

**Lt. Col. Mehar Little Angels Sr. Sec. School**  
**HOLIDAY HOMEWORK 2025-26**  
**CLASS-X**

Dear Students,

Summer break is here! It's time to relax, unwind, and indulge in fun activities. Your holiday homework is designed to spark creativity, innovation, and imagination while revisiting classroom learning.

**General Instructions:**

1. Date and day of work completion to be mentioned.
2. Showcase creativity and imagination where required.
3. Submit homework upon school reopening.

We hope you enjoy your holidays, exploring, learning, and growing!

**ENGLISH LANGUAGE AND LITERATURE**

**ASSIGNMENT 1**

**CHAPTER 1 – A LETTER TO GOD**

Q.1. Answer the following questions in 30-40 words:

1. What were Lencho's feelings when he found the letter with money in it? What did he do after opening the letter?
2. How far would you agree that one's positivity can bring in a spark of brightness even in adverse circumstances?
3. What impression do you form of the postmaster after reading the story 'A Letter to God'?
5. Did the letter reach God? Why did the postmaster send a reply to Lencho?
6. Lencho describes the post office employees as "a bunch of crooks."  
(i) Were they really a bunch of crooks?  
(ii) How would you describe them?

Q.2 Answer the following questions in 100-120 words:

1. Lencho received the money and a letter from God yet he was not happy. Do you think he did not know the pleasure of being grateful to others? Reflecting on the values required to lead a happy life, explain in your words.
2. The postmaster represents such people who still believe in helping others. Mention those values of the postmaster which you would like to emulate in yourself.

Q.3 Read the following lines and answer the questions that follow :

1. "Now we're really going to get some water woman."

Is the speaker sure that it is going to rain? Give a reason for your answer.

2. "These are not raindrops falling from sky, they are the new coins."

What are the raindrops compared to and why?

3. "A plague of locusts would have left more than this."

What loss is being referred to in above line?

4. "If you don't help me, my family and I will go hungry this year."

What is Lencho asking for and why?

Who is 'you' in above line?

## ASSIGNMENT – 2

### DUST OF SNOW

#### STANZA 1

The way a crow Shook down on me The dust of snow From a hemlock tree Questions :

- (a)What did the crow do to the hemlock tree?
- (b)What was there in the tree at that time?
- (c)Where do you think was the poet then?
- (d)What is the name of the poem?
- (e)What is the name of the poet?
- (f)Write the rhyming words.

#### STANZA 2

Has given my heart A change of mood And saved some part Of a day I had rued.

Questions :

- (a)What had given the poet ‘a change of mood’?
- (b)What had the poet thought of that day?
- (c)How was some part of the day saved for the poet?
- (d)Name the poem.
- (e)Name the poet.
- (f)What is the rhyme scheme of this stanza?

#### SHORT QUESTIONS:

- 1.How has the poet observed nature in the poem ‘Dust of Snow’?
- 2.What is the underlying message for us in our hectic life with reference to the poem, ‘Dust of Snow’?
- 3.What side of nature do ‘crow’ and ‘hemlock’ represent?
- 4.Justify the role of the crow in the poem “Dust of Snow” in changing the poet’s mood.
- 5.What mood of the poet is reflected in the poem? How does it reflect?

#### LONG QUESTIONS

- 1.Positive attitude in life can make the world a better place to live in. Do you agree or disagree with reference to the poem ‘Dust of Snow’? Express your views bringing out the inherent values.
- 2.Our attitude towards a situation evokes both negative and positive response. Analyze this with reference to the poem, ‘Dust of Snow’ to bring out the inherent valuable lessons.

## ASSIGNMENT – 3

### FIRE AND ICE

#### 1.STANZA 1

Some say the world will end in fire Some say in ice.

From what I’ve tasted of desire

I hold with those who favour fire. Questions :

- (a)What do people think about the ending of the world?
- (b)What is the poet’s opinion?
- (c)What does ‘desire’ mean here?
- (d)What is the rhyme scheme of this stanza?

