

असतो मा सद्गमय, तमसो मा ज्योतिर्गमय।।



Summer Vacation Assignment 2026

CLASS-IX

Summer VACATION

Summer's warmth descends upon the land,
School's out, and freedom's in hand.
Long days stretch, and sunshine bright,
A time for fun, for play, for delight.

So, let's bask in summer's golden glow,
And make the most of this break's sweet flow.
For summer vacation's a treasured time,
To relax, recharge, and shine!

NAME _____

ROLL NO. _____

www.newindiapinjore.in

Dearest New Indians!

Greetings of the Day!

Happy Summer Learning!

As we move into the bright and cheerful days of summer, we are delighted to present activities that will keep your minds active and your creativity flowing. This **Summer Vacation Assignment** is a perfect blend of learning and fun, designed to strengthen your understanding of important concepts while encouraging you to discover new ideas and skills.

Use this vacation as an opportunity to explore, imagine, create, and grow. Complete your tasks with enthusiasm and enjoy every moment of learning. We look forward to welcoming you back to school refreshed, confident, and filled with wonderful experiences and knowledge.

🌟 SUPER PARENTS' SUMMER GUIDE 🌟

➤ **Create a quiet and comfortable study space for your child.**

Ensure that your child has a clean, well-lit, and distraction-free area to complete homework and assignments. Avoid television, loud music, or unnecessary interruptions during study time.

➤ **Keep all learning materials ready and organized.**

Make sure your child has easy access to notebooks, pencils, colours, scissors, glue, dictionaries, and other required materials. Preparing in advance helps children work independently and confidently.

➤ **Encourage a daily routine and proper time management.**

Set a fixed schedule for study, play, meals, and sleep. A balanced routine helps children stay disciplined and reduces stress during homework time.

➤ **Promote reading habits during the summer break.**

Encourage your child to read storybooks, newspapers, poems, or informative articles daily. Reading improves vocabulary, imagination, and communication skills.

➤ **Appreciate effort and encourage independent learning.**

Allow children to think, explore, and complete tasks on their own. Guide them whenever necessary, but encourage them to find solutions independently to build confidence and problem-solving skills.

➤ **Limit screen time and encourage creative activities.**

Reduce excessive use of mobile phones, television, and video games. Motivate children to engage in drawing, crafting, gardening, puzzles, music, yoga, and outdoor games.

➤ **Spend quality family time together.**

Talk to your child, listen to their ideas, and involve them in simple household activities. Positive family interactions help in emotional and social development.

➤ **Encourage healthy eating and physical fitness.**

Provide nutritious meals, seasonal fruits, and plenty of water during summer. Motivate your child to participate in physical activities, exercise, or yoga regularly.

➤ **Make learning fun and activity-based.**

Use everyday experiences such as cooking, shopping, travelling, or gardening as opportunities for learning maths, language, and life skills in an enjoyable manner.

➤ **Celebrate your child's creativity and achievements.**

Display their artwork, appreciate their efforts, and motivate them to try new things. Positive encouragement builds self-esteem and enthusiasm for learning.

➤ **Stay positive and supportive throughout the holidays.**

Your attitude towards learning greatly influences your child. Encourage curiosity, patience, and a joyful approach towards completing holiday homework and activities.

Let's Make the Most of this Summer Break!

❖ **Plant and Care for Nature**

Grow at least two plants and water them regularly. Observe their growth and learn the importance of caring for nature.

❖ **Lend a Helping Hand at Home**

Help your elders with simple daily chores like arranging your room, picking up toys, filling water bottles, watering plants, setting the table, and greeting everyone politely each morning.

❖ **Celebrate Special Moments with Family**

Make Father's Day memorable by preparing a small surprise, serving your father his favourite breakfast, and creating a handmade greeting card with love.

❖ **Practice Speaking in English**

Try to communicate in English with your family and friends every day to improve your confidence and vocabulary.

❖ **Use the Five Magical Words Every Day**

Practice good manners by using words like *Excuse Me, May I, Sorry, Thank You, and Please* in your daily conversations.

❖ **Develop Healthy Habits**

Wake up early, eat healthy food, drink plenty of water, and include physical activities, yoga, or outdoor games in your routine.

❖ **Read, Imagine, and Explore**

Spend some time reading storybooks, comics, or poems to improve creativity and develop a love for reading.

Note: Do all the work in your respective subject notebooks or as directed.

ENGLISH

1. Read the following passage carefully and answer the following questions:

1. The Pushkar Mela, also known as the Pushkar Camel Fair, is one of India's most vibrant and culturally rich festivals, held annually in the small town of Pushkar in Rajasthan. This fair, which typically takes place in the Hindu lunar month of Kartik (October-November), draws thousands of visitors from across the country and around the world. The Pushkar Mela is a unique blend of religious devotion, cultural celebration and bustling commerce, making it a fascinating spectacle to behold.

