



DRONACHARYA
SR. SEC. SCHOOL MUBARIKPUR (JH)
AFFILIATED TO CBSE NEW DELHI, Aff No. 530945 |

Summer Holidays Homework

Class: - X(Magnetic)

Dear Students,

As the summer sun rises higher and the days stretch longer, it's time to pause, reflect, and recharge. The months of May and June bring with them not just warmth, but also the perfect opportunity to reconnect—with ourselves, with our families, and with the world around us.

Let us remember: "A mind stretched by new experiences can never go back to its old dimensions." This summer, let curiosity lead you, compassion guide you, and creativity energize you.

As part of the Summer Holiday Engagement 2025, we encourage you to stay indoors during peak hours, remain hydrated, and take thoughtful care of the ecology and environment around you. Even small steps—like reducing plastic use, saving electricity, and caring for plants—can bring meaningful change.

This year's holiday homework is designed to nurture Social, Emotional, and Experiential Learning. Whether you're experimenting in the kitchen, helping out at home, writing in your journal, or diving into a book—know that each activity contributes to your growth.

Let this summer be more than just a break. Let it be a season of purposeful rest, joyful discovery, and mindful action.

I believe in your potential to make a difference and look forward to seeing your spirit shine through in every page of your work.

Stay safe, stay curious, and above all—stay kind.

Warm wishes,

Class Teacher

GENERAL INSTRUCTIONS

- **Complete your homework in the given time period.**
- **Make a separate single notebook for all subjects.**

English

Below is a comprehensive set of assignments designed to enhance your reading, writing, and analytical skills. Complete these tasks in your Writing Skills Notebook and ensure your work is neat and systematic.

I. Biographical Sketches and Summaries

Create a Literary Newspaper (1 cartridge sheet folded twice so that there are 4 sides):**

1. Page 1: Biographical Sketches

- Write a biographical sketch of the following poets:

- Robert Frost
- Walt Whitman
- Robin Klein

Page 2: Lesson Summaries

- Write summaries of the following lessons in about 150-200 words each:

- "A Triumph of Surgery"
- "A Letter to God"
- "Nelson Mandela: Long Walk to Freedom"

Page 3: Poetic Devices

- Define the following poetic devices and give at least two examples of each:

- Simile
- Alliteration
- Metaphor
- Anaphora
- Assonance

Page 4. Alternate Ending

- Write an alternate ending for the chapter "A Letter to God" in 80-100 words.

II. Vocabulary Building

- Write 20 words starting with 'A' from your book "First Flight" and give at least two antonyms of each.

- Write 20 words starting with 'B' from your supplementary reader "Footprints without Feet" and give at least one synonym of each.

