

असतो मा सद्गमय, तमसो मा ज्योतिर्गमय ।।



# Summer Vacation Assignment 2026

## CLASS-X

### 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. \_\_\_\_\_

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.

## **ENGLISH**

### **I. Read the given passage carefully and answer the following questions:**

1. India is a biodiversity hotspot, home to a remarkable variety of bird species. The country's diverse ecosystems, ranging from the Himalayas to the coastal mangroves, support approximately 1,300 bird species, representing about 13% of the world's avian population. This impressive array includes resident species, migratory birds and endemic birds unique to the region.
2. A significant case study highlighting the richness of India's avian diversity is the Bharatpur Bird Sanctuary, also known as Keoladeo National Park, located in Rajasthan. This UNESCO World Heritage Site hosts around 370 species of birds. During the winter months, the sanctuary becomes a haven for migratory birds from as far as Siberia and Central Asia, including the rare Siberian crane.
3. The Western Ghats, another critical region, is home to over 500 bird species, with around 30% being endemic. Species like the Nilgiri flycatcher and the Malabar parakeet are exclusive to this biodiversity hotspot. Similarly, the North-Eastern state of Arunachal Pradesh, with its dense forests and varied altitudes, supports about 500 bird species, including the critically endangered white-winged duck.
4. Despite this rich biodiversity, several bird species in India face threats from habitat loss, climate change and human activities. According to a study by the Indian Bird Conservation Network, approximately 101 bird species in India are categorised as threatened, with 17 critically endangered. Conservation efforts, such as the establishment of protected areas and community-based initiatives, are crucial in safeguarding these avian treasures.
5. In summary, India's bird species diversity is both a natural marvel and a conservation priority. Effective strategies and sustained efforts are essential to protect this vital aspect of the country's natural heritage.

### **Answer the following questions based on your reading of the above passage.**

(i) Why did the passage most likely highlight regions like Bharatpur, Western Ghats and Arunachal Pradesh? (Paragraphs 2-3)

This is so because these regions \_\_\_\_\_

- (a) attract the highest number of tourists every year
- (b) are globally recognised as protected forest reserves
- (c) represent India's most critical bird habitats and species diversity
- (d) host only migratory birds from neighbouring countries

(ii) Identify the phrase in paragraph 1 that conveys the writer's reference to the variety and types of birds found across India.

(iii) Complete the following by selecting the correct option from those given in the brackets. (Paragraph 2)

The Bharatpur Bird Sanctuary attracts birds like the Siberian crane during winter, due to its favourable \_\_\_\_\_ (altitude/climate) and wetland ecosystem.

(iv) What does the writer mean by 'endemic' while describing birds in the Western Ghats? (Paragraph 3)

(v) Complete the following with the correct option.

When the writer says 'a significant case study highlighting the richness of India's avian diversity,' (Paragraph 2), she means that \_\_\_\_\_

- (a) Bharatpur is the only place in India where birds can be found.
- (b) Bharatpur is a major tourist attraction in Rajasthan.
- (c) the sanctuary serves as an important example of India's diverse bird population.
- (d) it holds the record for the longest bird migration in the world.

(vi) Complete the following appropriately.

The one likely reason why the Siberian crane chooses Bharatpur Bird Sanctuary as a wintering ground is \_\_\_\_\_ (Paragraph 2)

(vii) How are 'dense forests' and 'varied altitudes' connected in the context of Arunachal Pradesh's bird species? (Paragraph 3)

(viii) Elaborate how the preservation of habitats in biodiversity hotspots like the Western Ghats and Arunachal Pradesh would lead to long-term conservation of bird species. (Paragraph 4)

(ix) Fill in the blank with ONE suitable word. (Paragraph 5)

Effective strategies and sustained efforts are essential to protect this vital aspect of the country's natural \_\_\_\_\_

## II. EPILOGUE

Write an Epilogue on The chapter: 'Black Aeroplane'

## III. INTERVIEW

Imagine you are a journalist interviewing Nelson Mandela after he became the President of South Africa.