2. Central to the Pushkar Mela is the camel and livestock trading, which has earned the fair its international fame. Thousands of camels, horses, cows and sheep are brought to the fairgrounds, creating a lively marketplace where traders and buyers negotiate deals. Competitions such as camel races, beauty contests for the best-decorated camel and other livestock events add to the excitement and showcase the skills and traditions of the local pastoral communities.

3. The religious significance of the Pushkar Mela cannot be overlooked. Pushkar is home to one of the few Brahma temples in the world and the Pushkar Lake is considered sacred by Hindus. During the fair, pilgrims flock to the lake to take a holy dip, believing that this act during the auspicious Kartik Purnima (full moon) will cleanse them of their sins and bring them closer to salvation.

4. Cultural festivities are an integral part of the Pushkar Mela, reflecting the rich heritage of Rajasthan. Traditional music and dance performances, folk songs, puppet shows and acrobatic displays entertain the crowds and provide a glimpse into the region's artistic traditions. The vibrant bazaar set up during the fair offers an array of Rajasthani handicrafts, textiles, jewellery and souvenirs, making it a shopper's delight. The fair also features various competitions such as the 'matka phod' (pot-breaking), 'longest moustache' and 'bridal' competitions, which add a touch of fun and local flavor to the event.

5. Despite its many attractions, the Pushkar Mela faces challenges. The influx of tourists and the commercialisation of the fair have raised concerns about environmental sustainability and the preservation of local traditions. Efforts are being made to strike a balance between promoting tourism and maintaining the cultural and ecological integrity of the event. Initiatives such as eco-friendly practices, responsible tourism campaigns and the involvement of local communities in decision-making processes are crucial to ensuring the fair's sustainability.

6. In conclusion, the Pushkar Mela is a captivating convergence of commerce, culture and spirituality. It offers a unique window into the traditions and lifestyle of Rajasthan, making it an unforgettable experience for those who attend. As the fair continues to evolve, it is imperative to preserve its essence and heritage, ensuring that future generations can continue to revel in its vibrant tapestry.

Answer the following questions based on the above passage.

(i) Why is the Pushkar Mela described as a 'fascinating spectacle' in paragraph 1?

(ii) According to paragraph 1, the Pushkar Mela includes all of the following features EXCEPT

(a) religious devotion

(b) technological innovation

(c) cultural celebration

(d) bustling commerce

(iii) Complete the following by selecting the correct option from those given in the brackets. The fair takes place in the month of Kartik, which typically falls in _____ (October-November /March-April). (Paragraph 1)

(iv) Select the option that is True from (A)-(C) given for what the phrase ‘camel races and beauty contests’ suggest in paragraph 2.

- A. The fair blends tradition with entertainment.
- B. The fair focuses solely on religious activities.
- C. The fair discourages animal trading and competition.

(v) Complete the analogy by selecting one of the two correct options.

camel trading: economic exchange: _____ : _____ (Paragraphs 2-4)

- (a) music and dance: cultural expression
- (b) livestock: transportation

(vi) Why is Pushkar Lake considered significant during the Mela? (Paragraph 3)

(vii) What are the main ideas of paragraphs 4 and 5?

- I. Cultural competitions bring local flavour to the fair
- II. Environmental issues threaten the fair’s sustainability
- III. The Pushkar Mela offers a rich cultural experience
- IV. Traditional games are outdated and no longer relevant
- V. Local communities must be involved in preserving the fair

Select the correct option:

options	Main idea of paragraph 4	Main idea of paragraph 5
(a)	I	II
(b)	IV	III
(c)	III	V
(d)	II	IV

(viii) Why is it important to preserve the heritage and essence of Pushkar Mela while promoting tourism? (Paragraph 6)

2. CREATIVE PORTFOLIO

Prepare a portfolio on POEM: ‘Gift of Grace: Honouring Every Vocation.’

Steps to Prepare a Portfolio on the Poem Gift of Grace

(a) Page Cover

Write the title Portfolio on “Gift of Grace” along with your name, class, section, roll number, and school name.

- (b) Index Page
Mention the list of contents with page numbers.
- (c) Introduction of the Poem
Write a short introduction about the poem and its theme.
- (d) About the Poet
Add a brief paragraph about the poet.
- (e) Summary of the Poem
Write the summary in simple and clear language.
- (f) Theme and Message
Explain the main message and values taught in the poem.
- (g) Difficult Words and Meanings
Make a list of important words with their meanings.
- (h) Favourite Lines
Write your favourite lines from the poem and explain why you like them.
- (i) Moral/Learning Outcome
Mention what you learned from the poem.
- (j) Creative Section
Add drawings, decorations, quotations, or a related poem/article.
- (k) Conclusion
End the portfolio with a concluding paragraph expressing your thoughts about the poem.