III. LETTER WRITING - Solve any one letter writing assignment of each type from your BBC

	Compacta. IV. Reflective Journaling Maintain a reflective journal throughout the vacation. Write a daily entry (any 05 days) where you can express your thoughts, experiences, and emotions. Reflect upon the lessons you've learned, the books you've read, and the places you've visited. This will help improve your writing skills and serve as a personal keepsake. V. Poem Summaries Write brief summaries of the following poems in 120-150 words each: - "Dust of Snow" - "Fire and Ice" - "A Tiger in the Zoo" - "How to Tell Wild Animals" VI. Character Sketches Write character sketches of the following individuals in 120-150 words each: - James Herriot - Mrs. Pumphrey - Lencho - Nelson Mandela VII. Research Project ((Throughout the Vacation)) - Prepare a small research project on the wildlife conservation efforts made by GOI . Do it on one sided A4 sheets so that it can be used as a display on the soft board. GENERAL INSTRUCTIONS: - Maintain a separate notebook for your holiday homework. - Ensure that your work is neat and well-organized. - Be prepared to discuss and share your work with your classmates when school reopens.
Hindi	1- पत्र-लेखन- औपचारिक- अनौपचारिक विषय- (क) विद्यालय के वार्षिकोत्सव में पुरस्कार प्राप्ति की प्रसन्नता का वर्णन करते हुए अपने पिताजी को पत्र लिखिए। (ख) आपके मित्र को बोर्ड परीक्षा में प्रथम घोषित किया गया है। इस अवसर पर उसे एक बधाई पत्र लिखिए। (ग) आपके विद्यालय के पुस्तकालय में हिंदी भाषा की पर्याप्त पत्र पत्रिकाएं एवं पुस्तकें नहीं मंगाई जाती और उपलब्ध पुस्तकें घर पर पढ़ने के लिए भी नहीं दी जाती हैं। इसकी शिकायत करते हुए प्रधानाचार्य को पत्र लिखिए। (घ) अपने छोटे भाई को पत्र लिखिए कि वह अपने स्कूल में सदा उपस्थित रहे और परीक्षा की भली-भांति तैयारी करें। (ङ) अपने जन्मदिन पर आयोजित कार्यक्रम की रूपरेखा बताते हुए किसी मित्र को उस अवसर पर आने का निमंत्रण पत्र लिखिए। (च) अस्पताल में दाखिल हुए अपने किसी दुर्घटनाग्रस्त मित्र को सांत्वना देते हुए पत्र लिखिए। (छ) अपने मोहल्ले की नालियों की समुचित सफाई के लिए नगर निगम के स्वास्थ्य अधिकारी को पत्र लिखिए। (ज) पिछले कुछ दिनों से आपके क्षेत्र में अपराध बढ़ने लगे हैं। उनकी रोकथाम के लिए थाना अध्यक्ष को पत्र लिखिए।

(झ) बाढ़ग्रस्त लोगों की सहायता के लिए विद्यालय के छात्रों से धन एवं कपड़े एकत्रित करने की अनुमति के लिए विद्यालय के प्रधानाचार्य को पत्र लिखिए।
 (ञ) छात्रावास में रहने वाले अपने छोटे भाई को पत्र लिखकर प्रातःकाल नियमित रूप से योग एवं प्राणायाम का अभ्यास करने के लिए प्रेरित कीजिए।

2- अनुच्छेद- लेखन-10
 विषय-
 क- इंटरनेट: सूचनाओं की खान
 ख- साइबर अपराध
 ग- डिजिटल इंडिया
 घ- नई राष्ट्रीय शिक्षा नीति
 ङ- लड़कियाँ पढ़ें तो घर शिक्षित हो जाए
 च- नैतिक शिक्षा की आवश्यकता
 छ- मेरा प्रिय खेल हाँकी
 ज- विज्ञान के बढ़ते कदम
 झ- ग्लोबल वार्मिंग
 ञ- खेलों की ओर बढ़ता रुझान

3-विज्ञापन- लेखन-10
 विषय-
 क- आप अपनी पुरानी साइकिल बेचना चाहते हैं।उससे संबंधित जानकारी देते हुए एक आकर्षक विज्ञापन तैयार कीजिए।
 ख- "उमंग" नाम से लड़कियों के लिए एक एनजीओ का विज्ञापन तैयार कीजिए।
 ग- पर्यावरण विभाग की ओर से जल संरक्षण का आग्रह करते हुए विज्ञापन तैयार कीजिए।
 घ- "गंगोत्री" बोतल बंद पानी का विज्ञापन तैयार कीजिए।
 ङ- "पोलियो-उन्मूलन" का विज्ञापन तैयार कीजिए।
 च-"ए-1शहद" का विज्ञापन तैयार कीजिए।
 छ- "स्वच्छ भारत अभियान" का विज्ञापन तैयार कीजिए।
 ज- "नेत्रदान" के लिए प्रोत्साहित करने हेतु स्वास्थ्य मंत्रालय के लिए एक आकर्षक विज्ञापन तैयार कीजिए।
 झ- आपके भाई ने मिठाई की दुकान खोली है, उसके प्रचार के लिए एक विज्ञापन तैयार कीजिए।
 ञ- आपके मित्र को स्टेशनरी की दुकान खोलनी है। उसके प्रचार के लिए एक विज्ञापन तैयार कीजिए।