(e) Name the poem and the poet.

#### STANZA 2

But if it had to perish twice.

I think I know enough of hate To say that for destruction ice Is also great

And would suffice. Questions :

(a) What does 'it' refer to here?

(b) How is 'ice' sufficient for destruction?

(c) What is the main idea of these lines?

(d) What is ice a symbol of?

(e) What is the rhyme scheme of this stanza? Short questions:

a. What do you think would be enough to destroy the world?

b. Which two ideas about how the world will end have been mentioned in the poem? Which idea does the poet support more?

c. According to the poet, what do 'fire' and 'ice' represent? Do you agree with him?

d. What do people think about the ending of the world? What does the poet think?

#### Long Question

1. How does the poem depict the two contrasting ideas— 'Fire' and 'Ice'? Can hatred destroy us and the world? Explain bringing out values which can make this world a better place to live in.

2. What is the rhyme scheme of the poem? How does it help in bringing out the contrasting ideas in the poem?

### ASSIGNMENT- 4

#### CHAPTER-2 NELSON MANDELA: LONG WALK TO FREEDOM

Read the following extracts carefully and answer the questions that follow.

Q1. 10th May dawned bright and clear. For the past few days I had been pleasantly besieged by dignitaries and world leaders who were coming to pay their respects before the inauguration. The inauguration would be the largest gathering ever of international leaders on South African soil. The ceremonies took place in the lovely sandstone amphitheatre formed by the Union Buildings in Pretoria. For decades this had been the seat of white supremacy, and now it was the site of a rainbow gathering of different colours and nations for the installation of South Africa's first democratic, non-racial government.

(a) Who were coming and for what before the inauguration?

(b) What happened on the inauguration?

(c) Find out the word that means the same 'commencement' from the passage.

(d) Find the word from the passage which means 'an open space surrounded by sloping land'.

Q2. We, who were outlaws not so long ago, have today been given the rare privilege to be host to the nations of the world on our own soil.

We thank all of our distinguished international guests for having come to take possession with the people of our country of what is after all a common victory for justice, for peace, for human dignity.

We have, at last, achieved our political emancipation. We pledge ourselves to liberate all our people from the continuing bondage of poverty, deprivation, suffering, gender and other discrimination.

(a) What does 'we' refer to in the first line of the passage?

(b) What did the people of South Africa achieve at last?

(c) The word 'bondage' means ..... in the passage.

(d) Give a synonym of 'emancipation'.

Q3.A few moments later we all lifted our eyes in awe as a spectacular array of South African jets, helicopters and troop carriers roared in perfect formation over the Union Buildings. It was not only a display of pinpoint precision and military force, but a demonstration of military's loyalty to democracy, to a new government that had been freely and fairly elected. Only moments before, the highest generals of South African defence force and police, their chests bedecked with ribbons and medals from days gone by, saluted me and pledged their loyalty. I was not unmindful of the fact that not so many years before they would not have saluted but arrested me. Finally a chevron of Impala jets left a smoke Trail of the black, red, green, blue and gold of the new South African flag.

- (a)What did the highest generals do in the event?
- (b)What did the smoke trail of Impala symbolise?
- (c)Pick out the word from the passage that means the same as adorned.
- (d)Pattern in the shape of 'V' signify\_\_\_\_\_.

Q4.On the day of the inauguration, I was overwhelmed with a sense of history. In the first decade of the 20th century, a few years after the bitter Anglo-Boer war and before my own birth, the white-skinned people's of South Africa patched up their differences and created a system of racial domination against the dark-skinned people of their own land. The structure they created formed the basis of one of the harshest, most inhumane societies the world has ever known. Now, in the last decade of the 20th century and my own eighth decade as a man, that system had been overturned forever and replaced by one that recognised the rights and freedoms of all peoples, regardless of the colour of their skin. That day had come about through the unimaginable sacrifices of thousands of my people, people whose suffering and courage can never be counted or repaid.