3. INTERVIEW

Imagine you are a reporter interviewing the grandmother from the chapter 'How I Taught My Grandmother to Read.' Prepare a creative conversation including at least 8–10 questions and answers.

हिंदी

प्र०1. निम्नलिखित गद्यांश को ध्यानपूर्वक पढ़कर इसके आधार पर दिए गए प्रश्नों के सर्वाधिक उपयुक्त उत्तर वाले विकल्प चुनकर लिखिए:

हरियाणा के पुरातत्व विभाग द्वारा किए गए अब तक के शोध और खुदाई के अनुसार लगभग 5500 हेक्टेयर में फैली यह राजधानी ईसा से लगभग 3300 वर्ष पूर्व मौजूद थी। इन प्रमाणों के आधार पर यह तो तय हो गया है कि राखीगढ़ी की स्थापना उससे भी सैकड़ों वर्ष पूर्व हो चुकी थी। अब तक यही माना जाता रहा है कि इस समय पाकिस्तान में स्थित हड़प्पा और मोहनजोदड़ो ही सिंधुकालीन सभ्यता के मुख्य नगर थे। राखीगढ़ी गाँव में खुदाई और शोध का काम रुक-रुककर चल रहा है। हिसार का यह गाँव दिल्ली से मात्र 150 किलोमीटर की दूरी पर है। पहली बार यहाँ 1963 में खुदाई हुई थी और तब इसे सिंधु-सरस्वती सभ्यता का सबसे बड़ा नगर माना गया। उस समय के शोधार्थियों ने सप्रमाण घोषणाएँ की थीं कि यह नगर मोहनजोदड़ो और हड़प्पा से भी बड़ा रहा होगा। अब सभी शोध विशेषज्ञ इस बात पर सहमत हैं कि राखीगढ़ी भारत-पाकिस्तान और अफगानिस्तान का आकार और आबादी की दृष्टि से सबसे बड़ा शहर था। प्राप्त विवरणों के अनुसार समुचित रूप से नियोजित इस शहर की सभी सड़कें 1.92 मीटर चौड़ी थीं। यह चौड़ाई कालीबंगा की सड़कों से भी ज्यादा है। एक ऐसा बर्तन भी मिला है जो सोने और चाँदी की परतों से ढका है। इसी स्थल पर एक 'फाउंड्री' के भी चिह्न मिले हैं जहाँ संभवतः सोना ढाला जाता होगा। इसके अलावा टैराकोटा से बनी असंख्य प्रतिमाएँ, ताँबे के बर्तन और एक भट्ठी के अवशेष भी मिले हैं। मई 2012 में 'ग्लोबल हैरिटेज फंड' ने इसे एशिया के दस ऐसे विरासत स्थलों की सूची में शामिल किया है जिनके नष्ट हो जाने का खतरा है। राखीगढ़ी का पुरातात्विक

महत्व विशिष्ट है। इस समय यह क्षेत्र पूरे विश्व के पुरातत्व विशेषज्ञों की दिलचस्पी और जिज्ञासा का केंद्र बना हुआ है। यहाँ बहुत से काम बकाया हैं, जो अवशेष मिले हैं उनका समुचित अध्ययन अभी शेष है। उत्खनन का काम अब भी अधूरा है।

(क) अब सिंधु-सरस्वती सभ्यता का सबसे बड़ा नगर किसे मानने की संभावनाएँ हैं?

- (i) मोहनजोदड़ो (ii) राखीगढ़ी
(iii) हड़प्पा (iv) कालीबंगा

(ख) इसे एशिया के विरासत स्थलों में स्थान मिला, क्योंकि—

- (i) इसके नष्ट हो जाने का खतरा है।
(ii) सबसे विकसित सभ्यता है।
(iii) इतिहास में इसका नाम सर्वोपरि है।
(iv) यहाँ विकास की तीन परतें मिली हैं।

(ग) निम्नलिखित कथन और कारण पर विचार करते हुए उपयुक्त विकल्प का चयन कर लिखिए

कथन : राखीगढ़ी की सड़कों की चौड़ाई कालीबंगा से अधिक थी।

कारण : राखीगढ़ी नगर समुचित रूप से नियोजित था।

- (i) कथन और कारण दोनों सही हैं तथा कारण, कथन की सही व्याख्या है।
(ii) कथन और कारण दोनों सही हैं परंतु कारण, कथन की सही व्याख्या नहीं है।
(iii) कथन सही है पर कारण गलत है।
(iv) कथन गलत है पर कारण सही है।

(घ) राखीगढ़ी को हड़प्पा और मोहनजोदड़ो से बड़ा क्यों माना गया है?