Prepare:

1. An introduction of Mandela (40–50 words)
2. Any 8 interview questions
3. Suitable answers to the questions
4. A concluding message on freedom and equality

## हिंदी

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

शिक्षा विविध जानकारीयों का ढेर नहीं है, जो तुम्हारे मस्तिष्क में टूँस दिया गया है और जो आत्मसात (ग्रहण) हुए बिना वहाँ आजन्म पड़ा रहकर गड़बड़ किया करता है। हमें उन विचारों की अनुभूति कर लेने की आवश्यकता है, जो जीवन-निर्माण, मनुष्य-निर्माण तथा चरित्र-निर्माण में सहायक हो। यदि आप उपर्युक्त विचार आत्मसात कर उनके अनुसार अपने जीवन एवं चरित्र का निर्माण कर लेते हैं, तो आप पूरे ग्रंथालय को कंठस्थ करने वाले की अपेक्षा अधिक शिक्षित हैं। शिक्षा और आचरण अन्योन्याश्रित हैं। बिना आचरण के शिक्षा अधूरी है और बिना शिक्षा के आचरण अंततोगत्वा दोनों अनुशासन के ही भिन्न रूप हैं। शिक्षा ग्रहण करने के लिए कठोर अनुशासन की आवश्यकता है। अनुशासन भाषण से नहीं, आचरण से आता है। 'लक्ष्य' अनुशासन का सबसे बड़ा प्रेरक है। यदि शिक्षा प्राप्त करने के लिए किसी ऊँचे लक्ष्य को अपने मन में ठान लें, तो अनुशासन दास बनकर उसका अनुगमन करेगा। शिक्षा एक ऐसी प्रक्रिया है, जिसमें विद्यार्थी को नई जानकारी और कौशल सिखाए जाते हैं, जबकि अनुशासन एक ऐसी प्रक्रिया है, जिसमें विद्यार्थी को नैतिक मूल्यों, नियमों और सामाजिक अभिवृत्तियों का पालन सिखाया जाता है। एक अच्छी शिक्षा से विद्यार्थी में संचार कौशल, समस्याओं का समाधान करने की क्षमता, स्वतंत्रता की भावना और सकारात्मक सोच का विकास होता है। जब विद्यार्थी के पास ये गुण होते हैं, तब वह अपनी जिंदगी में अधिक सफल होता है।

(क) 'शिक्षा' शब्द से लेखक का क्या अभिप्राय है?

- (i) अच्छे विचारों को आत्मसात करना
- (ii) विविध जानकारीयों को मस्तिष्क में भरना
- (iii) अनैतिक आचरण करना
- (iv) ये सभी

(ख) शिक्षा ग्रहण करने के लिए किसकी आवश्यकता पड़ती है?

- (i) भाषण

(ii) कठोर अनुशासन

(iii) मस्तिष्क

(iv) विचार

(ग) कथन (A) शिक्षा और आचरण अन्योन्याश्रित हैं।

कारण (R) शिक्षा और आचरण दोनों जीवन में आवश्यक नहीं हैं।

(i) कथन (A) और कारण (R) दोनों सही हैं तथा कारण (R), कथन (A) की सही व्याख्या करता है।

(ii) कथन (A) और कारण (R) दोनों सही हैं, परंतु कारण (R), कथन (A) की सही व्याख्या नहीं करता है।

(iii) कथन (A) सही है, किंतु कारण (R) गलत है।

(iv) कथन (A) गलत है, किंतु कारण (R) सही है।

(घ) गद्यांश के अनुसार, किस प्रकार का व्यक्ति अधिक शिक्षित है?

(ङ) अनुशासन के भिन्न रूप कौन-से हैं तथा अनुशासन का सबसे बड़ा प्रेरक क्या है?

