KENDRIYA VIDYALAYA KHAMMAM

FOR CLASS X FA1 EXAMINATION

Time: 90min. **Subject MATHEMATICS** **Max.marks: 40**

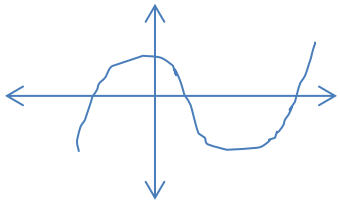
Note: Answer all the questions.

Section-A **4X1M = 4M**

1) Find HCF X LCM for the numbers 26 and 91.
2) Find the zeros of the quadratic polynomial $x^2 + 7x + 10$.
3) Find a quadratic polynomial the sum and product of whose zeros are -3 and 2.
4) Verify that the pair of linear equations $6x – 7y = 1$ and $3x - 4y = 5$ has a unique solution.

Section –B **4X2M = 8M**

5) Use Euclid's division algorithm to find the HCF of 135 and 235.
6) The graph of y = p(x) is given for some polynomial p(x). Find the number of zeros of p(x).



7) Find the zeros of the polynomial $x^2 - 8x + 12$ and verify the relationship between zeros and coefficients of the polynomial.
8) For what value of p the equations $(2p – 1)x + (p – 1)y = 2p + 1$, $3x + y – 1 = 0$ have no solution.

Section –C **4X3M = 12M**

9) Using Euclid's division lemma, show that the square of any positive integer is either of the form 3m or 3m + 1 for some integer m.
10) Given that HCF(306,657) = 9, find LCM(306,657)
11) Divide the polynomial $x^3 – 3x^2 + 5x – 3$ by the polynomial $x^2 – 2$ and find the quotient and remainder.
12) The difference between two numbers is 26 and one number is three times the other. Find them

Section –D **4X4M = 16M**

13) Prove that $\sqrt{7}$ is irrational.
14) Obtain all other zeros of $3x^4 + 6x^3 – 2x^2 - 10x - 5 = 0$, if two of its zeros are $\sqrt{\frac{5}{3}}$, and $-\sqrt{\frac{5}{3}}$.
15) Solve the pair of linear equations $2x + y – 6 = 0$, $4x – 2y = 4$ graphically.
16) The taxi charges in a city consist of fixed charge together with charge for distance covered. For a distance of 10 km, the charge paid is Rs.105,and for a journey of 15 km the charge paid is RS.155. (i) Find the fixed charge and charge per km. (ii) list out the values associated with this problem.