(ङ) पुरातत्व विशेषज्ञों की राखीगढ़ी में रुचि का क्या कारण है?

प्र०2. निर्देशानुसार 'उपसर्ग और प्रत्यय' पर आधारित प्रश्नों के उत्तर दीजिए।

- (क) 'निडर' और 'विक्रय' शब्दों में प्रयुक्त मूल शब्द व उपसर्ग को अलग-अलग करके लिखिए।
(ख) 'लघुता' और 'शक्तिशाली' शब्दों में प्रयुक्त मूल शब्द व प्रयुक्त प्रत्यय को अलग-अलग करके लिखिए।
(ग) 'संचालन' और 'प्रवास' शब्दों में प्रयुक्त मूल शब्द व उपसर्ग को अलग-अलग करके लिखिए।
(घ) 'आणविक' और 'राष्ट्रीय' शब्दों में प्रयुक्त मूल शब्द व प्रत्यय को अलग-अलग करके लिखिए।
(ङ) निम्नलिखित प्रत्ययों से दो-दो शब्दों की रचना कीजिए—

- (i) पन (ii) कार

प्र०3. निर्देशानुसार 'स्वर संधि' पर आधारित प्रश्नों के उत्तर दीजिए।

- (क) 'अति + अंत' का संधि युक्त शब्द क्या होगा? इसमें कौन-सी संधि है?
(ख) 'शयन' शब्द में कौन-सी संधि है? इसका संधि-विच्छेद क्या होगा?
(ग) 'नरोत्तम' शब्द में कौन-सी संधि है?
(घ) 'सेवार्थ' शब्द का संधि-विच्छेद करके इसमें प्रयुक्त संधि का नाम लिखिए।

प्र०4. निर्देशानुसार 'विराम चिह्न' पर आधारित प्रश्नों के उत्तर दीजिए।

- (क) लिखते समय कुछ अंश छूट जाने पर किस चिह्न को लगाकर उसके ऊपर लिख दिया जाता है?
(ख) अग्निपथ कवि हरिवंशराय बच्चन की प्रसिद्ध कृति है
(ग) अतिथि तुम्हारे जाने के लिए यह उच्च समय अर्थात् हाईटाइम है

प्र०5. निर्देशानुसार 'अर्थ की दृष्टि से वाक्य भेद' पर आधारित प्रश्नों के उत्तर दीजिए।

- (क) 'तुम्हें अब घर चले जाना चाहिए।' आज्ञावाचक वाक्य में परिवर्तित कीजिए।
(ख) 'यह बात सत्य नहीं है कि महादेवी वर्मा ने गिल्लू की देखभाल नहीं की।' विधानवाचक वाक्य में परिवर्तित कीजिए।
(ग) 'क्या आज तुम विद्यालय नहीं जाओगे?' अर्थ के आधार पर वाक्य का भेद बताइए।

(घ) 'हम इस सर्दी में भी पहाड़ों की ओर बाहर घूमने जाते हैं।' इच्छावाचक वाक्य में परिवर्तित कीजिए।

6. बहु विषय परियोजना कार्य: - हीरा या मोती की नजर से उस दिन की डायरी लिखिए जब उन्हें कांजी हाऊस ले जाया गया।



MATHEMATICS

I. Solve the worksheet in Mathematics Notebook:

1. For each of the following questions, two statements are given—one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer from the following options:

- (a) Both A and R are true and R is the correct explanation of A
- (b) Both A and R are true but R is NOT the correct explanation of A
- (c) A is true but R is false
- (d) A is false but R is true

(i) Assertion (A): The number 0.1010010001... is an irrational number.

Reason (R): A number whose decimal expansion is non-terminating and non-recurring is irrational

(ii) Assertion (A): There are infinitely many rational numbers between 3 and 4.

Reason (R): Between any two distinct rational numbers, there exists another rational number.

(iii) Assertion (A): $x + \frac{1}{x}$ is not a polynomial.

Reason (R): In a polynomial, the exponent of the variable must be a whole number.

(iv) Assertion (A): A linear polynomial in one variable can have at most two terms.

Reason (R): A binomial is a polynomial that contains exactly two terms.

(v) Assertion (A): If the coordinates of a point are (2, -3), then it lies in the Fourth Quadrant. **Reason (R):** Points in the Fourth Quadrant have a positive x-coordinate and a negative y-coordinate.

(v) Street Light Problem: Two houses are located at coordinates A (2,4) and B (10,8) on a city map. The municipal corporation wants to install a street light exactly midway between them. Find the coordinates where the street light should be placed.

(vi) Mobile Tower Installation: Two villages lie at coordinates (1,2) and (9,6). A mobile tower is to be installed at a point equidistant from both villages on the straight road connecting them. Find the location of mobile tower.