2. निर्देशानुसार 'रचना के आधार पर वाक्य भेद' पर आधारित प्रश्नों के उत्तर दीजिए:

(i) मुझे नई और नीली शर्ट चाहिए। वाक्य में से विशेषण छाँटकर लिखिए।

(ii) कंपनी बाग के मुहाने पर रखी गई तोप पर छोटे-छोटे बच्चे सवारी करते हैं। - रेखांकित पदबंध का प्रकार लिखिए।

(iii) तुम तेजी से दौड़कर क्यों नहीं जाते? - रेखांकित पदबंध का प्रकार लिखिए।

(iv) सुलेमान उनकी बातें सुनकर थोड़ी दूरी पर रुक गए।-वाक्य में क्रिया पदबंध छाँटिए।

(v) मुसीबतों का सामना करने वाला वह भयभीत नहीं हो सकता। - रेखांकित पदबंध का प्रकार लिखिए।

3. निर्देशानुसार पदबंध पर आधारित प्रश्नों के उत्तर दीजिए:

(i) निकोबार द्वीप के विभक्त होने की एक लोककथा आज भी दोहराई जाती है। (मिश्र वाक्य में)

(ii) समुद्र से चलकर ठंडी बयार ततारा को छू रही थी। (संयुक्त वाक्य में)

(iii) गायन इतना प्रभावी था कि वह अपनी सुध-बुध खोने लगा। (सरल वाक्य में)

(iv) लड़कों का एक झुंड था, जो पतंग के पीछे-पीछे दौड़ा चला जा रहा था। (रचना की दृष्टि से वाक्य-भेद बताइए)

(v) कई बार मुझे डॉटने का अवसर मिलने पर भी बड़े भाई साहब चुप रहे। (संयुक्त वाक्य में)

4. निर्देशानुसार मुहावरे पर आधारित प्रश्नों के उत्तर दीजिए:

(क) निम्नलिखित मुहावरों का वाक्य में इस प्रकार प्रयोग कीजिए कि उनका अर्थ स्पष्ट हो जाए-

(i) पानी-पानी होना

(ii) सिर पर कफ़न बाँधना

(ख) किन्हीं दो रिक्त स्थानों की पूर्ति उचित मुहावरों द्वारा कीजिए -

(i) मुझे-----मत समझना, मैं तुम्हारी हर चाल समझता हूँ।

(ii) तुम तो हर छोटी-बड़ी बात पर-----लेते हो।

(iii) भारतीय सैनिकों ने दुश्मन की सेना के.....दिए।

5. (क) निम्नलिखित समस्त पदों का विग्रह करके समास का नाम लिखिए:

(i) पत्र-व्यवहार

(ii) चक्रधर

(iii) अष्टसिद्धि

(ख) निम्नलिखित विग्रहों कर समस्त पद बनाकर समास का नाम लिखिए -

- (i) नीला है जो कमल
- (ii) दान के लिए पात्र

6. बहु विषय परियोजना कार्य:- यात्रावृत्तांत:-

आपके द्वारा की गई किसी भी यात्रा का वर्णन निम्नलिखित बिंदुओं के आधार पर विस्तार पूर्वक एवं चित्र सहित करें:-



- |                                  |   |
|----------------------------------|---|
| क. यात्रा की तिथि, माध्यम, स्थान | ख. रहन-सहन                                    |
| ग. खान-पान                       | घ. संस्कृति                                   |
| ड. सामाजिक स्थिति                | च. मौसम                                       |
| छ. रीति-रिवाज                    | ज. पहनावा                                     |
| झ. प्रमुख दर्शनीय स्थल           | ञ. भाषा                                       |
| ट. भौगोलिक स्थिति                | ठ. अगली यात्रा कहां की करना चाहेंगे और क्यों? |