- (a)What happened after Anglo-Boer war?
- (b)On what basis the structure of new government created?
- (c)Pick the word in the passage which has the same meaning as 'submerged'.
- (d)What is the meaning of the phrase 'to patch up the differences'?

Q5.The policy of apartheid created a deep and lasting wound in my country and my people. All of us will spend many years, if not generations, recovering from that profound hurt. But the decades of oppression and brutality had another, unintended, effect, ' and that was that it produced the Oliver Tambos, the Walter Sisulus, the Chief Luthulis, the Yusuf Dadoos, the Bram Fischers, the Robert Sobukwes of our time-men of such extraordinary courage, wisdom and generosity that their like may never be known again. Perhaps it requires such depths of oppression to create such heights of character. My country is rich in the minerals and gems that lie beneath its soil, but I have always known that its greatest wealth is its people, finer and truer than the purest diamonds.

- (a)What did the policy of apartheid create?
- (b)According to Mandela, what is the greatest wealth?
- (c)Find out the word in the passage which means 'large-heartedness.'
- (d)Pick out the word from the passage which means to treat somebody/something cruelly and unfairly.

Q6.In life, every man has twin obligations- obligations to his family, to his parents, to his wife and children; and he has an obligation to his people, his community,his country. In a civil and humane society, each man is able to fulfil those obligations according to his own inclinations and abilities. But in a country like South Africa, it was almost impossible for a man of my birth and colour to fulfil both of those obligations. In South Africa, a man of colour who attempted to live as a human being was punished and isolated.

- (a)What are the obligations that every man has in life?
- (b)Why was it impossible for a coloured man to discharge his obligations?
- (c)Find the word in the passage which has same meaning as 'duty'.

(d) A word synonymous with 'intentions' is ..... in the passage.

#### Short Answer Type Questions

Q1. What promise does Mandela make in the beginning of opening of his oath-taking speech?

Q2. What freedom meant to Mandela in childhood?

Q3. What do you understand by 'Apartheid'?

Q4. How is courage related to the brave man according to the author of the lesson?

Q5. What did Mandela realise about his brothers and sisters?

#### Long Answer (Value Based) Type Questions.

Q1. What does Nelson Mandela refer to as "an extraordinary human disaster"?

Q2. What does Mandela mean to say that the oppressor and the oppressed alike are robbed of their humanity?

Q3. Describe the obligations which the author is talking about?

Q4. Describe the value of freedom for the human beings and how it is important for the growth of civilisation and humanism as described in the lesson 'Nelson Mandela : Long Walk to Freedom'.

**Note: Prepare a separate register for assignments.**

#### हिन्दी

1) निम्नलिखित कार्य एक आकर्षक फ़ाइल में कीजिए--

1) बंगाल/कोलकाता के दर्शनीय स्थलों से संबंधित दो विज्ञापन बनाएँ।

2) नौ रसों के सचित्र नाम लिखें तथा उनका उदाहरण सहित विवरण लिखें।

3) अपने जीवन की किसी एक घटना को लघु-कथा के रूप में लिखें।

4) 'बड़े भाई साहब' पाठ में से 20 मुहावरों के अर्थ सहित वाक्य बनाएँ। (यह व्याकरण रजिस्टर में कीजिए)

5) निम्नलिखित विषयों में से किसी एक विषय पर भाषण लिखें तथा प्रतियोगिता के लिए कंठस्थ करें।

क) डिजिटल इंडिया : एक नई सोच

ख) परिजनों का महत्व : हमारी संस्कृति

ग) पर्यावरण असंतुलन - मनुष्यता को खतरा

घ) खो गया है बचपन

6) एक लंबी कविता लिखें और उसे प्रतियोगिता के लिए कंठस्थ करें। (कविता स्वरचित भी हो सकती है।)

2) 'संत कबीर' पर एक आकर्षक फ़ाइल में पोर्टफोलियो (निवेश-पत्र) तैयार करें, जिसमें उनके जीवन से संबंधित निम्नलिखित सचित्र जानकारी हो।