(vii) Draw the graph of $y = 5x$, $y = -3x$ and $y = x$ and reflect the role of 'a' and 'b'.

(viii) Express the following in the form $\frac{p}{q}$, where p and q are integers and $q \neq 0$.

- (a) $0.\bar{6}$
- (b) $0.\overline{001}$

(ix) Find the value of the polynomial $x^2 - 4x + 7$, when:

- (a) $x = -3$
- (b) $x = \frac{-1}{2}$
- (c) $x = \frac{1}{5}$

(x) The difference between two positive integers is 63. The ratio of the two integers is 2:5. Find the two integers.

(xi) A mobile phone is bought for Rs20,000. Its value decreases by Rs 800 every year.

(a) Find the value of the phone after 3 years.

(b) Make a table of values for t varying from 0 to 8 years and show how the value of the phone, v, depreciates with time.

(c) Find an expression that relates v and t, and explain why it represents linear decay.

II. SUBJECT ENRICHMENT ACTIVITY

Objective : To prepare a portfolio on 'Orienting Yourself – The use of Coordinates'.

Procedure for portfolio

- Title Page
- Objective
- Basics of Coordinate Geometry
- Graphical Representation
- Applications
- Examples
- Conclusion
- Bibliography

Key Notes

- Use creative headings
- Add illustrations or graphs
- Decorate pages with borders, Maths doodles or creative layouts

III. PROJECT WORK:

Topic 1: Creative Art wheel of Theodorus. (ROLL NO. 1- 25)

Objective: It will help students in better understanding of the concept of square roots in a geometrical way.

Material Required:

- (i) Graph Paper
- (ii) Ruler
- (iii) Compass
- (iv) Pencil and Eraser
- (v) Markers or Coloured Pens

Procedure:

(a) Prepare base setup

- Use a ruler, compass, and set square.
- Draw a horizontal baseline and mark a starting point O (origin).
- This point will remain the centre of the spiral.

(b) Drawing the First Square

- Start by drawing a 1x1 square. Label the first corner as (0,0) and the top right corner as (1,0).
- The side of this square represents $\sqrt{1}$, which equals 1.

(c) Drawing the Second Square

- Next to the first square, draw a 2x2 square.
- This square represents $\sqrt{2}$.
- Start the square by drawing a horizontal line from the top-right corner of the first square and extending it to the right, with the side of the square being equal to $\sqrt{2}$.

(d) Draw Quarter Circles

- Using O as the centre, draw quarter circles connecting the outer corners of each square.
- Each arc's radius equals the diagonal of the corresponding square. (i.e., for $\sqrt{1}$ the radius is 1, for $\sqrt{2}$ the radius is 2, and so on).
- The arcs join smoothly, forming the spiral curve.

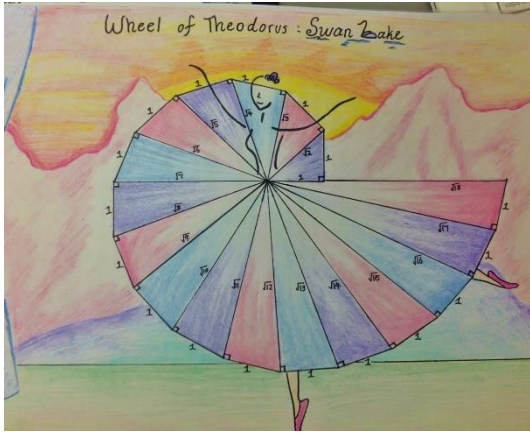
(e) Extend the Spiral

- Continue adding squares with increasing side lengths, where each side length corresponds to the square root of the next integer.

- For example: • The next square will be a 3x3 square, and the next radius will correspond to $\sqrt{3}$.
- Continue this pattern for as many squares as you like.
- Each time, draw a quarter circle for each square, where the radius corresponds to the square root of the number associated with that square.

(e) Draw the Spiral Path

- The spiral will form as you connect the edges of each quarter circle.
- The spiral starts at the centre of the first square and grows outward as you continue drawing quarter circles.



Topic 2 : NUMBER SYSTEM WHEEL (ROLL NO. 26 – 47)

Objective

- To help students understand different types of numbers.
- To develop problem-solving and logical thinking skills.