## MATHEMATICS

**I. Solve the following in your mathematic notebooks:**

- (i) Prove that  $2\sqrt{3} - 1$  is an irrational number.
- (ii) If the zeroes of  $x^2 - px + 6$  are in the ratio 2: 3, find the value of p.
- (iii) If  $\alpha$  and  $\beta$  are the zeroes of  $x^2 + 7x + 7$ , find the value of:  $\frac{1}{\alpha} + \frac{1}{\beta} - 2\alpha\beta$ .
- (iv) Solve the equations graphically:  $2x + y = 2$ ;  $2y - x = 4$   
What is the area of triangle formed by these two lines and the line  $y = 0$ ?
- (v) Find the value of c if the system of equations  $cx + 3y + (3-c) = 0$  and  $12x + cy - c = 0$  has infinitely many solutions.
- (vi) Let d be the HCF of 24 and 36. Find two numbers a and b, such that  $d = 24a + 36b$ .
- (vii) If the zeroes of  $p(x) = ax^2 + bx + c$  are negative reciprocal of each other, find the relationship between a and c.
- (viii) If one of the diagonal of a trapezium divides the other diagonal in the ratio 1: 3. Prove that one of the parallel sides is three times the other.
- (ix) State and prove Basic proportionality theorem.
- (x) For the A.P: 0.6, 1.7, 2.8, 3.9... write the first term and common difference.

(xi) Mr. Pawan Mishra is the owner of a famous amusement park in Hazaribagh in Jharkhand. The ticket charge for the park is Rs 150 per child and Rs 250 per adult. One day the cashier of the park found that 300 tickets were sold and Rs 55000 were collected.

Based on the above information, answer the following questions.

- Let the number of children visited be  $x$  and the number of adults visited be  $y$ . Write linear equations in two variables.
- How many children and adults visited the amusement park?
- On Children's Day, only children were allowed to visit the park. If on that day the total collection was Rs 7500, then find the number of children visited the park.

## II. SUBJECT ENRICHMENT ACTIVITY

**Objective:** To prepare a portfolio on polynomials that highlights their definitions, types, properties, and applications, while strengthening problem-solving skills and mathematical understanding.

### Procedure for Portfolio

- Title Page
- Objective
- Introduction to Polynomials
- Types of Polynomials
- Key/Basic Concepts
- Graphical Representation
- Applications
- Activities/ Examples
- Conclusion
- Bibliography

### Key Notes

- Use creative headings.
- Add illustrations or graphs to make concepts visually interesting.
- Write your own examples that connect polynomials to real life.
- Decorate pages with borders, math doodles, or creative layouts.

## III. ACTIVITY: Visualizing Linear Growth via Arithmetic Progression

- Objective:** To prove that an Arithmetic Progression ( $a, a + d, a + 2d, a + (n-1)d$ ) represents linear growth and observing the "slope" created by the common difference.
- Materials Required :**
  - Graph Paper
  - Coloured Pens/Markers
  - Ruler and Pencil
  - Adhesive
- Procedure:**

**Step 1: Define the Sequence:** Choose an AP that fits clearly on the page. Example:

- First Term ( $a$ ): 2 units
- Common Difference ( $d$ ): 3 units
- Number of Terms ( $n$ ): 5 terms
- Sequence: 2, 5, 8, 11, 14.

### Step 2: Drawing the Axes:

- Draw a horizontal line (X-axis) and label it "Term Number (n)".
- Draw a vertical line (Y-axis) and label it "Value of Term ( $a_n$ )"

### Step 3: Building the Bars:

- For  $n=1$ : Draw a bar 2 units high using any colour (eg. A).
- For  $n=2$ : Draw the bottom 2 units in Colour A, draw 3 more units on top of it in Colour (eg. B). (Total height = 5).
- For  $n=3$ : Draw the bottom 2 units in Color A, and draw 6 units (two sets of 3) on top in Color B. (Total height = 8).
- Continue this for all 5 terms.

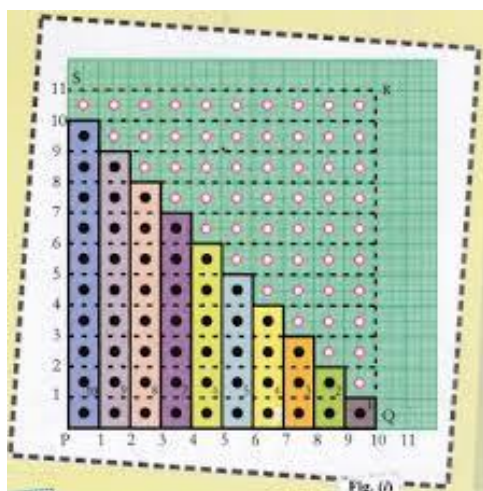
### Step 4: The Linear Verification

- Draw a dot at the top-centre of each coloured bar.
- Connect the dots with a single straight line.