4-संदेश- लेखन-5
 विषय-
 क- जन्मदिन की शुभकामनाएं देते हुए मित्र को संदेश लिखिए ।
 ख-दीपावली की बधाई देते संदेश लिखिए ।
 ग-शिक्षक दिवस की बधाई देते हुए संदेश लिखिए ।
 घ-बाल दिवस की बधाई देते हुए संदेश लिखिए
 ङ-रक्षाबंधन की हार्दिक शुभकामनाएं देते हुए संदेश लिखिए ।

5-परियोजना-कार्य
 विषय-अलंकार

1 If the median of the distribution given below is 28.5, find the values of x and y.

Class-interval	Frequency
0 – 10	5
10 – 20	x
20 – 30	20
30 – 40	15
40 – 50	y
50 – 60	5
Total	60

2) The following data gives information on the observed lifetimes (in hours) of 225 electrical components:

Life times (in hours)	Frequency
0 – 20	10
20 – 40	35
40 – 60	52
60 – 80	61
80 – 100	38
100 – 120	29

3) The table below shows the daily expenditure on food of 25 households in a locality.

Daily expenditure (in ₹)	No. of households
100 – 150	4
150 – 200	5
200 – 250	12
250 – 300	2
300 – 350	2

Find the mean daily expenditure on food by a

4) (i) A lot of 20 bulbs contain 4 defective ones. One bulb is drawn at random from the lot. What is the probability that this bulb is defective?

(ii) Suppose the bulb drawn in (i) is not defective and is not replaced. Now one bulb is drawn at random from the rest. What is the probability that this bulb is not defective?

5) A box contains 90 discs which are numbered from 1 to 90. If one disc is drawn at random from the box, find the probability that it bears

(i) a two digit number.

(ii) a perfect square number.

(iii) a number divisible by 6) Solve the following pairs of linear equations by the substitution method:

$$11x + 15y = 23.$$

$$7x - 2y = 20$$

7) Solve $2x + 3y = 11$ and $2x - 4y = -24$ and hence find the value of 'm' for which $y = mx + 3$.

8) A fraction becomes $\frac{9}{11}$, if 2 is added to both the numerator and the denominator. If 3 is added to both the numerator and the denominator, it becomes $\frac{5}{6}$. Find the fraction

- 9) Five years ago, Nuri was thrice as old as Sonu. Ten years later, Nuri will be twice as old as Sonu. How old are Nuri and Sonu?
- 10) The product of two consecutive positive integers is 306. We need to find the integers
- 11)
- The altitude of a right triangle is 7 cm less than its base. If the hypotenuse is 13 cm, find the other two sides.
- 12) The difference of squares of two numbers is 180. The square of the smaller number is 8 times the larger number. Find the two
- 13) Sum of the areas of two squares is 468 m^2 . If the difference of their perimeters is 24 m, find the sides of the two squares.
- 14) Given that $\text{HCF}(306, 657) = 9$, find $\text{LCM}(306, 657)$.
- 15) Check whether 6^n can end with the digit 0 for any natural number n.
- 16) Show that $3 + \sqrt{5}$ is irrational
- 17) Prove that $\sqrt{5}$ is irrational
- is 10
- 18) Find the ratio in which the line segment joining the points (-3, 10) and (6, -8) is divided by (-1, 6).
- 19) If A and B are (-2, -2) and (2, -4), respectively, find the coordinates of P such that $AP = 37 AB$ and P lies on the line segment AB.
- 20) If (1, 2), (4, y), (x, 6) and (3, 5) are the vertices of a parallelogram taken in order, find x and y
- 21) If $(\alpha - \beta)$, α , $(\alpha + \beta)$ are zeroes of the polynomial $p(x) = 2x^3 - 16x^2 + 15x - 2$, then find the value of α
- 22) If α and β are zeroes of the polynomial $2x^2 - 5x + 7$, then find the value of $\alpha^{-1} + \beta^{-1}$.
- 23) Find the quadratic polynomial whose sum of zeroes is 8 and their product is 12. Hence find zeroes of polynomial.
- 24) find the largest number which on dividing 1251, 9377 and 15628 leaves remainders 1, 2 and 3 respectively
- 25) prove that $2 + \sqrt{3}$ is an irrational number given that $\sqrt{3}$ is an irrational number
- 26) the traffic lights at three different road crossing change after every 48 second 72 seconds and 108 seconds respectively. if they change simultaneously at 7:00 a.m. at what time will they change together next ?
- 27) find the LCM of x^2-4 and x^4-16 .
- 28) the LCM of two number is 9 times their HCF. the sum of LCM and HCF is 500 . find the HCF of two numbers.
- 29) if A and B are the zeros of the polynomial $2x^2 + 11x + 5$ then find $A^4 + B^4$.
- 30) if A and B are the zeros of the quadratic polynomial $x^2 - p(X + 1) - c$ then show that $(A+1)(B+1)=1-C$.
- 31) If A&B are the zeros of the quadratic polynomial $3x^2 - 6x + 4$ find the value of $A/B + B/A + 2(1/A$