मुख्य पृष्ठ - हिन्दी निवेश पत्र लिखें।

प्रथम पृष्ठ पर - अपना परिचय तथा कवि का नाम लिखें।

द्वितीय पृष्ठ पर - 'अभिस्वकृति' लिखें।

तृतीय पृष्ठ पर - विषय - सूची लिखें।

चतुर्थ पृष्ठ पर - पूर्ण परिचय संक्षेप में लिखें जिसमें उनका पूरा नाम, अन्य नाम, जन्म, जन्म-भूमि, मृत्यु, मृत्यु-स्थान, माता-पिता, पत्नी, संतान, कर्म-भूमि, कर्म - क्षेत्र, मुख्य रचनाएँ, भाषा, शिक्षा, नागरिकता की जानकारी हो।

चतुर्थ पृष्ठ पर - 'संत कबीर' का चित्र लगाएँ तथा अगले पृष्ठों पर निम्नलिखित जानकारी लिखें।

1) जीवन परिचय

2) शैक्षिक जीवन

3) वैवाहिक जीवन

4) प्रमुख रचनाएँ

5) कबीर के विचार

6) कबीर के दोहे

7) कबीर की मृत्यु

## MATHEMATICS

- I. Make a portfolio based on **LATEST MATHEMATICIANS AND THEIR CONTRIBUTION** in 6-8 colourful pages.
- II. Make a beautiful a-4 size cover page based on mathematics shapes.
- III. Do any 5 activities from mathematics lab manual.
- IV. Do following assignment in rolled sheets.

**Note :** Submit above work in a **clear bag** after vacation mentioning your roll number , name, class and section.

### **ASSIGNMENT**

1. Prove that  $5\sqrt{2} + 3$  is irrational given that  $\sqrt{2}$  is irrational.
2. The numbers 525 and 3000 are both divisible only by 3, 5, 15, 25 and 75. What is HCF(525, 3000)? Justify your answer.
3. Explain why  $3 \times 5 \times 7 \times 11 + 7$  is a composite number.
4. Can two numbers have 18 as their HCF and 390 as their LCM? Give reason
5. Find the zeroes of the polynomial  $x^2 + \frac{1}{6}x - 2$ , and verify the relation between the coefficients and the zeroes of the polynomial.
6. Find a quadratic polynomial, the sum and product of whose zeroes are 2 and  $-\frac{3}{2}$  respectively. Also find its zeroes.
7. Given that the zeroes of the cubic polynomial  $x^3 - 6x^2 + 3x + 10$  are of the form  $a, a + b, a + 2b$  for some real numbers  $a$  and  $b$ , find the values of  $a$  and  $b$  as well as the zeroes of the given polynomial.
8. For which values of  $p$  and  $q$ , will the following pair of linear equations have infinitely many solutions?  $4x + 5y = 2$ .  $(2p + 7q)x + (p + 8q)y = 2q - p + 1$ .
9. Solve the pair of linear equations:  $21x + 47y = 110$ ,  $47x + 21y = 162$ .
10. Draw the graphs of the pair of linear equations  $x - y + 2 = 0$  and  $4x - y - 4 = 0$ . Calculate the area of the triangle formed by the lines so drawn and the x-axis.
11. Find the roots of the  $6x^2 - \sqrt{5}x - 5 = 0$  using the quadratic formula, factorisation method.
12. Find the roots of  $6x^2 - \sqrt{2}x - 2 = 0$  by the factorisation of the corresponding quadratic polynomial.
13. Check whether the equation  $6x^2 - 7x + 2 = 0$  has real roots, and if it has, find them by them.
14. Had Ajita scored 10 more marks in her mathematics test out of 30 marks, 9 times these marks would have been the square of her actual marks. How many marks did she get in the test?
15. A train travels at a certain average speed for a distance of 63 km and then travels a distance of 72 km at an average speed of 6 km/h more than its original speed. If it takes 3 hours to complete the total journey, what is its original average speed?

