

**KENDRIYA VIDYALAYA No. 4 ONGC,**

**VADODARA Autumn Break Holiday Homework Eng**

**IX**

1. Write 10 new words with their meanings in your notebook daily.
2. Read different passages/articles from **Words and Expression Part-1 , newspapers and magazines.**
3. Listen audio book of the chapters **Happy Prince** and **Packing** and improve your listening and speaking skills.
4. Write two short stories on different topics of your choice.
5. Revise Grammar topics TENSE, ACTIVE & PASSIVE VOICE, REPORTED SPEECH, and TRANSFORMATION OF SENTENCES

**Kendriya Vidyalaya No.4 Ongc, Vadodara**

**Class- IX S.Sc.**

**Autumn break home- work**

1. Make a project on Disaster Management.
2. Map works on following.
  - i. Central power countries
  - ii. Allied power countries
  - iii. States from which Tropic of Cancer passes through.
  - iv. Mountains range- Karakoram, Zaskar, Shivalik, Satpura, Aravali, Western ghats, eastern ghats.
  - v. Deccan plateau, Chhota Nagpur, Malwa plateau.
  - vi. Malabar, Konkan, Coromandel
  - vii. Himalayan river system, Indus river system, Godavari river system, Sutlej river system, Mahanadi river system.
  - viii. Wular, Sambhar, Chilka, Pullicat lakes.

## Assignment for Class IX Work & Energy (Physics)

1. Under what conditions work is said to be done?
2. Derive the formula for work done by a constant force
3. Give few examples where energy is possessed by a body due to its change in shape.
4. State and prove the law of conservation of energy.
5. Is it possible that force is acting on a body but still work done is zero? Explain.
6. A rocket of mass  $3 \times 10^6$  kg takes off from a launching pad and acquires a vertical velocity of 1 km/s at an altitude of 25 km. calculate (a) the potential energy and (b) the kinetic energy. ( $g = 9.8 \text{ m/s}^2$ )
7. If a man lifts a load up with the help of a rope such that it raises the load of mass 50 kg to a height of 20 m in 100 sec. Find the power of man
8. A ball is dropped from a height of 5 m. Find the velocity of the ball just before it reaches the ground. Do you require the value of mass to find the velocity?
9. Two persons A and B do same amount of work. The person A does that work in  $t_1$  sec and the person B in  $t_2$  sec. Find the ratio of power delivered by them.
10. Why do our hands become warm when rubbed against each other? Explain.
11. The kinetic energy of a body of mass 15 kg is 30 J. What is its momentum?
12. Give an example for each of the following energy conversion: (1) electrical energy to kinetic energy. (2) Chemical energy to electrical energy (3) sound energy to electrical energy
13. Two bodies have same momentum. Which will have greater kinetic energy- heavier body or lighter body?
14. A boy of mass 50 kg runs up to a stair case of 45 steps in 9 s. If the height of a step is 15 cm, find his power. ( $g = 10 \text{ m/s}^2$ )
15. Two particles of masses 1 g and 2 g have equal momentum. Find the ratio between their kinetic energies?
16. What will be the work done by the string, when a stone is tied to a string and whirled in a circle?
17. A locomotive exerts a force of 7500 N and pulls a train through 1.5 km. How much work is done by locomotive?
18. What work a boy of mass 50 kg will do in order to increase running speed from 9 km/h to 18 km/h.
19. The speed of a moving body is halved. What is the change in its K.E.?
20. State the energy changes taking place in the following cases: (1) A car moves up a hilly road. (2) a stone projected vertically upward returns
21. When we cut a log of wood with a saw it becomes warm, why?

### Practicals

1. Complete all the practicals in practical notebook

KENDRIYA VIDYALAYA NO 4 ONGC VADODARA

HOLIDAY HOMEWORK

(Autumn Break)

CLASS – IX

1. Learn difficult words from the chapters like entrepreneur, volatile, versatile, tangible, kinesics, nausea, fatigue, algorithm, linguistic, peripheral
2. Learn Self Management Skills
3. Learn Domains of Artificial Intelligence.
4. Difference between AI, ML and DL.
5. Types of AI.
6. Difference between weak and strong AI.
7. Advantages and Disadvantages of AI.
8. Steps of AI Project Cycle.
9. Components of System Map
10. Rule based and Learning based.
11. Types of Learning.
12. MCQs till chapter (Entrepreneurial Skills)

केन्द्रीय विद्यालय क्र 4, ओ एन जी सी, वडोदरा  
शरद कालीन अवकाश गृहकार्य  
विषय – हिन्दी

कक्षा – नवमी

- 1 प्रतिदिन एक पृष्ठ सुलेख लिखिए ।
- 2 अनुच्छेद लिखिए –
  - (1) मोबाईल फोन के लाभ और हानियाँ
  - (2) योग भगाये रोग
- 3 संवाद लिखिए –
  - (1) मंहगाई पर दो मित्रों में संवाद ।
  - (2) सड़क दुर्घनाओं पर मोहन और श्याम के बीच संवाद ।
- 4 अपने छोटे भाई को मित्र बनाने की सलाह देते हुए पत्र लिखिए ।
- 5 परीक्षा के दिनों में देर रात तक होने वाले ध्वनि प्रदूषण को रोकने के लिए जिला कलेक्टर को एक पत्र लिखिए ।