Materials Required

- Chart paper or cardboard
- Sketch pens / markers
- Scale and pencil
- Glue and scissors
- Sticky notes or coloured paper
- Transparent sheet or tape (optional for durability)

Procedure:

1. Draw five concentric circles on a chart paper

2. Label the circles from the center outward as:

- Natural Numbers (N)
- Whole Numbers (W)
- Integers (Z)
- Rational Numbers (Q)
- Real Numbers (R)

3. Outside the Rational Numbers circle but inside the Real Numbers circle, write Irrational Numbers.

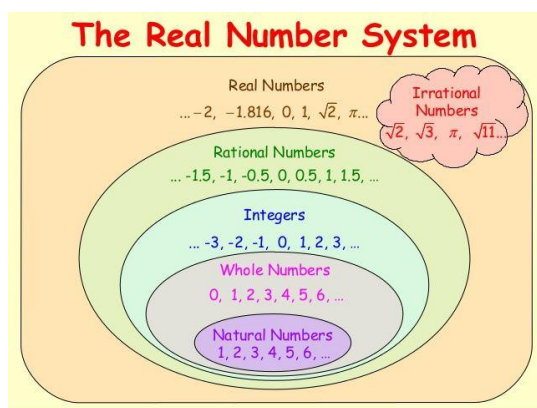
Write examples in each section:

- Natural Numbers (N): 1, 2, 3, 4, 5
- Whole Numbers (W): 0, 1, 2, 3, 4
- Integers (Z): -3, -2, -1, 0, 1, 2, 3
- Rational Numbers (Q): $\frac{1}{2}$, $-\frac{3}{4}$, 0.25, 5
- Irrational Numbers: $\sqrt{2}$, $\sqrt{3}$, π

4. Use different colours for each set to make the model attractive.

5. Add arrows showing the inclusion relationship between different types of numbers.

Reference Picture :



SCIENCE

I. Solve the following in science notebook:

- Which of the following is the correct set of apparatus for fractional distillation?
 - Round bottomed flask, thermometer, water condenser and beaker
 - Round bottomed flask, thermometer, air condenser and beaker
 - Round bottomed flask, thermometer, fractionating column, water condenser and flask
 - Round bottomed flask, thermometer, fractionating column, air condenser and flask
- Which of the following will show “Tyndall effect”?
 - Salt solution
 - Sugar solution
 - Soap solution
 - Copper sulphate solution
- Camphor can be purified by
 - Distillation
 - Filtration
 - Sedimentation
 - Sublimation
- Which of the following is a compound?
 - Stainless steel
 - Bronze
 - Graphite
 - Hydrogen sulphide
- A pure substance which is made up of only one kind of atom and cannot be broken into two or more simpler substances by physical or chemical means is referred to as _____.
 - a compound
 - an element
 - a molecule
 - a mixture
- Air is regarded as a mixture because _____.
 - it pressure may vary
 - its temperature may change
 - its volume changes under different conditions
 - its composition may vary
- Different components can be separated from petroleum by _____.
 - Filtration
 - Chromatography
 - Simple distillation
 - Fractional distillation

Assertion (A) and Reason (R)

The following two questions consist of two statements – **Assertion (A)** and **Reason (R)**.

Answer these questions by selecting the appropriate option given below:

- Both A and R are true, and R is the correct explanation of A.

- (b) Both A and R are true, and R is not the correct explanation of A.
 (c) A is true but R is false.
 (d) A is false but R is true.

8. Assertion (A): When a beam of light is passed through a colloidal solution placed in a dark place the path of the beam becomes visible.

Reason : Light gets scattered by the colloidal particles.

9. Write a short note on coagulation.

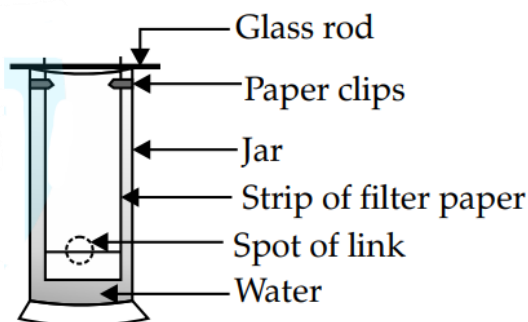
10. (a) Under which category of mixtures will you classify alloys and why?

(b) 0.5 g of salt is dissolved in 25 g of water. Calculate the percentage amount of the salt in the solution

11. Two liquids 'A' and 'B' are miscible with each other at room temperature. Which separation technique will you apply to separate the mixture of 'A' and 'B' if the difference in their boiling points is 27°C ? Explain the technique.

12. Describe an activity with diagram to separate a mixture of water and kerosene oil.

13. Akshita wants to separate the mixture of dyes constituting a sample of ink. She marked a line by the ink on the filter paper and placed the filter paper in a glass containing water as shown in figure. The filter paper was removed when the water moved near the top of the filter paper.



(a) Identify the technique used by the Akshita.

(b) What would you expect to see, if the ink contains three different coloured components?

(c) Explain why water is required in this technique.

(d) Give any other application of this technique.

14. (a) Write four characteristics of homogenous mixture.

(b) Differentiate between solution, suspension and colloidal solution.