	+ 1/B) + 3AB. 32) half the difference between two number is 2. sum of the greater number and twice the smaller number is 13 find the numbers. 33) draw the graph of the equation $y = -1$, $y = 3$ and $4x - y = 5$ also find the area of the quadrilateral formed by these lines and the y -axis. 34) if the roots of the equation $(a^2+b^2)x^2 - 2(ac+bd)x + (c^2+d^2) = 0$ are equal prove that $a/b = c/d$. 35) At t minutes past 2:00 p.m. the time needed by the minute hand of a clock to show 3 p.m. was found to be 3 minutes less than $t^2/4$ minutes. find t. 36) solve for x : $4x^2 - 4a^2x + (a^4 + b^4) = 0$. 37) If $3 \cot A = 4$, find the value of $\operatorname{cosec}^2 A + 1 \operatorname{cosec}^2 A - 1$ 38) If $\cos \theta + \sin \theta = \sqrt{2} \cos \theta$, show that $\cos \theta - \sin \theta = \sqrt{2} \sin \theta$. 39) Prove that: $a^2 + b^2 = x^2 + y^2$ when $a \cos \theta - b \sin \theta = x$ and $a \sin \theta + b \cos \theta = y$. 40) Determine the value of x such that $2 \operatorname{cosec}^2 30^\circ + x \sin^2 60^\circ - 34 \tan^2 30^\circ = 10$. 41) If $\sec \theta + \tan \theta = 7$, the compute the value of $\sec \theta - \tan \theta$ 42) If $\tan \theta + \cot \theta = 5$, then find the value of $\tan^2 \theta + \cot^2 \theta$. 43) What will happen if the value of the cosine function increases from 0° to 90°? 44) Given that $\operatorname{cosec} \theta = 4/3$. Find all other values of trigonometric ratios. 45) Find the value of $\sin 45^\circ - \cos 45^\circ$. 46) If $4 \tan \theta = 3$, evaluate $(4 \sin \theta - \cos \theta + 1)/(4 \sin \theta + \cos \theta + 1)$. 47) Prove that $[\tan \theta/(1 - \cot \theta)] + [\cot \theta/(1 - \tan \theta)] = 1 + \sec \theta \operatorname{cosec} \theta$ 48) Prove that: $\sin \theta/(\cot \theta + \operatorname{cosec} \theta) = 2 + [\sin \theta/(\cot \theta - \operatorname{cosec} \theta)]$ 49) In a right triangle ABC, right-angled at B, if $\tan A = 1$, then verify that $2 \sin A \cos A = 1$. 50) If $\angle B$ and $\angle Q$ are acute angles such that $\sin B = \sin Q$, then prove that $\angle B = \angle Q$ Activity Concept Revision Booklet Title: "My Math Handbook" Instructions: Prepare a mini-booklet summarizing key formulas and concepts from each chapter (e.g., Trigonometry, Statistics, Real Number, Polynomials, Quadratic Equation & Coordinate Geo.). Include one solved example for each chapter. Revise Ch. Real Number, polynomial, linear equation, Quadratic equation, coordinate geometry, Trigonometry and Height and Distance.
Physics	Chapters Covered: - Electricity , Light – Reflection Prepare handwritten notes explaining: - Light reflection, its law , spherical mirror, ray diagram, sign conventions, Linear magnification and do all numerical of mirror formula. Concept Flash-Cards :- Create at least 25 small flash-cards using paper or index cards. On one side, write a term like "Ohm's Law" or "Concave Mirror," and on the other side, write its definition or explanation along with a neat diagram or example. Mind Map for Electricity :- On an A4-sized sheet, draw a colorful mind map showing all important concepts of electricity – including Ohm's Law, factors affecting resistance, types