**Conclusion:** This proves that:

- The height of any bar follows the formula:  $a_n = a + (n-1) d$ .
- **Linear Growth:** Any sequence with a constant common difference results in a straight-line graph, which is the definition of a Linear Function.

### Reference Picture:



## SCIENCE

### I. Solve the following in your Science notebook:

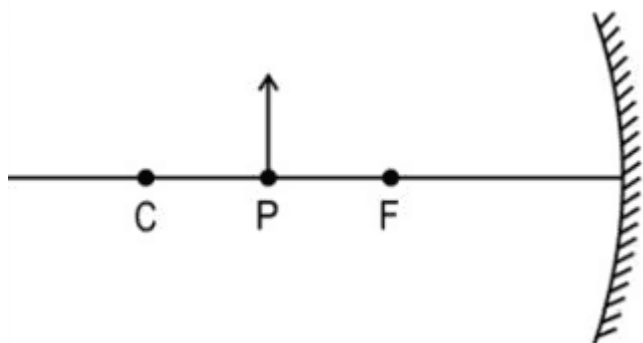
1. What happens when food materials containing fats and oils are left for a long time? List two observable changes and suggest three ways by which this phenomenon can be prevented.
2. A white salt on heating decomposes to give brown fumes and a residue is left behind.
  - (i) Name the salt.
  - (ii) Write the equation for the decomposition reaction.
3. Enlist the site of synthesis and storage of bile. 'Bile juice does not have any digestive enzyme but still plays a significant role in the process of digestion.' Justify the statement.  
What are the ways of glucose oxidation to provide energy in different organisms?
4. How are the lungs designed to maximise the area for exchanging gases in humans?
5. Calculate the resistance of a metal wire of length 2m and area of cross section  $1.55 \times 10^{-6} \text{ m}^2$ , if the resistivity of the metal be  $2.8 \times 10^{-8} \Omega \text{ m}$ .
6. Why are double displacement reactions sometimes called precipitation reactions? Explain with the help of an example.?

7. 1 g of copper powder was taken in a China dish and heated. What change takes place on heating? When hydrogen gas is passed over this heated substance, a visible change is seen. Give the chemical equations of reactions, the name and the colour of the products formed in each case.
8. Draw a circuit diagram for a circuit consisting of a battery of five cells of 2 volts each, a 5  $\Omega$  resistor, a 10  $\Omega$  resistor and a 15  $\Omega$  resistor, an ammeter and a plug key, all connected in series. Also connect a voltmeter to record the potential difference across the 15  $\Omega$  resistor and calculate
- the electric current passing through the above circuit and
  - potential difference across 5  $\Omega$  resistor when the key is closed.
9. An object is placed at a distance of 25 cm away from a converging mirror of focal length 20 cm.
10. Discuss the effect on the nature and position of the image if the position of the object changes from 25 cm to 15 cm.
11. A compound 'A' is used in the manufacture of cement. When dissolved in water, it evolves a large amount of heat and forms compound 'B'.
- Identify A and B.
  - Write chemical equation for the reaction of A with water.
  - List two types of reaction in which this reaction may be classified.
12. Given below is a table representing the characteristics of two fluids involved in the transportation of substances in the human body.