## SCIENCE

### BIOLOGY

- 1- Complete the class register.
- 2- Do practice of diagrams given in nutrition and respiration part of ch. Life processes

### PHYSICS

1. Solve the numericals done in CW in your HW copy.
2. Draw any concept related topics on following topics on A3 sheet .  
Light  
Human eye and colourful world  
Electricity  
Magnetic effect of electric current
3. Make portfolio on any one of the topic in syllabus.  
Light  
Human eye and colourful world  
Electricity  
Magnetic effect of electric current
4. Make your practical file with 5 practical's written.
  - a) Studying the dependence of potential difference (V) across a resistor on the current (I) passing through it and determine its resistance. Also plotting a graph between V and I.
  - b) Determination of the equivalent resistance of two resistors when connected in series and parallel.
  - c) Find focal length of:
    - Concave mirror

- Convex lense by obtaining the image of a distant object.
- d) Tracing the path of a ray of light passing through a rectangular glass slab for different angles of incidence. Measure the angle of incidence, angle of refraction, angle of emergence and interpret the result.
- e) Tracing the path of the rays of light through a glass prism.

#### ASSIGNMENT

1. Which physical quantity remains same in refraction of light?
2. What do you mean by the term that absolute refractive index of diamond is 2.4.
3. What is the refractive index of a medium having speed of light  $10^8$  m/s?
4. How lateral displacement in a glass slab varies with the thickness?
5. Refractive index of benzene with respect to air is 1.8 and that of alcohol is 1.5 what is the refractive index of benzene with respect to alcohol and vice versa?
6. Using lens formula prove that an object that within F and 2F forms its image beyond 2F
7. Two lenses of focal length 20 cm and - 50 cm are placed in close contact with each other. Find combined f and power ?
8. Draw a ray diagram for image formation in convex lens when object is placed at 2f.
9. Draw a ray diagram for a concave lens when object is placed between optical centre and Infinity
10. An object is placed at 50 cm from a convex lens of  $f=30$  cm. If height of the object is 5 cm. calculate nature position and size of image.
11. An object is placed at 50 cm from a concave lens of  $f=30$  cm. If height of the object is 5 cm. calculate nature position and size of image.
12. Answer the following question
  - a) How relative refractive index are related?
    1. Define lateral displacement in a glass slab.
    2. the real depth of a pond is 10 m with water of refractive index 1.5 what is the apparent position of the
    3. Draw a diagram of bending of pencil in water.

#### ASSIGNMENT

- Q.1 Which property of light is constant in reflection?
- Q.2 If  $\angle i = 30^\circ$ , what is total angle between incident & reflected ray?
- Q.3 Draw diagram of Plane mirror.
- Q.4 State 2 laws of reflection.
- Q.5 Define
- i) Principal Focus of a Concave mirror
  - ii) focal length of a convex mirror
- Q.6 Draw a ray diagram for image formation of an object placed at C in front of a concave mirror.
- Q.7 Using mirror formula prove that  $u=v$  in a plane mirror.
- Q.8 Draw a ray diagram for image formation of an Object Placed between O and infinity in a convex mirror.
- Q.9 A Series of letter A, P, N, L, O, Z is there, which letters will appear to be laterally inverted in a mirror? Give one application of lateral inversion.
- Q.10 An object is kept at 30 cm in front of a concave mirror of  $f=40$  cm. If height of image is 6cm. Find NPS of image.
- Q.11 An object is kept at 40 cm in front of a convex mirror of  $f= 30$ cm. if height of object is 6cm. Find NPS of image.
- Q.12
- i) Give 2 uses of concave mirror
  - ii) Give use of convex mirror.
  - iii) using mirror formula prove that object kept at C forms its image at C in a concave mirror

#### CHEMISTRY

**Prepare a portfolio on 'Strongest Materials' On Earth.**

- Wurtzite boron nitride
- Lonsdaleite
- Dyneema
- Palladium microalloy glass.

- Buckypaper.
- Graphene.

