KV NOI NAVAL BASE KOCHI
HOLIDAY ASSIGNMENTS IN MATHEMATICS

Class VII

1. Write and learn multiplication tables (1 to 20) thoroughly.
2. Write your own questions (at least 10 each) for addition, subtraction, multiplication and division of integers.
3. Measurement and construction of angles using protractor.
4. Revise addition and subtraction of fractions of different denominators.

Class VIII

CHAPTER 1 RATIONAL NUMBERS

1) Verify the Associative Property for; (i) $\frac{-4}{5} \times \frac{2}{7} \times \frac{3}{5}$ (ii) $\frac{-5}{7} + \frac{2}{5} + \frac{3}{4}$.
2) Use Distributive Property to simplify ; (i)(-3/5)x(7/12)+(-3/5)x(-8/11)
   (ii)(15/17)x(-3/8)+ 19/8x(-3/8)
3) Find ten Rational Numbers lying between (i)-2 and ½ (ii)-3 and 5

CHAPTER 2 EQUATIONS.

4) Solve the following.(i) 2(x-3)+3(2-x) =5 (ii)1/2(x+2)-1/3(x-3) =5/7
   (iii) $\frac{2}{3}x + 5 = 23$ (iv) $\frac{t}{5} + 7 = \frac{3}{4}$ (v) $\frac{3}{8}x + 2x = \frac{5}{8}$ (vi) $\frac{x}{3} + 1 = \frac{7}{15}$ (vii) 2x+3=x+7
   (viii) 3-x=5-2x (ix)3(x-2)+2(x+5)=4(x-1) (x) $\frac{7}{5}y = -3/4$
5) Simplify using properties only.
   (i) $\frac{-2}{3} + \frac{-4}{7} + \frac{8}{3} + \frac{6}{5}$ (ii) $\frac{3}{8} + \frac{-5}{11} + \frac{-21}{8} + \frac{-13}{8}$ (iii) $\frac{3}{5} + \frac{7}{3} + \frac{-4}{15} + -4$

CLASS IX

1. Working model on any one of the following topic:

(a) To show that volume is 1/3 of the volume of cylinder of same radius and height.

(b) Make a floral design of tiles which are triangular in shape and find its area using Heron's formula.

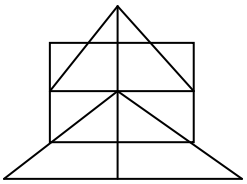
(c) Any model of your interest relevant to IX class math syllabus.

2. Make cubes of dimesions 15 x 15 x 15 (one) , 5 x 5 x5 (one) , 15 x 15 x 5 (three) and 5 x 5 x 15 (three) and 5 x 5 x 15 (three) and 5 x 5 x 15 (three) to prove the identity $(a+b)^2$

3 . Collect information on history of ' π ' with pictures and articles on it .

(Question No. 4 – 8to be done in H.W copy)

4. How many triangles are there in the following figure:



5. Represent the following irrational numbers on the number line :-

1. $\sqrt{7.3}$
2. $\sqrt{5.6}$

6. Evaluate $\frac{1}{\sqrt{2}+1} + \frac{1}{\sqrt{3}+\sqrt{2}} + \frac{1}{\sqrt{4}+\sqrt{3}} + \cdots \ldots \ldots \ldots + \frac{1}{\sqrt{9}+\sqrt{8}}$

7. If a = 6 – $\sqrt{35}$ **, find the value of** $a^2 + \frac{1}{a^2}$

8. Simplify the following $(4\sqrt{3} - 2\sqrt{2})(3\sqrt{2} + 4\sqrt{3})$

CLASS X

CHAPTER 1 REAL NUMBERS.

1) Find the HCF of the following using Euclid's Division Algorithm.
   (i)504 and 980 (ii)6265 and 76254 (iii)2825 and 70625
   (iv)26676 and 33754
2) Find the HCF and LCM using Prime Factorisations.
   (i)426 and576 (ii)54,72,360 (iii)96 and 404 (iv)377 ,435 and667.
3) Prove that the following are irrational numbers.
   (i)$\sqrt{2}+\sqrt{3}$ (ii)$\frac{3}{2\sqrt{5}}$
4) (i)Prove that no number of the type 4k+2 can be a perfect square.
   (ii)Show that any positive odd integer is of the form 6q+1,6q+3 or 6q+5 where q is some positive integer

CHAPTER 2. POLYNOMIALS.

5) Find a quadratic polynomial whose zeroes are (i)$5+\sqrt{2}$ and $5-\sqrt{2}$
   (ii)3 and $\frac{1}{3}$ (iii)sum of zeroes is 0 and one zero is 5.
6) (i)Verify that ½,1,-2 are the zeroes of $2x^3+x^2-5x+2$.
   (ii)Find the zeroes of $\sqrt{3}x^2+10x+7\sqrt{3}$.

7) (i)Find the value of K for which $x^4+10x^3+25x^2+15x+K$ is exactly divisible by $x+7$?

(ii)What must be subtracted from $8x^4+14x^3-2x^2+7x-8$ so that the resulting polynomial is exactly divisible by $4x^2+3x-2$.

(iii)If the squared difference of the zeroes of $x^2+px+45$ is 144, find the value of p.