Fluid A	Fluid B
Colorless	Colored
Contains less oxygen	Contains more oxygen
Contains less protein	Contains more protein

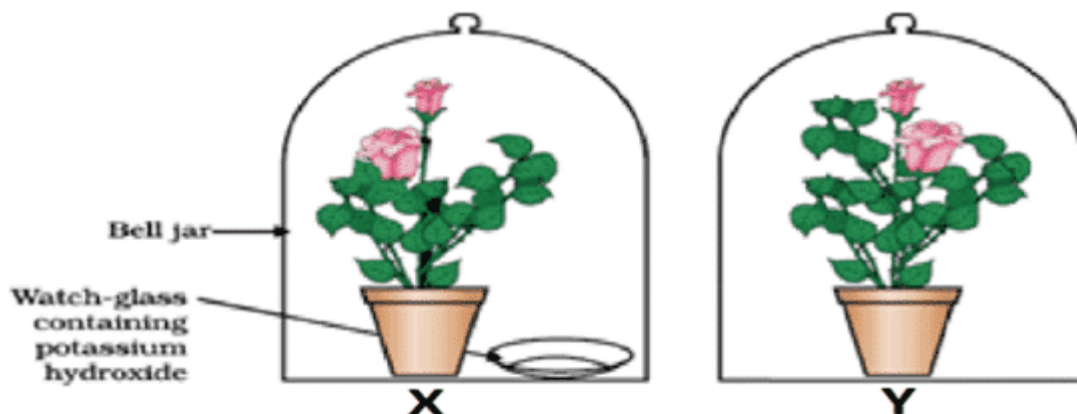
- Identify fluid A and fluid B.
  - With the help of a flow chart, describe the movement of fluid A from the intercellular spaces to the main circulatory system.
13. State the formula co-relating the electric current flowing in a conductor and the voltage applied across it. Also, show this relationship by drawing a graph. What would be the resistance of a conductor, if the current flowing through it is 0.35 ampere when the potential difference across it is 1.4 volt?
14. When magnesium ribbon burns in air or oxygen, a product is formed. State the type of chemical reaction and name the product formed in the reaction. Write balanced chemical equation of this reaction.
15.  $\text{AgNO}_3(\text{aq}) + \text{NaCl}(\text{aq}) \longrightarrow \text{AgCl}(\text{s})\downarrow + \text{NaNO}_3(\text{aq})$   
 $\text{FeS} + \text{H}_2\text{SO}_4 \longrightarrow \text{FeSO}_4 + \text{H}_2\text{S}\uparrow$
- Consider the above mentioned two chemical equations with two different kinds of arrows ( $\uparrow$  and  $\downarrow$ ) along with product. What do these two different arrows indicate?
16. An object is placed at a distance of 25 cm away from a converging mirror of focal length 20 cm. Discuss the effect on the nature and position of the image if the position of the object changes from 25 cm to 15 cm. It is desired to obtain an erect image of an object, using concave mirror of focal length of 12 cm.
- What should be the range of distance of an object placed in front of the mirror?
  - Will the image be smaller or larger than the object? Draw ray diagram to show the formation of image in this case.
  - Where will the image of this object be, if it is placed 6 cm in front of the mirror? Draw ray diagram for this situation to justify your answer.
17. Draw the excretory system in human beings and label the following organs of the excretory system which perform the following functions:
- Forms urine.
  - Is a long tube that collects urine from the kidney.
  - Stores urine until it is passed out.
  - Releases urine.

18. An object of height  $h$  is kept at point P in front of a mirror as shown below. The height of the image produced is  $h'$ . In the diagram, F is the focus and C is the center of curvature.



- i. If the object is now moved to point C, will the height of the image now produced be less than, equal to, or greater than  $h'$ ? Give a reason for your answer.
- ii. If the focal length of the mirror is 20 cm and the distance between points P and C is 10 cm, determine the distance between the images produced when the object is kept at P and C.

19. The figure shown below represents an activity to prove the requirements for photosynthesis. During this activity, two healthy potted plants were kept in the dark for 72 hours. After 72 hours, KOH is kept in the watch glass in setup X and not in setup Y. Both these setups are airtight and have been kept in light for 6 hours. Then, the Iodine test is performed with one leaf from each of the two plants X and Y.



