

Board-CBSE

Class – 9<sup>th</sup>

Topic – Factorisation of Polynomials

## Section A – Multiple Choice Questions (1 mark each)

1. What is the factorised form of  $x^2 - 9$ ?  
A)  $(x + 3)^2$  B)  $(x - 3)^2$  C)  $(x + 3)(x - 3)$  D)  $x(x - 9)$
2. Which of the following is a factor of  $x^2 + 5x + 6$ ?  
A)  $x - 2$  B)  $x + 3$  C)  $x - 3$  D)  $x - 6$
3. The factorised form of  $3x^2 + 6x$  is:  
A)  $3x(x + 2)$  B)  $x(3x + 2)$  C)  $3(x + 2)$  D)  $x(x + 3)$
4. Which of the following is a perfect square trinomial?  
A)  $x^2 + 6x + 8$  B)  $x^2 + 4x + 4$  C)  $x^2 - 5x + 4$  D)  $x^2 - 4x + 5$
5. If  $x = -2$  is a zero of polynomial  $p(x) = x^2 + 3x + 2$ , then a factor of  $p(x)$  is:  
A)  $x + 2$  B)  $x - 2$  C)  $x + 1$  D)  $x - 1$

## Section B – Short Answer Type (2 marks each)

6. Factorise:  $x^2 - 2x - 8$
7. Factorise:  $6xy - 9x + 4y - 6$
8. Factorise using the identity  $a^2 - b^2$ :  $16a^2 - 81b^2$

## Section C – Short Answer Type (3 marks each)

9. Factorise:  $2x^2 + 7x + 3$
10. Factorise:  $5x^2y + 10xy^2 + 15xy$

## Section D – Long Answer Type (4 marks each)

11. Factorise:  $x^3 + 3x^2 - x - 3$  (Use regrouping method)
12. Factorise:  $2x^3 + 3x^2 - 2x - 3$  (Hint: grouping method)