KENDRIYA VIDYLAYA NDA PUNE -23

PT-1[2018-19]

SUBJECT: MATHEMATICS **SET-A** **M.M-40**

TIME: 90 MIN **CLASS: X**

SECTION –A[4X1=4]

Q1 Given that HCF(306,1314)=18.Find LCM(306,1314)

Q.2 If α and β are the zeros of the quadratic polynomial $p(x)=2x^2-3x+7$ then find $\frac{1}{\alpha}+\frac{1}{\beta}$

Q.3 Find the value of k for which the system of equation have many solutions.

7x+ky=5,14x+2y=10

Q.4 If $a_{21} - a_7 = 84$, then find the common difference.

SECTION –B[4X2=8]

Q.5 If $S_n = n^2+n$,Find 18^{th} term of an AP

Q.6 Find the value of p if the quadratic equation $px^2+4x+p=0$ have equal roots.

Q.7 Solve the system of equation: 2x-y-3=0,4x-7-5=0

Q.8 Find the quadratic polynomial whose zeros are ½ and 3.

SECTION –C[4X3=12]

Q.9 Find the sum of two digit number multiple of 7.

Q.10 Solve the equation: $\frac{1}{x+1}+\frac{2}{x+2}=\frac{4}{x+4}$

Q.11 In a cyclic quadrilateral ABCD: ∟A=(x+2) , ∟B=(y+3) , ∟C=(3y+8), ∟D=(4x-8),find all the angles.

Q.12 Prove that $\sqrt{3}$ is an irrational.

SECTION –D[4X4=16]

Q.13 The hypotenuse of right triangle is 6cm more than the twice the shortest side. If the third side is 2cm less than the hypotenuse. Find the sides of the triangle.

Q.14 Solve graphically: x-2y=0, 3x+4y=20.find the area of triangle formed with X-axis.

Q.15 Find all zeros of $2x^4-3x^3-3x^2+6x-2$ if two of its zeros are $\sqrt{2}$ and $-\sqrt{2}$

Q.16 State and prove Basic proportionality theorem.

KENDRIYA VIDYLAYA NDA PUNE -23

PT-1[2018-19]

SUBJECT: MATHEMATICS **SET-B** **M.M-40**

TIME: 90 MIN **CLASS: X**

SECTION –A[4X1=4]

Q1 If d= HCF (18,24),then write the value of d

Q.2 If α and β are the zeros of the quadratic polynomial $p(x)=x^2-3x+2$ then find α+β and αβ

Q.3 Find the value of k for which the system of equation have unique solutions.

4x+ky=5,7x+2y=1

Q.4 In an A.P -7,-4,-7 ……., find a_{10}

SECTION –B[4X2=8]

Q.5 If $a_n = n^2+n$,Find S_{10} of an A.P.

Q.6 Find the value of p if the quadratic equation $x^2+3px+2=0$ have no real roots.

Q.7 Solve the system of equation: 2x+3y=7,4x-7y=5

Q.8 Find the quadratic polynomial whose zeros are -4 and 2/3

SECTION –C[4X3=12]

Q.9 Find the sum of two digit number between 1 to 50 multiple of 3.

Q.10 The sum of the ages of a father and his son is 54 years.Two years ago,the product of their ages 9in years) was 400.Find their present ages.

Q.11 In a cyclic quadrilateral ABCD: ∟A=(x+7) , ∟B=(y+8) , ∟C=(3y+23), ∟D=(4x+12),find all the angles.

Q.12 Prove that $\sqrt{7}$ is an irrational.

SECTION –D[4X4=16]

Q.13 Sonu can row his boat at a speed of 4km/h in still water. If it takes 2 hour more to row the boat 6km upstream than to return downstream. Find the speed of stream.

Q.14 Draw the graph x-y+1=0, 3x+2y+12=0.find the area of the triangle formed with these line and x-axis.

Q.15 On dividing $3x^3+4x^2+5x-13$ by a polynomial g(x) ,the quotient and remainder were (3x+10) and (16x-14) respectively. Find g(x)

Q.16 Prove that if a line parallel to one side of a triangle intersect other two sides in distinct points, the other two sides are divided in the same ratio.