**Present the information in a folder with illustration & pictures (Use A4 Size sheets)**

## **Chapter 1 Chemical Reactions and Equations**

### **ASSIGNMENT**

**Question 1:**

The reaction of 'magnesium' with air is

- (a) Exothermic reaction
- (b) Endothermic reaction
- (c) Reversible reaction
- (d) Substitution reaction

**Question 2:**

Magnesium ribbon is rubbed before burning because it has a coating of

- (a) basic magnesium carbonate
- (b) basic magnesium oxide
- (c) basic magnesium sulphide
- (d) basic magnesium chloride

**Question 3:**

What chemicals are used in fireworks?

- (a) Copper chloride
- (b) Calcium chloride
- (c) Barium chloride
- (d) All of above

**Question 4:**

The chemical formula of lead sulphate is

- (a)  $\text{Pb}_2\text{SO}_4$
- (b)  $\text{Pb}(\text{SO}_4)_2$
- (c)  $\text{PbSO}_4$
- (d)  $\text{Pb}_2(\text{SO}_4)_3$

**Question-5:**

When a magnesium ribbon is burnt in the air, the ash formed is

- (a) Black
- (b) White
- (c) Yellow
- (d) Pink

**Question-6**

Which information is not conveyed by a balanced chemical equation?

- (a) Physical states of reactants and products
- (b) Symbols and formulae of all the substances involved in a particular reaction
- (c) Number of atoms/molecules of the reactants and products formed
- (d) Whether a particular reaction is actually feasible or not

**Question-7:**

The color of magnesium oxide is

- (a) White
- (b) Blue
- (c) Grey
- (d) Pink



**Question-8:**

Chemically rust is

- (a) hydrated ferrous oxide
- (b) only ferric oxide
- (c) hydrated ferric oxide
- (d) none of these

**Question-9:**

When carbon dioxide is passed through lime water,

- (a) Calcium hydroxide is formed
- (b) A white precipitate of CaO is formed
- (c) Lime water turns milky
- (d) Color of lime water disappears.

**Question-10:**

Both CO<sub>2</sub> and H<sub>2</sub> gases are

- (a) heavier than air
- (b) colorless
- (c) acidic in nature
- (d) soluble in water

**Question-11:**

When crystals of lead nitrate are heated strongly in a dry test tube

- (a) Crystals immediately melt
- (b) A brown residue is left
- (c) White fumes appear in the tube
- (d) A yellow residue is left

**Question-12:**

Which of the following gases can be used for the storage of fresh samples of oil for a long time?

- (a) Carbon dioxide or oxygen
- (b) Nitrogen or helium
- (c) Helium or oxygen
- (d) Nitrogen or oxygen

**Question-13:**

Consider equations:  $\text{Ca}^{+2}(\text{aq}) + 2\text{OH}^{-}(\text{aq}) \rightarrow \text{Ca}(\text{OH})_2(\text{s})$ . The precipitate of calcium hydroxide will be of

- (a) Green color
- (b) Blue color
- (c) Brown color
- (d) White color

**Question-14:**

In writing chemical equations, the inclusion of state symbols shall be done while

- (a) Correct chemical formulae of reactants and products are written
- (b) The equation is being balanced to fulfill the law of conservation of mass
- (c) The equation has been balanced
- (d) The chemical formulae of products and reactants have been changed to bring about quick balancing

**Question-15:**

The electrolytic decomposition of water gives H<sub>2</sub> and O<sub>2</sub> in the ratio of

- (a) 1: 2 by volume
- (b) 2: 1 by volume
- (c) 8: 1 by mass
- (d) 1: 2 by mass

**Question-16:**

Consider the equation:  $\text{Pb}^{+2}(\text{aq}) + 2\text{OH}^{-}(\text{aq}) \rightarrow \text{Pb}(\text{OH})_2(\text{s})$ , the precipitate of lead (II) hydroxide will be of