of circuits (series and parallel), formulas for power and energy. Use arrows, symbols, and color codes for clarity.

4. **Ray Diagram Practice :-** Neatly draw the ray diagrams in notebook by concave and convex mirror. Label all diagrams clearly with object distance, image distance, principal axis, and focus point.
5. **Electricity Usage Survey:-** Observe your home's electricity usage for three days. Take meter readings at the same time each day. List 5 appliances used the most. Write their power rating, how many hours they're used daily, and estimate the energy consumed and cost. Suggest two practical tips to reduce the electricity bill.
6. **Essay (200 words) Topic: "Life Without Electricity – A 24-Hour Experience" :-** Imagine your life if electricity suddenly disappeared for a full day. Describe how it would affect your daily routine, what devices you'd miss the most, and how it connects to concepts you learned in physics.

Part A: Multiple Choice Questions

1. The image formed by a plane mirror is:
 - a) Real and inverted
 - b) Virtual and inverted
 - c) Real and erect
 - d) Virtual and erect
2. Which of the following mirror types is used in a vehicle's side-view mirror?
 - a) Plane mirror
 - b) Convex mirror
 - c) Concave mirror
 - d) Cylindrical mirror
3. A concave mirror forms a real, inverted, and same-size image when the object is placed:
 - a) At focus
 - b) At centre of curvature
 - c) Between focus and pole
 - d) At infinity
4. The focal length of a plane mirror is:
 - a) Infinite
 - b) Zero
 - c) Negative
 - d) Equal to the radius of curvature
5. Which mirror can form both real and virtual images?
 - a) Plane mirror
 - b) Convex mirror
 - c) Concave mirror
 - d) None
6. The mirror formula is:
 - a) $\frac{1}{f} = \frac{1}{v} + \frac{1}{u}$
 - b) $\frac{1}{f} = \frac{1}{v} - \frac{1}{u}$
 - c) $\frac{1}{f} = \frac{1}{u} - \frac{1}{v}$
 - d) None of these
7. If the magnification produced by a mirror is -1, the image formed is:
 - a) Virtual, same size
 - b) Real, same size
 - c) Virtual, magnified
 - d) Real, diminished
8. A convex mirror always forms an image that is:
 - a) Real and erect
 - b) Real and inverted

- c) Virtual and erect
- d) Virtual and inverted
- 9. Which of the following can produce a magnified and virtual image?
 - a) Convex mirror only
 - b) Plane mirror only
 - c) Concave mirror only
 - d) All mirrors
- 10. If an object is placed at infinity in front of a concave mirror, the image formed is:
 - a) At the focus, real and inverted
 - b) At the centre of curvature, same size
 - c) Between focus and pole, virtual
 - d) None of these

