + 9$ ?  
 A. -7  
 B. 9  
 C. 3  
 D. -5 (B)

**Explanation:** A constant in a polynomial is a term without a variable. In this case, 9 is the constant.

9. What is the degree of the polynomial  $4x^5 - 2x^4 + x^3 - x^2 + 3x - 6$ ?  
 A. 5  
 B. 4  
 C. 3  
 D. 6 (A)

**Explanation:** The degree of the polynomial is determined by the highest exponent of the variable. Here, the highest exponent is 5, so the degree is 5.

10. Which of the following is a restriction for an expression to be considered a polynomial?  
 A. The exponents of the variables must be whole numbers.  
 B. The variables must appear in the denominator.  
 C. The degree of the variables can be negative.  
 D. The constants must be negative. (A)

**Explanation:** In a polynomial, the exponents of the variables must be whole numbers, and the degree of any variable cannot be negative.