15. Give one example where the displacement is zero but the distance travelled is not zero.

16. Dinesh takes 20 minutes to cover a distance of 5 km on a bicycle. Calculate his average speed in m/s and km/h

17. Give two examples of non-uniform motion.

18. (a) What will you say about the motion of a body if its distance-time graph is a straight line parallel to time axis?

(b) Give an example of a motion in which the acceleration is against the direction of motion.

19. A car moves with a speed of 30 km/h^{-1} for half an hour, 25 km/h^{-1} for one hour and 40 km/h^{-1} for two hours. Calculate the average speed of the car.

II. SUBJECT ENRICHMENT ACTIVITY

Objective:

Create a comprehensive portfolio about the life and contributions of the following scientists:

- Xavier Bichat
- Neil Bohr
- Issac Borrow
- Amedo Avogadro

- Procedure:
- Cover Page:
- Title: "Portfolio on _____"
- Your Name

- Class
- Date
- A picture (if available)
- Table of Contents:
- Introduction
- Early Life and Education
- Major Scientific Contributions
- Key Experiments and Discoveries
- Impact on Science and Society
- Personal Reflections
- References
- Presentation Guidelines
- Format: The portfolio can be hand-written or typed. If hand-written, ensure your handwriting is neat and legible.
- Length: Aim for 5-7 pages, including pictures and diagrams.
- Visuals: Use images, diagrams, and charts to make your portfolio visually appealing. Ensure all visuals are properly labelled.
- Clarity and Organization: Make sure your portfolio is well-organized with clear headings and subheadings. Ensure there are no spelling or grammatical errors.
- Creativity: Feel free to add creative elements such as quotes, fun facts, or a timeline of Sidney Fox's life and achievements

III. INNOVATIVE IDEAS SUBMISSION

Let our students' young minds shine by showcasing their innovative thinking!

Students are encouraged to submit one innovative idea that presents a creative and practical solution to an identified personal, community, social, or environmental problem. This initiative aims to foster problem solving skills, creativity, and a sense of responsibility among young learners.

Guidelines for Submission:

Students must submit a write-up of their innovative idea under the following headings:

1. Title of the Innovative Idea – Focused on a personal, community, social, or environmental issue.
2. Introduction – Briefly explain the problem and the purpose of your project.
3. Materials Used – List the materials required or used in your idea/model.
4. Proposed Solution – Clearly describe how your project addresses the identified problem.
5. Advantages – Highlight the benefits to society and/or the environment.
6. Cost Effectiveness – Explain how your solution is economical and practical.
7. Future Aspects – Discuss the scope for further development, entrepreneurship, or real-life application.

Note: The idea should be original, eco-friendly, and feasible, with a focus on making a positive impact.

SOCIAL- SCIENCE

I. Solve the following in Social-Science notebook:

- (i) An economist tracks a country's GDP, a political scientist studies its election trends, and a geographer maps its resources. When they come together to study how a regional crisis impacts community livelihoods, they are demonstrating:
- a) A purely localized study
 - b) The interdisciplinary nature of Social Science
 - c) The absolute separation of arts and sciences
 - d) An unscientific generalization
- (ii) Imagine you are standing at the boundary of two tectonic plates. You notice that crust is neither being created nor destroyed, but the two giant landmasses are horizontally sliding past one another. What type of plate boundary are you looking at?
- a) Convergent Boundary
 - b) Divergent Boundary
 - c) Transform Boundary
 - d) Subduction Zone
- (iii) A coastal town experiences a sudden, massive landslide because an upstream glacial lake breached its natural ice dam due to rapid melting. What is the technical term for this specific type of disaster?
- a) Avalanche
 - b) Tsunami
 - c) Glacial Lake Outburst Flood (GLOF)
 - d) Gradational Slumping
- (iv) Archaeological excavations at a site reveal a massive shift from heavy, blunt stone axes to tiny, sharp, geometric stone tools (microliths) used to make arrows and spears. Which transitional period of human history does this indicate?
- a) Palaeolithic Age
 - b) Mesolithic Age
 - c) Neolithic Age
 - d) Iron Age
- (v) The "Neolithic Revolution" is considered one of the biggest turning points in human history. Which of the following is the primary reason for this status?
- a) Humans learned to control and create fire for the first time
 - b) Humans transitioned from food gatherers to food producers
 - c) Humans started migrating across continents
 - d) Humans established the first democratic assemblies
- (vi) Suppose an old historic text is discovered that details trade routes, weather forecasting patterns, and local governance. To truly understand its validity, an analyst must look at it from an "Indian perspective" of knowledge systems. This means they should:
- a) Disregard any data that doesn't mention modern borders
 - b) Evaluate how traditional indigenous knowledge combined human life with the natural environment holistically
 - c) Assume everything written in old scripts is structurally unscientific
 - d) Compare it only with Western economic frameworks
- (vii) Which of the following agents of gradation is primarily responsible for forming deep gorges, V-shaped valleys, and massive deltas?
- a) Wind action in arid biomes
 - b) Glacial movement in high alpine areas
 - c) Running water
 - d) Underground water mechanics
- (viii) Which of the following arguments highlights a major structural challenge or demerit of practicing democracy, rather than its advantages?
- a) It allows citizens to correct their own political mistakes through open public debates.
 - b) It improves the quality of decision-making by involving multiple stakeholders and consultations.
 - c) It leads to frequent political instability because leaders and ruling coalition's change periodically.
 - d) It enhances the dignity of citizens by recognizing political equality irrespective of wealth or education.
- (ix) In a class discussion on climate change, a student argues that "weather and climate are the exact same thing." Which counter-argument by a peer is scientifically accurate?
- a) Weather refers to long-term patterns, while climate changes every hour.
 - b) Weather is the atmospheric condition of a specific moment, while climate is the average pattern over a long period
 - c) Climate is only affected by human activities, whereas weather is purely natural.
 - d) Weather happens in the stratosphere, and climate happens in the troposphere.
- (x) Who were the sans-culottes during the French Revolution?
- a) Nobles who supported the revolution
 - b) Peasants who rebelled against the monarchy
 - c) Middle-class merchants
 - d) Radical urban workers