**Kendriya Vidyalaya no.4, ONGC, vadodara.**

**Holidays homework (Autumn Break)**

**Class – 9**

**Subject: Mathematics**

**Session: 2023-24**

**I. Write about 5 mathematician in project file ( use A-4 size paper)**

**II .SOLVE THE FOLLOWING QUESTIONS IN CW/HW NOTE BOOK**

1. Which of the following fractions lie between  $\frac{1}{5}$  and  $\frac{1}{4}$

(A)  $\frac{7}{33}$

(B)  $\frac{4}{11}$

(C)  $\frac{13}{57}$

(D)  $\frac{7}{17}$

- a. A and B      b. A and C      c. B ,C and D      d. A,B and D

2 The value of  $(225)^{1/3} \times (15)^{1/3}$

- a. 15  
b. 25  
c. 35  
d. 13

3 The linear equation  $2x+3y=10$  has

- a A unique solution  
b No solution  
c 2 solutions  
d Infinitely many solutions

4 Point  $(-3, -7)$  lies in the

- a. First quadrant  
b. Second quadrant  
c. Third quadrant

d. Fourth quadrant

5. If  $x=2$ ,  $y=1$  is a solution of the equation  $2x - 3y = k$  then value of  $k$  is:

- a. 7
- b. -1
- c. 1
- e. -4

6. The Degree of a Non- Zero Constant polynomial is :

- a. 1
- b. 0
- c. 2
- d. not defined

7. If 2 is a zero of polynomial  $2x^2 + px - 14$ , then the value of  $p$  is :

- a. 0
- b. 3
- c. 5
- d. -3

8. Abscissa of all the points on  $x$  - axis is:

- a. 0
- b. 1
- c. -1
- d. None of these

9. Which of the following numbers can be represented as non-terminating, repeating decimals ?

- a.  $5/16$
- b.  $5/11$
- c.  $8/25$
- d.  $18/48$

10. Signs of the abscissa and ordinate of a point in the second quadrant are respectively:

- a. +, +
- b. -, +
- c. +, -
- d. -, -

11. The equation  $x = 7$ , in two variables, can be written as

- a  $x + 0y = 7$
- b  $0x + y = 7$
- c  $0x + 0y = 7$
- d  $x + y = 7$

12. The degree of polynomial  $7t^3 - 9t^2$  is

- a. 2
- b. 3
- c. 1
- d. 0

**CASE STUDY QUESTION( Q.No. 13)**

A. Classmates Reena and Meena simplified 2 different expressions during the revision hour and explains to each other their simplifications.

Reena explain simplification of  $\frac{\sqrt{2}}{\sqrt{5+\sqrt{3}}}$  by rationalizing the denominator and Meena explains simplification of  $(\sqrt{2} + \sqrt{3}) \times (\sqrt{2} - \sqrt{3})$  by using the identity  $(a + b)(a - b)$ .

Using above information Answer the following Questions.

- 1 What is the conjugate of  $\sqrt{5} + \sqrt{3}$
- a.  $\sqrt{5} + \sqrt{3}$
  - b.  $\sqrt{5} - \sqrt{3}$
  - c.  $\sqrt{5} \times \sqrt{3}$
  - d.  $\frac{\sqrt{5}}{\sqrt{3}}$

- 2 By rationalizing the denominator  $\frac{\sqrt{2}}{\sqrt{5+\sqrt{3}}}$ , Reena got the answer.

- a.  $\frac{\sqrt{2}}{\sqrt{5-\sqrt{3}}}$
- b.  $\sqrt{5} - \sqrt{3}$
- c.  $\frac{\sqrt{2}}{2} (\sqrt{5} - \sqrt{3})$
- d.  $\frac{\sqrt{2}}{2} (\sqrt{5} + \sqrt{3})$

- 3 Meena applied ..... Identity to solve  $(\sqrt{5} + \sqrt{7})(\sqrt{5} - \sqrt{7})$

- a.  $(a + b)(a + b)$
- b.  $(a + b)(a - b)$
- c.  $(a - b)(a - b)$
- d.  $(x + a)(x + b)$



4  $(\sqrt{2} + \sqrt{3})(\sqrt{2} - \sqrt{3}) = \dots\dots\dots$

- a. -1
- b. 1
- c. 5
- d. -5

Q.14. Using identity Evaluate :  $(-7)^3 + 5^3 + 2^3$

Q. 15. Write the Coefficient of  $x^2$  in  $2 - 7x^2 - 3x$

Q.16. Give one example of a binomial of degree 15

Q.17. Write the name of the point where two lines( x-axis and y-axis ) intersect.

Q.18. Express linear equation  $2x = -5y + 7$  in the form of  $ax + by + c = 0$  and indicate the value of a,b and c.

Q19. Expand using suitable identity.  $(3x - 5y + 7z)^2$

Q.20. The cost of pen is 3 times cost of a pencil. Write a linear equation in 2 variables to represent this statement.( you can take variables x and y

Q.21. Write one equation of any line passing through the point  $(-1, 2)$

Q22. Express  $0.4484848\dots$  in the form of  $\frac{p}{q}$  where p and q are integers and  $q \neq 0$

Q23. Factorise  $2x^2 - 7x - 15$

Q24. Factorise  $x^3 - 4x^2 - 7x + 10$

Q. 25 Expand using suitable identity :  $[\frac{x}{2} - \frac{y}{3}]^3$

Q.26. Rationalise the denominator :  $\frac{-4}{5 - 2\sqrt{6}}$

Q.27. Find 3 solutions of linear equation  $3y - 2x = 6$

**कक्षा - नवमी**  
**संस्कृत**

1. वर्णानां उच्चारणस्थानानि लिखत ।
2. शब्दरूपाणि लिखत - बालक , लता , फल , मुनि , नदी , भवत् , साधु ।
3. धातुरूपाणि लिखत - भू , नम् , गम् , अस् (पञ्च लकारेषु)
4. चित्र-आधारित पञ्चवाक्यानि संस्कृतेन लिखत ।
5. दिनत्रयस्य अवकाशप्राप्त्यर्थं प्राचर्य प्रति प्रार्थनापत्रं लिखत ।