Part B: Numerical Questions

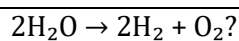
- 11. A concave mirror has a focal length of 15 cm. At what distance should an object be placed from the mirror to obtain a real image twice the size of the object?
- 12. An object is placed 10 cm in front of a concave mirror of focal length 20 cm. Find the position and nature of the image.
- 13. A convex mirror has a focal length of 20 cm. An object is placed 30 cm from the mirror. Find the position and nature of the image.
- 14. An object 4 cm high is placed 30 cm from a concave mirror of focal length 10 cm. Find the position, nature, and height of the image.
- 15. An object is placed 60 cm in front of a convex mirror whose focal length is 30 cm. Find the image position and magnification.
- 16. A concave mirror produces a virtual image 10 cm behind the mirror when the object is placed 5 cm in front of it. Find the focal length of the mirror.
- 17. The image of an object is formed at a distance of 24 cm in front of a concave mirror. If the object is placed at a distance of 12 cm from the mirror, find the focal length.
- 18. An object is placed at the centre of curvature of a concave mirror of focal length 10 cm. Find the image distance and magnification.
- 19. The image formed by a concave mirror is 4 times the size of the object and real. Find the position of the object if the focal length of the mirror is 12 cm.
- 20. A convex mirror forms an image 6 cm behind the mirror of an object 18 cm in front of it. Calculate the focal length of the mirror.

Part C: Long Answer Type Questions

- 21. State the laws of reflection of light. Draw a diagram to show the reflection from a plane mirror.
- 22. Differentiate between real and virtual images with examples and suitable ray diagrams.
- 23. Draw ray diagrams to show the image formation by a concave mirror when the object is:
 - a) At infinity
 - b) At the centre of curvature
 - c) Between centre of curvature and focus
 - d) At the focus
 - e) Between focus and pole
- 24. Define the principal focus, centre of curvature, and radius of curvature of a spherical mirror with the help of a diagram.
- 25. Define convex mirror and concave mirror.
- 26. Explain the uses of concave and convex mirrors in daily life with examples.
- 27. What do you understand by the term magnification? Derive the relation between image

	height, object height, and magnification for spherical mirrors. 28. A student wants to get a magnified and virtual image of an object using a mirror. - Which mirror should he use? - What should be the position of the object with respect to the mirror? - Draw a ray diagram to show the formation of the image. 29. What is meant by the focal length of a mirror? How is it related to the radius of curvature? Explain with the help of a diagram. 30. Draw and explain the image formation by a convex mirror. Also mention its characteristics and nature.
Social Science	Civics – Power Sharing & Federalism - Make a Venn diagram comparing power sharing in Belgium and Sri Lanka. - Create a map activity showing states with special powers under Indian federalism (e.g., Jammu & Kashmir pre-2019). - Prepare a case study presentation of one federal country (e.g., USA, India, Germany) and explain how powers are divided. - Write: A state CM demands more autonomy from the central government. How does the Centre Respond? - Conduct a mini-election at home or online among friends with parties and manifestos. - Research and write about a successful citizen movement in India (e.g., RTI, Nirbhaya case). Economics – Development & Sectors of Economy - Prepare a bar graph comparing per capita income, literacy, and HDI of India with two other countries. - Create a mind map on sustainable development with real-life eco-friendly practices. - Make a project report: Observe and document three occupations in your locality and identify their economic sector. - Family discussion:- Should GDP be the only measure of development? Write a short note. - Design a collage on public and private sector services using :-magazine cuttings or newspaper clippings . Economics – Money, Credit & Globalisation - Write a short story on how a poor farmer gets stuck in a debt trap. - Create an infographic explaining the working of banks and credit. - Activity : Survey 5 people and record their payment methods (cash, UPI, cheque, etc.). Make a pie chart. - Write a note on : “Foreign companies in India – Threat or Opportunity?”

