हिंदी

1- अपने सहपाठी मित्र को आपस में पत्र लिखकर एक दूसरे के पत्रों के उत्तर दीजिए।(पत्र कुशल क्षेम जानने/बताने, परीक्षा की तैयारी, जन्म दिन की शुभकामनाएं, अवकाश कालीन दिनचर्या, स्वस्थ रहने के उपाय/सुझाव आदि संदर्भों में स्वेच्छानुसार लिखे जा सकते हैं।)

2- 'कोरोना काल में बदलती जीवन शैली' विषय पर 80 से 100 शब्दों में एक अनुच्छेद लिखिए।

ENGLISH :

1.Explore two error editing exercises and solve them.
2.Read the allotted story from the supplementary reader and make a PowerPoint presentation on the following elements
i)Mind map of the plot
ii)Theme and Message
iii)Character sketch of main characters
iv) Justification of the title
v) Learnings
3. Write one letter to the editor on the subject of your choice.

SCIENCE:

Physics
A. Study the chapter Gravitation. And solve the NCERT exercise of this chapter. And do the activities on Archimedes principle.

B. Solve the following questions.
1. A body is moving along a circular path of radius R. What will be the distance traveled and displacement of the body when it completes half a revolution?
2. A car travels 100 km at a speed of 60 km/h and returns with a speed of 40 km/h. Calculate the average speed for the whole journey. 60. A ball hits a wall horizontally at 6.0 m/s. It rebounds horizontally at 4.4 m/s. The ball is in contact with the wall for 0.040 s. What is the acceleration of the ball?

Chemistry
1. Identify 10 types of mixtures around you and also identify their type(Homogeneous/Heterogeneous).
2. Read the process of Centrifugation and answer the following-
   (i) What is Milk?
   (ii) What kind of mixture it is?

(iii) How can its components be separated?

3. Carry out an activity at home to observe the separation of components of milk and write an observation and conclusion of the same activity.

4. Draw a flow sheet diagram showing various steps in purifying water for city supply.

Biology

1. Write a biography of a Nobel prized scientist related to biology work.
2. Do the activity of osmosis by using resins/eggs or by preparing potato osmoscope with the help of OLabs (www.olabs.edu.in) and click the photographs or make a short video of 2 minutes.
3. Study the chapter Fundamental Unit of Life and write the answers of NCERT exercise questions (1 to 5).

Social Science

HISTORY: 1. Write your experiences on the recent Panchayati Raj election held recently in Uttar Pradesh depicting how decentralization of power takes place through the Panchayati Raj system.

2. Write an essay on the significance of the French revolution in spreading the concepts of liberty, equality, and fraternity in the modern world.

GEOGRAPHY: Set free your imaginations and create a five pages short comic with as many characters and colors as you want, but remember not to get off the topic. Choose any one theme from below:

1. Global Warming
2. Survival through pandemic
3. Sustainability
4. Climate change
5. Conversation between animals and trees for saving their home.

COMPUTER: Explorer about different IT companies involved in manufacturing of internal parts of computers. Collect information and prepare a PPT on any 5 Companies.

ART: Make one Doodle art(Mandala) in your art file,

MATHS

Activity :

- Construct a Square Root Spiral .
- Represent $\sqrt{10}$ and $\sqrt{5}$ on number line.
- Verify the Algebraic Identity $(a+b)^2 = a^2 + 2ab+b^2$ using grid paper.
- Represent $\sqrt{6.3}$ geometrically

Project: Select any one topic out of the following topics and present under the following heads

(i)   Introduction of the topic
(ii)   Relevance/objective of the topic
(iii)   Different contains (sub topic) with appropriate Examples
(iv)   Application
(v)   Conclusions
(vi)   Bibliography

Topics are as follows

(i)   Euclid Geometry
(ii)   Probability and Chances
(iii)   Statistics
(iv)   Number system
(v)   Vaidic maths
(vi)   Maths and Architecture

Application:

1. Write 10 rational numbers between $\frac{2}{3}$ and $\frac{3}{5}$
2. Simplify: $\left(4+\sqrt{3}\right)\left(4-\sqrt{3}\right)$
3. Rationalise the denominator of $\dfrac{1}{\sqrt{3}-\sqrt{2}}$.
4. Express the following as a fraction in the simplest form.
   (i) $2.\overline{23}$ (ii) $3.1\overline{23}$ (iii) $1.\overline{3}$
5. Simplify $11.4565 \div 2.67$
6. Write 5 irrational numbers between $\frac{5}{7}$ and $\frac{8}{11}$
7. Find remainder if p(x) is divided by g(x)
   (ii)   (i) P(x)= $x^3 + 4x^2 -7x +3$; g(x) = x +2
   (iii)   (ii) P(x)= $x^3 - 7x^2 +3x +3$; g(x) = x -1

HOTS
8. If $x = \left(2+\sqrt{3}\right)$, find the value of (i) $x +\frac{1}{x}$ (ii) $x^2 +\dfrac{1}{x^2}$

9. Factorise: $x^4 - 3x^2 y^2 +y^4$

10. Show that: $\dfrac{1}{3-\sqrt{8}} - \dfrac{1}{\sqrt{8}-\sqrt{7}} + \dfrac{1}{\sqrt{7}-\sqrt{6}} - \dfrac{1}{\sqrt{6}-\sqrt{5}} + \dfrac{1}{\sqrt{5}-2} = 5$

MULTIPLE CHOICE QUESTIONS

1. Which one is not a polynomial
(a) $4x^2 + 2x - 1$
(b) $y + \dfrac{3}{y}$
(c) $x^3 - 1$
(d) $y^2 + 5y + 1$

2. The polynomial $px^2 + qx + rx^4 + 5$ is of type
(a) linear
(b) quadratic
(c) cubic
(d) Biquadratic

3. Identify the polynomial
(a) $x^{-2} + x^{-1} + 5$
(b) $x^2 + 5\sqrt{x} + 7$
(c) $\dfrac{1}{x^3} + 7$
(d) $3x^2 + 7$

4. The zero of the polynomial $p(x) = 2x + 5$ is
(a) 2
(b) 5
(c) $\dfrac{2}{5}$
(d) $-\dfrac{5}{2}$

5. The number of zeros of $x^2 + 4x + 2$
(a) 1
(b) 2
(c) 3
(d) none of these

6. The polynomial of type $ax^2 + bx + c$, $a = 0$ is of type
(a) linear
(b) quadratic
(c) cubic
(d) Biquadratic

7. The value of k, if $(x - 1)$ is a factor of $4x^3 + 3x^2 - 4x + k$, is
(a) 1
(b) 2
(c) -3
(d) 3

8. The degree of polynomial $5x + \sqrt{x^2 - 4x + 4}$
(a) 0
(b) 2
(c) 1
(d) It is not a polynomial

Try to do the following questions

9. If $3 + 5 - 8 = 0$, then the value of $(3)^3 + (5)^3 - (8)^3$ is { (Hints if a+b+c =0,then $(a)^3 + (b)^3 + (c)^3 = 3abc$ }

(a)   260
(b) −360
(c) −160
(d)   160

10. If $x + y = 3$, $x^2 + y^2 = 5$ then xy is   { (Hints $(a + b)^2 = a^2 + b^2 + 2ab$}

(a) 1
(b) 3
(c) 2
(d) 5

11. If $x + 2$ is a factor of $x^3 - 2ax^2 + 16$, then value of a is
(a) 3
(b) 1
(c) 4
(d) 2

12. If one of the factors of $x^2 + x - 20$ is $(x + 5)$. Find the other (a) $x - 4$
(b) $x + 2$
(c) $x + 4$
(d) $x - 5$

13. Find whether $x^n + y^n$ is divisible by $x - y$ ($y \neq 0$)
(a) True   (b) False

14. . The remainder when $x^{101} - 1$ is divided by x -1 is zero.
 (a) True   (b) False

15. Infinite irrational numbers can be inserted between two rational numbers.
(a) True   (b) False

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