- (a) Green color
- (b) Blue color
- (c) Brown color
- (d) White color

**Question-17:**

Consider the equation:  $\text{Cu}^{+2}(\text{aq}) + 2\text{OH}^{-}(\text{aq}) \rightarrow \text{Cu}(\text{OH})_2(\text{s})$ , the precipitate of Copper Hydroxide ( $\text{Cu}(\text{OH})_2$ ) will be of

- (a) Green color
- (b) Blue color
- (c) Brown color
- (d) White color

**Question-18:**

In the decomposition of lead (II) nitrate to give lead (II) oxide, nitrogen dioxide, and oxygen gas, the coefficient of nitrogen dioxide (in the balanced equation) is

- (a) 1
- (b) 2
- (c) 3
- (d) 4

**Question-19:**

Consider reaction:  $\text{Na}(\text{s}) + \text{O}_2(\text{g}) \rightarrow \text{Na}_2\text{O}(\text{s})$ . Moles of sodium needed to balance equation would be

- (a) 1
- (b) 2
- (c) 3
- (d) 4

**Question-20:**

Consider the reaction:  $\text{S}(\text{s}) + \text{O}_2(\text{g}) \rightarrow \text{SO}_2$ . The state of  $\text{SO}_2$  in this reaction is

- A) Liquid
- B) Solid
- C) Gaseous
- D) All Three

**Question-21:**

Fatty foods become rancid due to the process of

- (a) oxidation
- (b) corrosion
- (c) reduction
- (d) hydrogenation

**Question-22:**

Consider reaction:  $\text{P}(\text{s}) + \text{O}_2(\text{g}) \rightarrow \text{P}_4\text{O}_{10}(\text{s})$ . Moles of  $\text{O}_2(\text{g})$  needed to balance the equation will be

- (a) 1
- (b) 3
- (c) 5
- (d) 7

**Question-23:**

We store silver chloride in a dark-colored bottle because it is

- (a) a white solid
- (b) undergoes redox reaction
- (c) to avoid action by sunlight
- (d) None of the above

**Question-24:**

Consider reaction:  $\text{Al}(\text{s}) + \text{O}_2(\text{g}) \rightarrow \text{Al}_2\text{O}_3$ . Moles of  $\text{Al}(\text{s})$  needed to balance equation are

- (a) 1

- (b) 2
- (c) 3
- (d) 4

### Question-25:

Which one of the given processes involves chemical reactions?

- (a) Storing of oxygen gas under pressure in a gas cylinder
- (b) Keeping petrol in a China dish in the open
- (c) Liquefaction of air
- (d) Heating copper wire in the presence of air at high temperature

### Very Short Answer Questions

1. Identify the type of chemical reaction
  - i.  $A \rightarrow B + C$
  - ii.  $AD + CD \rightarrow AD + CB$
2. Why does not silver evolve hydrogen on reacting with dil  $H_2SO_4$  ?
3. Why do diamond and graphite, the two allotropic forms of carbon, evolve different amounts of heat on combustion?
4. What is the role of oxidizing agent in a reaction?
5. What happens chemically when quick lime is added to water?
6. Why a combustion reaction an oxidation reaction?
7. Why are food particle preferably packed in aluminium foil?
8. What happens to lime water when  $CO_2$  gas is bubbled through it in excess?
9. Why is a Combustion reaction an oxidation reaction?
10. Identify the type of chemical reaction
  - i.  $A + B \rightarrow C$
  - ii.  $A + BC \rightarrow AC + B$