	Geography – Resources, Agriculture & Industries A. Make a physical model , chart or map showing resource distribution in India (water, mineral soil etc.) B.Design a travel brochure promoting a region based on its agricultural or industrial significance.
Chemistry	1. Complete full handwritten notes of Chapter 1 in your Chemistry notebook. (Include types of reactions, examples, chemical equations, balancing, and key definitions.) 2. Do one simple home-based activity related to chemical change. Example: Rusting of iron Reaction of vinegar and baking soda Burning of magnesium ribbon (if available) 3. Write: Aim, materials used, steps, observation, and conclusion on one A4 sheet. 4. Make a working model showing any type of chemical reaction (e.g., combination, displacement, etc.) (Use easy materials like paper, straws, matchboxes, colored sheets, or clay.) 5. Prepare 10 short questions and answers from Chapter 1 in your own words. (Questions will be used for a classroom quiz after vacation.) Solve the given assignment:- Assignment class 10 active 1–7: Multiple Choice Questions (MCQs) 1. Which of the following is a displacement reaction? A) $\text{NaOH} + \text{HCl} \rightarrow \text{NaCl} + \text{H}_2\text{O}$ B) $\text{AgNO}_3 + \text{NaCl} \rightarrow \text{AgCl} + \text{NaNO}_3$ C) $\text{Zn} + \text{CuSO}_4 \rightarrow \text{ZnSO}_4 + \text{Cu}$ D) $\text{BaCl}_2 + \text{H}_2\text{SO}_4 \rightarrow \text{BaSO}_4 + 2\text{HCl}$ 2. What type of chemical reaction is represented by:



- A) Combination
- B) Decomposition
- C) Displacement
- D) Double displacement

3. Which acid is used in the manufacture of fertilizers and explosives?

- A) Hydrochloric acid
- B) Nitric acid
- C) Sulphuric acid
- D) Acetic acid

4. Which of the following is a basic salt?

- A) Sodium chloride
- B) Ammonium chloride
- C) Sodium carbonate
- D) Copper sulphate

5. What is formed when an acid reacts with a metal carbonate?

- A) Salt and hydrogen
- B) Salt and water
- C) Salt, water, and carbon dioxide
- D) Salt only

6. The chemical formula of Plaster of Paris is:

- A) $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$
- B) CaSO_4
- C) $\text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O}$
- D) CaCO_3

7. A reaction in which heat is absorbed is called:

- A) Exothermic
- B) Endothermic
- C) Displacement
- D) Combination

8–12: Assertion and Reason Questions

(Choose:

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

B) Both A and R are true, but R is not the correct explanation.

C) A is true, R is false.

D) A is false, R is true.)

8.

Assertion (A): Magnesium reacts with dilute HCl to form hydrogen gas.

Reason (R): Magnesium is more reactive than hydrogen.

9.

Assertion (A): Blue litmus turns red in an acidic solution.

Reason (R): Acids increase the concentration of hydroxide ions in water.

10.

Assertion (A): Baking soda is used in antacids.

Reason (R): Baking soda is acidic in nature and neutralizes stomach acid.

11.

Assertion (A): Rusting of iron is a redox reaction.

Reason (R): In rusting, iron is oxidized.

12.

Assertion (A): Neutralization reaction is a type of displacement reaction.

Reason (R): In a neutralization reaction, acid displaces the base.

☐ 13–15: Case Study-Based Questions

Read the following passage and answer the questions:

During an experiment, a student added dilute hydrochloric acid to zinc granules and observed a colorless gas evolving with bubbles. The gas was passed through soap solution, which formed bubbles. A burning splint produced a 'pop' sound near the bubbles.

