Kendriya Vidyalaya NHPC, Gerukamukh

Class -IX **Autumn Break Holiday Homework**

English

Objectives:

A. enhancing writing and thinking skills among the students

B. inculcating observing capacity among the students.

C. sensitizing them towards nature.

D. creating a sense of sympathy among students.

Questions:

1. During the corona pandemic, while going to your hometown you tested positive at district headquarters that locked you into a separate quarter for seven days. How did it all start and what you felt during quarantine, write your experience in the form of diary.

2. Recently you visited an old age home and you found many old men sunken in despair who had once shouldered their children when they were quite vulnerable and needed help. Assuming yourself in lieu of an old man, write a letter to your son mentioning how you are feeling there.

Note:

A.   Answers must be written in the notebook.

B.   No words limit for the answers.

C.   All the questions are compulsory.

Maths

INSTRUCTIONS :

** Use Ruler, Pencil, Compass and Protractor for constructions.

** Do all the work on a notebook of 20 pages.

1. Show how √3 can be represented on the number line (Squareroot spiral)

2. Visualize 7.356 on the number line up to 4 decimal places.

3. Factorize $4x^2+y^2+z^2- 4xy-2yz+4xz$.
4. Show that (x+5) is a factor of the polynomial

   $x^3+x^2+3x+115$

   Represent $\sqrt{6.4}$ on the number line using a semicircle.
5. Factorize : $x^2-4x-21$
6. Give the geometrical representation of the equation x = -3 as an equation.
   (i) In one variable
   (ii) In two variables

7. Write any 8 algebraic identities.

8. State and prove mid-point theorem.
9. Prove that parallelogram on the same base and between the same parallels are equal in area.

10. Prove that the diagonals of a parallelogram divide it into four triangles of equal areas therefore

11. Define factor theorem and factorise x^3-1.
12. Find two solutions of linear equation 2x +3y =5.
13. Write two rational number between √2 and √3.
14. Write an article on Arya Bhatta's contribution in Mathematics.
15. Write an article   on S Ramanujan-A role model for Indian Mathematicians.
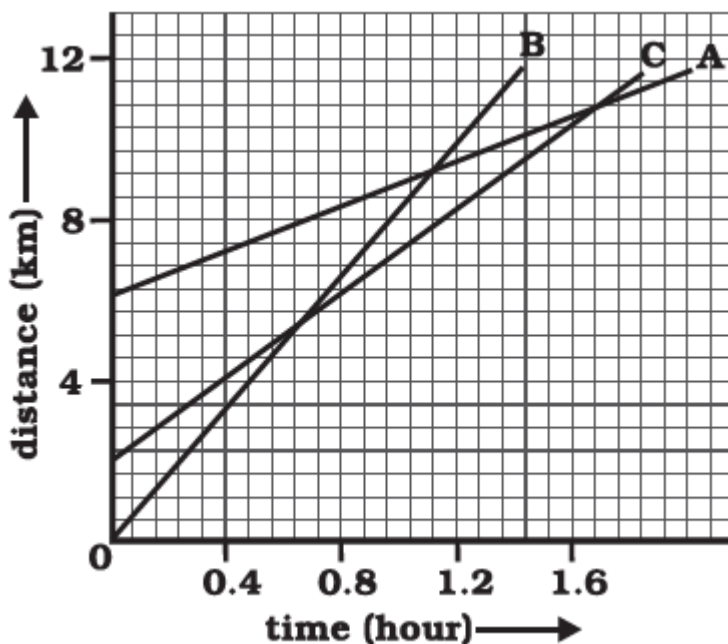
Science

Instructions:

-      *Draw well labelled diagrams, wherever needed and use pencil.*
-      *Size of the diagrams should be appropriate (one diagram on single page).*
-      *Do neatly and cleanly.*

Q.1 Describe xylem and phloem with the help of well labelled diagrams.

Q.2 Explain the different means by which infectious diseases are spread? With Examples.

Q.3 The distance-time graph of three objects A,B and C is given below. Study the graph and answer the following questions:

(a) Which of the three is travelling the fastest?

(b) Are all three ever at the same point on the road?

(c) How far has C travelled when B passes A?

(d) How far has B travelled by the time it passes C?

Q.4 According to the third law of motion when we push on an object, the object pushes back on us with an equal and opposite force. If the object is a massive truck parked along the roadside, it will probably not move. A student justifies this by answering that the two opposite and equal forces cancel each other. Comment on this logic and explain why the truck does not move.

Q.5 When 3.0 g of magnesium is burnt in 2.00 g of oxygen, 5.00 g of magnesium oxide is produced. What mass of magnesium oxide will be formed when 3.00 g magnesium is burnt in 5.00 g of oxygen? Which law of chemical combination will govern your answer? State the law.

Q.6 Give differences between (at least 6 for each)

(i)   True Solutions and Colloidal Solutions.

(ii)   Homogeneous mixture and Heterogenous mixture.

Social studies

1. Make a Map of India and show it with MAJOR PHYSIOGRAPHIC DIVISIONS.
2. What elections are necessary according to the present time. Give arguments in favor of your comment.
3. Give some suggestions for the alleviation of poverty in India.