- i. This experimental setup is used to prove the essentiality of which of the following requirements of photosynthesis?
  - a. Chlorophyll
  - b. Oxygen
  - c. Carbon dioxide
  - d. Sunlight
- ii. The function of KOH is to absorb
  - a. Oxygen
  - b. Carbon dioxide
  - c. Moisture
  - d. Sunlight
- iii. Which of the following statements shows the correct results of the Iodine test performed on the leaf from plant X and Y respectively?
  - a. Blue-black color would be obtained on the leaf of plant X and no change in color on the leaf of plant Y.
  - b. Blue-black color would be obtained on the leaf of plant Y and no change in color on the leaf of plant X.
  - c. Red color would be obtained on the leaf of plant X and brown color on the leaf of plant Y.
  - d. Red color would be obtained on the leaf of plant Y and brown color on the leaf of plant X.

## II. SUBJECT ENRICHMENT ACTIVITY

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

- i. Antoine Lavoisier
  - ii. J.J Thomson
  - iii. Svante Arrhenius
  - iv. Sunderlal Bahuguna
  - v. G.N Lewis
  - vi. Faraday
- 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 life and achievements.

### III. Explore the given scientific concept and express it through a fun and engaging comic strip using following elements.

Engaging characters A clear narrative or scenario Visual storytelling Text and dialogue Minimum of 4 panels This interdisciplinary activity, blending science and art, should be presented on an A3 sheet. Select Any One topic from the given list of topics:

- Acid-base antics
- Light's Twists and Turns: Exploring Reflection & Refraction
- Captain Red Blood's Journey
- Reaction ruckus
- The reactivity rumble

This assignment provides an opportunity to demonstrate your understanding of science in a creative and engaging way. We encourage you to be imaginative and have fun while accurately representing your chosen scientific concept.

## SOCIAL- SCIENCE

### Q.1 Solve following in your Social-Science notebook:

- (i) Which administrative reform by Napoleon most directly benefited transnational merchants over traditional feudal elites?
- (a) The introduction of a standardized system of weights, measures, and a common currency.
  - (b) The complete restriction of freedom of press and strict political censorship.
  - (c) The restoration of traditional town guilds and religious property exemptions.
  - (d) The dynamic expansion of manorial dues and peasant labor obligations.
- (ii) How is a renewable resource like groundwater classified when commercial over-extraction permanently degrades its quality?
- (a) An institutional management failure rather than a natural depletion of a resource.
  - (b) A physical transformation of a fluid resource into a non-renewable mineral.
  - (c) An unavoidable ecological trade-off required to maximize national agricultural output.
  - (d) A crisis caused solely by the absolute geographic scarcity of water in the region.
- (iii) What was the fundamental democratic flaw in Sri Lanka's post-independence majoritarian policies?
- (a) They isolated the minority community, which severely compromised national unity and stability.
  - (b) They granted excessive administrative autonomy to provincial councils over the central government.
  - (c) They violated the horizontal division of powers between the judiciary and executive.
  - (d) They prioritized rapid industrial development over the preservation of majority culture.
- (iv) Which feature confirms a political system is truly federal rather than unitary?
- (a) State governments derive their powers directly from the constitution, making them independent of central control.
  - (b) The central government retains the absolute right to pass laws for the entire nation.
  - (c) The sub-units are entirely subordinate to the commands of the national executive branch.
  - (d) Political power is dynamically shared between changing coalitions of political parties.
- (v) If two nations have identical per capita incomes, why might one have a much lower infant mortality rate?
- (a) Because it allocates its public resources more effectively toward healthcare and social infrastructure.
  - (b) Because it possesses a much larger total population than the neighboring nation.
  - (c) Because its economy relies entirely on heavy industrial manufacturing rather than agriculture.
  - (d) Because it has successfully replaced economic growth metrics with the Human Development Index.
- (vi) Why did conservative European regimes after 1815 choose to preserve Napoleon's centralized administrative changes?
- (a) Because modern administrative systems made state power more efficient and strengthened absolute monarchies.
  - (b) Because they intended to initiate a gradual transition toward constitutional representative democracies.
  - (c) Because Napoleon's codes guaranteed absolute freedom of expression and political opposition.
  - (d) Because the changes successfully restored all historic tax exemptions to the high nobility.
- (vii) Khilafat Committee was formed in 1919 in the city of:
- (a) Bombay
  - (b) Calcutta
  - (c) Lucknow
  - (d) Amritsar
- (viii) What was the main purpose of introducing symbols like "Bharat Mata" during the Indian national movement?
- (a) To provide a visual, relatable anchor that connected abstract national identity to ordinary citizens.
  - (b) To completely erase deep-seated internal caste and religious differences among freedom fighters.
  - (c) To pressure the British colonial administration into granting immediate dominion status peacefully.
  - (d) To restrict nationalist participation strictly to the highly educated elite in urban hubs.

