

- Note:**(a) Section – A Each question carries 1 mark  
(b) Section – B Each question carries 2 marks  
(c) Section – C Each question carries 3 marks  
(d) Section – D Each question carries 4 marks

**Section [A]**

1. Evaluate  $(64)^{-1/6}$
2. Simplify:  $(\sqrt{2} - 1)(\sqrt{3} + \sqrt{2})$

**Section [B]**

3. (a) What is degree of the polynomial:  $2^5 + x^4 + x^2 - 3^6$   
(b) Check whether  $x^2 - \frac{x^{3/2}}{\sqrt{x}} + 1$  is a polynomial or not.
4. Express:  $2.\dot{3}$  in the form of  $\frac{p}{q}$

**Section [C]**

5. Factorise:  $64m^3 + 1$
6. (a) insert one rational number and irrational number between 3 and 4.  
(b)  $p(x) = ax^2 + bx + 7$  and  $p(1) = 14$  find  $a + b$   
(c) Write a polynomial with degree 10 and 3 terms.

**Section [D]**

7. Factorise:  $2x^3 + 9x^2 - 6x - 5$  using factor theorem.
8. If  $x = \sqrt{5} + 2$  find
  - (a)  $x + \frac{1}{x}$
  - (b)  $x - \frac{1}{x}$
  - (c)  $x^2 + \frac{1}{x^2}$