(xi) The Earth's surface is dynamic. Internal forces (endogenic) like plate tectonics build mountains and trigger earthquakes, while external forces (exogenic) continuously wear down and reshape the terrain. This breakdown of rocks through weathering and erosion, followed by the deposition of sediment by agents like rivers, winds, and glaciers, is called *gradation*. Today, human activities are accelerating these processes. Unregulated mining and cutting down trees destabilize hill slopes, leading to an increased frequency of devastating landslides and mudflows, transforming natural ecosystems into hazard zones.

- (a) Identify one internal (endogenic) and one external (exogenic) force mentioned in the text.
- (b) How do human activities turn a slow natural process like gradation into a rapid natural disaster? Give a logical explanation based on the text.
- (c) Imagine you are a structural engineer planning to build a school in a hilly terrain prone to heavy rainfall. Based on your understanding of gradation and human impact, suggest two sustainable preventive measures you must incorporate into your plan to ensure the hill slope remains stable.

(xii) For hundreds of thousands of years, Palaeolithic humans lived as nomadic hunter-gatherers, entirely dependent on nature. However, as the last Ice Age ended around 10,000 BCE, the Earth's climate grew warmer, leading to the expansion of grasslands and flora. Humans observed the lifecycle of plants and began domesticating wild grains like wheat and barley, alongside animals like sheep and goats. This shift during the Neolithic era forced humans to abandon their nomadic ways. Because crops required constant care—watering, weeding, and protecting from animals—humans built permanent mud-brick homes, leading to the birth of the earliest villages and civilisations.

- (a) What environmental trigger kickstarted the transition from the Palaeolithic way of life to the Neolithic way of life?
- (b) Analyze why the discovery of farming inherently forced humans to develop a "settled" community lifestyle instead of moving around.
- (c) How did the shift from nomadic hunting to settled farming fundamentally change how early humans viewed and managed "property" and "surplus"?

II. PROJECT: NATURAL DISASTER (CASE STUDY)

Topic: Case Study of Any One Natural Disaster

Students may choose any one disaster such as:

- Earthquake
- Flood
- Cyclone
- Tsunami
- Drought
- Landslide
- Volcanic Eruption
- Forest Fire



Case study of one disaster- Example Topics:

- 2004 Indian Ocean Tsunami
- 2013 Uttarakhand Floods
- 2001 Gujarat Earthquake
- Cyclone Amphan (2020)
- Kerala Floods (2018)

Explain: •Causes •Effects •Government response

THE PROJECT SHOULD INCLUDE:

- ❖ **COVER PAGE** - Creative Design and Project Topic
- ❖ **STUDENT PROFILE** (Your name, class, roll.no., school name, Academic year, Passport size photo etc)
- ❖ **INDEX** (All topics and sub topics)
- ❖ **ACKNOWLEDGEMENT** (People who have helped/inspired you for this project) IN BEGINNING
- ❖ **INTRODUCTION** (Brief outline of the topic chosen)
- ❖ **PREFACE** (Reason for choosing your topic and varied fields you would be touching upon)
- ❖ **MAIN BODY** (The core content of the topic chosen including case study) ➤ There should be at least 8-10 pages.

- ❖ **CONCLUSION** (Your understanding/views and suggestions)
- ❖ **BIBLIOGRAPHY** (Mention all your reference points/sources)
- ❖ **TEACHER REMARKS** – Give heading and leave the page for teacher remarks.