(ix) Which principle must guide resource planning when an urban infrastructure project threatens rural common pastures?

(a) Balancing national development goals with the preservation of local community livelihoods.

(b) Privatizing all village common property resources to maximize corporate land utilization.

(c) Treating rural common lands as economically vacant spaces with no developmental value.

(d) Prioritizing urban industrial expansion over primary agricultural sector activities

(x) Why is a horizontal system of checks and balances critical in a modern constitutional democracy?

(a) It prevents any single organ of government from amassing and exercising unchecked power.

(b) It completely isolates the executive branch from interacting with the legislative branch.

(c) It concentrates ultimate national decision-making power entirely within the judicial system.

(d) It eliminates political disagreements by forcing all political parties to reach consensus.

(xi) The identity of the nation is most often symbolized in a figure or image. This helps create an image through which people can identify the nation. It was in the twentieth century, with the growth of nationalism, that the identity of India came to be visually associated with the image of Bharat Mata. The image was first created by Bankim Chandra Chattopadhyay. In the 1870s he wrote "Vande Mataram" as a hymn to the motherland. Later it was included in his novel Anandamath and widely sung during the Swadeshi movement in Bengal. Moved by the Swadeshi movement, Abanindranath Tagore painted his famous image of Bharat Mata. In this painting Bharat Mata is portrayed as an ascetic figure; she is calm, composed, divine and spiritual. In subsequent years, this image took many different forms, as it circulated in popular prints, and was painted by different artists. Devotion to this mother figure came to be seen as evidence of one's nationalism.

(a) Why did early nationalist leaders emphasize representing the nation through a visual human figure like Bharat Mata?

(b) How did the visual attributes of Bharat Mata change as the nationalist movement transformed into a mass struggle?

(c) What role did historical fiction and hymns like 'Vande Mataram' play within the context of the Swadeshi movement?

(xii) Power sharing is good because it helps to reduce the possibility of conflict between social groups. Since social conflict often leads to violence and political instability, power sharing is a good way to ensure the stability of political order. Imposing the will of the majority community over others may look like an attractive option in the short run, but in the long run it undermines the unity of the nation. The tyranny of the majority is not just oppressive for the minority; it often brings ruin to the majority as well. There is a second, deeper reason why power sharing is good for democracies. Power sharing is the very spirit of democracy. A democratic rule involves sharing power with those affected by its exercise, and who have to live with its effects. People have a right to be consulted on how they are to be governed.

(a) According to the text, why does avoiding structural power-sharing ultimately compromise the interests of the majority group?

(b) What distinct democratic requirement separates a 'moral' justification of power-sharing from a 'prudential' one?

(c) Why does the author characterize majority domination as only an 'attractive option in the short run'?

(d) What structural failure occurs within a democracy when a ruling coalition completely refuses to consult its citizens?

## Q.2 INTERDISCIPLINARY PROJECT WORK



Topics (Choose Any ONE)

1. **Consumer Rights**
2. **Social Issues**
3. **Sustainable Development**

Guidelines: It involves combining 2 or more disciplines into one activity-more coherent and integrated. The generally recognized disciplines are economics, History, Geography, Political Science

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)
- ❖ **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)