

REVISION TEST 02
(REAL NUMBERS & POLYNOMIALS)
CLASS: X : MATHEMATICS

M.M. 30 Marks

T.T. 1 hr

SECTION – A(2 marks each)

1. Express each of the following positive integers as the product of its prime factors: (i) 3825 (ii) 7429
2. Find the zeroes of the polynomial $p(x) = \sqrt{2}x^2 - 3x - 2\sqrt{2}$.
3. Find a cubic polynomial whose zeroes are 3, 5 and -2 .

SECTION – B(3 marks each)

4. Using Euclid's division algorithm, find the HCF of 2160 and 3520.
5. Find the largest number which divides 245 and 1029 leaving remainder 5 in each case.
6. Prove that $7 + 3\sqrt{2}$ is an irrational number.
7. Find the zeroes of the quadratic polynomial $5t^2 + 12t + 7$ and verify the relationship between the zeroes and the coefficients.

SECTION – C(4 marks each)

8. Obtain all the zeroes of $3x^4 + 6x^3 - 2x^2 - 10x - 5$, if two of its zeroes are $\sqrt{\frac{5}{3}}$ and $-\sqrt{\frac{5}{3}}$.
9. Use Euclid's division lemma to show that the cube of any positive integer is of the form $9m$, $9m + 1$ or $9m + 8$.
10. If α and β are the zeroes of the quadratic polynomial $f(x) = 2x^2 - 5x + 7$, then find a quadratic polynomial whose zeroes are $2\alpha + 3\beta$ and $2\beta + 3\alpha$.