

## Section A 1 mark each

1. Is  $7x^2 + 4\sqrt{x} - 11$  a polynomial in one variable?
2. Write the given polynomial in standard form and also write its degree  
 $4x + 3 - 7x^3 + 4x^2$
3. Find value of polynomial  $3 - 7x^2 + 25$  at  $x = -\frac{1}{2}$
4. Verify if  $x = 5$  is a zero of the polynomial  $3x^2 - 5x - 50$
5. Find the remainder when  $x^3 - 5x + 8$  is divided by  $x - 2$

## Section B 2 marks each

6. Find  $m$  if  $x - 3$  is a factor of  $x^3 + x^2 - mx + 15$

## Factorise the following polynomials

7.  $2x^2 + 3y^2 + 8z^2 - 2\sqrt{6}xy - 4\sqrt{6}yz + 8zx$
8.  $125a^3 - 343b^3$
9.  $(p - q)^3 + (q - r)^3 + (r - p)^3$

## Evaluate using suitable identities

10.  $(98)^3$

## Write in expanded form

11.  $(2a + b - 3c)^2$

## Section C 3 marks each

12. Find dimensions of a cuboid if its volume is  $15ax^2 + 10ax - 25a$

## Factorise the following polynomials using factor theorem

13.  $4z^3 + 23z^2 - 41z - 42$
14. Evaluate  $(x - a)^3 + (x - b)^3 + (x - c)^3 - 3(x - a)(x - b)(x - c)$   
given  $3x = a + b + c$

## Find remainder by actual division and verify your answer using remainder theorem

15. When  $x^3 + x^2 - 2x + 1$  is divided by  $x - 3$

## Section D 6 marks each

## Factorise the following polynomial using factor theorem

16.  $6x^2 - 13x + 6$