13. What gas is evolved in the reaction between zinc and dilute HCl?

14. What type of reaction is this?

15. What does the 'pop' sound confirm?

☐ 16–20: Very Short/Short Answer

16. Define a redox reaction with an example.

17. Write the balanced chemical equation for the reaction of sodium with water.

18. What is meant by a precipitation reaction? Give one example.

19. Why does distilled water not conduct electricity, whereas rainwater does?

20. What is the common name of sodium bicarbonate? Write its two uses.

☐ 21–25: Short Answer Questions

	21. State the type of chemical reactions and balance the following equations: a) $\text{Fe} + \text{H}_2\text{O} \rightarrow \text{Fe}_3\text{O}_4 + \text{H}_2$ b) $\text{CaO} + \text{H}_2\text{O} \rightarrow \text{Ca}(\text{OH})_2$ c) $\text{AgNO}_3 + \text{NaCl} \rightarrow \text{AgCl} + \text{NaNO}_3$ 22. Explain why an aqueous solution of an acid conducts electricity. 23. Explain how baking soda is converted into washing soda. Give equations. 24. What is meant by the pH of a solution? What does a pH less than 7 indicate? 25. Identify the substances that are oxidized and reduced in the following reaction: $\text{Zn} + \text{CuSO}_4 \rightarrow \text{ZnSO}_4 + \text{Cu}$ 26–30: Long Answer Questions 26. What are the types of chemical reactions? Explain each with one example and balanced equation. 27. With the help of an activity, explain the reaction between acid and metal carbonate. 28. Write chemical formulas and describe the preparation of the following salts: a) Sodium chloride b) Copper sulphate c) Zinc nitrate 29. Explain the importance of pH in everyday life. Write about its role in: a) Digestion b) Tooth decay c) Soil treatment d) Self-defense in animals e) Factory waste treatment 30. Explain the following giving chemical equations: a) Bleaching action of bleaching powder b) Preparation of Plaster of Paris c) Why is Plaster of Paris stored in a moisture-proof container
Music	1. Learn and write Aalap Taan Kan Meend in Notebook 2 . Make a chart on any one Musical instrument
Biology	Chapters Covered: Life Processes, How do organisms reproduce? & Heredity 1) Mindmaps : Use A4 size paper to draw the coloured mindmaps of all the three chapters: 1. Life Processes 2. How do Organisms Reproduce? 3. Heredity (only mention the key points of the chapter.) 2) Activity: Science Around Us - Real-Life Examples

A. Make a scrapbook (digital or physical) of 5 real-life applications of:

1. Photosynthesis
2. Respiration (e.g., sports and energy)
3. Reproductive technologies (IVF, cloning)
4. Genetics in agriculture (GM crops)

It should include: A picture and a short explanation

Can take help of book/internet.

B. Flow chart/Poster Presentation

Topics:

1. "How Plants Make Their Food – A Visual Journey"
2. "How do the Human Digestive System works"
3. "Reproduction Methods: From Amoeba to Humans"
4. "Why Do You Look Like Your Parents?"

[Tips]:--

Use images, flowcharts, or even make your own drawings.

Present key points, not long paragraphs.

Practice explaining each presentation to a friend or family member.

C. Flash-Cards: Make 20 flash-cards containing important definitions with examples or exceptions from all the three chapters.

Short Answer-II (3 Marks each)

1. Compare an artery and a vein.
2. What happens if the egg is not fertilised?
3. What are the changes seen in the girls and boys at the time of puberty?
- 4.(a) The protein-digesting enzyme that acts on the alkaline medium is?
(b) What gives the alkaline medium for the action of this enzyme?
5. In the respiratory process,
(a) What happens inside the cytoplasm?
(b) What happens inside the mitochondria?
- 6.(a) What is the role of mucus in the respiratory tract?
(b) Why is the respiratory tract guarded with rings of cartilage?
7. Explain the role of transpiration in the upward conduction of water.
8. Differentiate between male and female gametes.

LONG ANSWER QUESTIONS (5 Marks each)

9. Explain the process of translocation in plants.
10. Draw a neat labelled diagram showing the parts of a nephron. Mention the factors that control the amount of water reabsorption. What is a glomerular filtrate?
11. Draw a neat labelled diagram showing the parts of the female reproductive system. Mention the role of uterus and oviduct.
12. What is the role of seminal vesicle and prostate gland.
13. Write the functions of the following:
(a) Salivary amylase

- | | |
|--|--|
| | <p>(b) HCl
(c) Bile
(d) Pepsin</p> <p>14. (a) The site where gaseous exchange takes place inside the lungs.
(b) What facilitates this structure to perform the gaseous exchange?
(c) What is the significance of residual volume in the breathing cycle?</p> <p>15. What are the contraceptive methods ? What could be the reasons for adopting contraceptive methods?</p> <p>16. (a) What is carried by the right and left chambers of the heart?
(b) Why do these two chambers separate?</p> |
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