DELHI PUBLIC SCHOOL, JAMMU
ASSIGNMENT (2018-2019)

Class: X **Subject: Mathematics**

CHAPTERS: POLYNOMIAL ,TRIGONOMETRY

1. Find p and q if p and q are zeroes of the quadratic polynomial x^2 +px +q.
2. Find a cubic polynomial with the sum, sum of the product of its zeroes taken two at a time, and product of its zeroes as 4,1,-6 respectively.
3. If the sum of the squares of zeroes of the polynomial $6x^2$ + x +K is 25/36, find the value of k.
4. If α and β be two zeroes of the quadratic polynomial p(x) = $2x^2$ -3x+7,evaluate
   a. $\frac{1}{\alpha}+\frac{1}{\beta}$
   b. $\alpha^3+\beta^3$
   c. $\frac{1}{2\alpha-3}+\frac{1}{2\beta-3}$
5. Represent the zeroes of the quadratic polynomial $-x^2$ +x +6 graphically.
6. Find the zeroes of the polynomial f(x)= $4\sqrt{3}x^2$ +5x-$2\sqrt{3}$ and verify the relation between the zeroes and coefficient.
7. If $\sin A = \frac{m}{n}$,find the value of $\frac{\tan A + 4}{4\cot A + 1}$.
8. If x =r sin Acos C ,y=rsin A sin C and z= rcos A ,prove that $r^2=x^2+y^2+z^2$.
9. Prove that (1 +cot A –cosec A) (1 +tan A + sec A)=2
10. If sec Q + tan Q =p, prove that sin Q = $\frac{p^2-1}{p^2+1}$
11. If cos A + $\cos^2 A$=1, then $\sin^2 A+\sin^4 A$=1.Is this true?
12. If α and β are zeroes of the quadratic polynomial x^2-6x+a, find the value of a if 3α +2β=20.