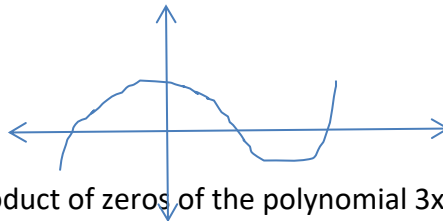


**SECTION - A**

**6X1M = 6M**

- 1) Find LCM and HCF of 8,9,25.
- 2) Without performing long division, find whether  $13/3125$  is a terminating or non-terminating decimal expansion.
- 3) Find the number of zeros of the polynomial  $p(x)$  where the graph of  $y = p(x)$  is given below.



- 4) Find the sum and product of zeros of the polynomial  $3x^2 + 4x + 1$ .
- 5) Find out whether the lines  $5x - 4y + 8 = 0, 7x + 6y - 9 = 0$  intersect at a point, are parallel or coincident.
- 6) Check whether the equations  $x + y = 5, 2x + 2y = 10$  are consistent or inconsistent.

**SECTION - B**

**5X2M = 10M**

- 7) Given that  $HCF(306,657) = 9$ , find  $LCM(306,657)$ .
- 8) Find the zeros of the polynomial  $x^2 - 2x - 8$ .
- 9) If  $\alpha, \beta$  are zeros of a polynomial such that  $\alpha + \beta = 3, \alpha.\beta = 2$  find the polynomial.
- 10) Solve  $x + y = 5, 2 - 3y = 4$  by elimination method.
- 11) Find the number of solutions of the pair of linear equations  $x - 3y - 3 = 0, 3x - 9y - 2 = 0$ .

**SECTION - C**

**4x3M = 12M**

- 12) Prove that  $\sqrt{5}$  is irrational.
- 13) Explain why  $7 \times 11 \times 13 + 13$  and  $7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1 + 5$  are composite numbers.
- 14) Divide  $2x^2 + 3x + 1$  by  $x + 2$ . Find the quotient and remainder.
- 15) The difference between two numbers is 26 and one number is three times the other. Find the numbers.

**SECTION - D**

**3x4M = 12M**

- 16) Use Euclid's division lemma to show that the cube of any positive integer is of the form  $9m, 9m + 1$  or  $9m + 8$ .
- 17) Find all the zeros of  $2x^4 - 3x^3 - 3x^2 + 6x - 2$ , given two zeros are  $\sqrt{2}$  and  $-\sqrt{2}$ .
- 18) Five years ago, Nuri was thrice as old as Sonu. Ten years later, Nuri will be twice as old as Sonu. How old are Nuri and Sonu?.