

**REVISION TEST 02**  
**(NUMBER SYSTEM & POLYNOMIALS)**  
**CLASS: IX : MATHEMATICS**

**M.M. 30 Marks**

**T.T. 1 hr**

**SECTION – A(2 marks each)**

1. Rationalize the denominator of  $\frac{5-3\sqrt{2}}{5+3\sqrt{2}}$ .
2. Simplify:  $\left[ \left( (625)^{\frac{-1}{2}} \right)^{\frac{-1}{4}} \right]^2$
3. Find the value of a if  $x + 6$  is a factor of  $x^3 + 3x^2 + 4x + a$ .
4. Factorise:  $y^2 - 5y + 6$
5. Without actually calculating, find the value of  $(25)^3 - (75)^3 + (50)^3$ .

**SECTION – B(3 marks each)**

6. Show that  $1.27272727\dots\dots$  can be expressed in the form of  $\frac{p}{q}$ , where p and q are integers and  $q \neq 0$ .
7. Factorise:  $x^3 - 6x^2 + 11x - 6$ .
8. If  $a + b + c = 9$  and  $ab + bc + ca = 26$ , find  $a^2 + b^2 + c^2$ .
9. Visualize 3.765 on the number line, using successive magnification.

**SECTION – C(4 marks each)**

10. If  $x = 3 + \sqrt{8}$ , find the value of (i)  $x^2 + \frac{1}{x^2}$  and (ii)  $x^4 + \frac{1}{x^4}$
  11. Find the values of a and b so that the polynomial  $x^4 + ax^3 - 7x^2 + 8x + b$  is exactly divisible by  $(x + 2)$  as well as  $(x + 3)$ .
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