### Short Answer Questions

1. Identify the type of reaction in the following
  - a).  $ZnCO_3 + 2HCl(aq) \rightarrow ZnCl_2(aq) + H_2CO_3(aq)$
  - b).  $2NaBr(aq) + Cl_2(g) \rightarrow 2NaCl(aq) + Br_2(aq)$
  - c).  $2CuO(s) \xrightarrow{\text{Heat}} 2Cu(s) + O_2(g)$
2. A student dropped few pieces of marble in dilute hydrochloric acid contained in a test tube. The evolved gas was then passed through lime water. What change would be observed in lime water? Write balanced chemical equation for both the change observed?
3. In the reaction  $MnO_2 + 4HCl \rightarrow MnCl_2 + H_2O + Cl_2$ 
  - a) Name the substance oxidised.
  - b) Name the oxidising agent.
  - c) Name the reducing agent and the substance reduced.
4. Give one example each of
  - a) Thermal decomposition
  - b) Electrolytic decomposition
  - c) Photo decomposition
5. Write three equations for decomposition reaction where energy is supplied in the form of heat, light and electricity?
6. When you mix solutions of lead (II) nitrate and potassium iodide,
  - i. What is the colour of the precipitate formed? Name the compound evolved?
  - ii. Write a balanced chemical reaction?
  - iii. Is this a double displacement reaction?
7. Transfer the following into chemical equations and balance them.
  - i. Hydrogen gas combines with nitrogen to form ammonia.
  - ii. Hydrogen sulphide gas burns in air to give water and sulphur dioxide.
  - iii. Potassium metal reacts with water to give potassium hydroxide and hydrogen gas.
8. Balance the equations
  - i.  $HNO_3 + Ca(OH)_2 \rightarrow Ca(NO_3)_2 + H_2O$
  - ii.  $NaCl + AgNO_3 \rightarrow AgCl + NaNO_3$



(NOTE – use A4 size ruled sheets)

➤ **Write the following experiments in the science practical file**

**1. A. Finding the pH of the following samples by using pH paper/universal indicator: (not included for this academic year)**

- (i) Dilute hydrochloric acid
- (ii) Dilute NaOH solution
- (iii) Dilute ethanoic acid solution
- (iv) Lemon juice
- (v) Water
- (vi) Dilute hydrogen carbonate solution

**B. Studying the properties of acids and bases (HCl & NaOH) on the basis of their reaction with:**

- a) Litmus solution (Blue/red)
- b) Zinc metal
- c) Solid sodium carbonate

**2. Performing and observing the following reactions and classify them into:**

**A.** Combination reaction

**B.** Decomposition reaction

**C.** Displacement reaction

**D.** Double displacement reaction

- (i) Action of water on quicklime
- (ii) Action of heat on ferrous sulphate crystals
- (iii) Iron nails kept in copper sulphate solution
- (iv) Reaction between sodium sulphate and barium chloride solutions

**3. Observing the action of Zn, Fe, Cu and Al metals on the following salt solutions:**

- i)  $\text{ZnSO}_4(\text{aq})$
- ii)  $\text{FeSO}_4(\text{aq})$
- iii)  $\text{CuSO}_4(\text{aq})$
- iv)  $\text{Al}_2(\text{SO}_4)_3(\text{aq})$

Arranging Zn, Fe, Cu and Al (metals) in decreasing order of reactivity based on the above result.

## SOCIAL SCIENCE

### I. ALBUM

Make an album on any ten endangered species .

Write their names, regions where they are found, total population and required population and measures taken by the government for their survival .

### II. ATLAS

Make a beautiful atlas of all the maps given in Geography textbook.

### III. PROJECT

Prepare a project on any one of the following topics:

1. **Consumer Awareness** ( Meaning, Need , Events, Impact, ways to protect )
2. **Social Issues** ( Like Gender Inequality, Untouchability, Casteism or any other – Meaning, Need to study Social issues, Causes , Measures by Government for eradication )
3. **Sustainable Development** (Meaning, Need, Current Scenario, Benefits, Ways to achieve etc.)

**Following are the guidelines for the project:-**

1. The total length of the project report should not be more than 10-15 A-4 size plain white ivory sheets.
2. The project report should be handwritten and credit will be awarded to original drawings, illustrations and creative use of materials.
3. The project report will be presented in a neatly bound file.
4. The project report should be framed in the following order:
  - i. Cover page showing: School Name, Name of Student, Class & Section, Session.
  - ii. Topic
  - iii. Acknowledgement
  - iv. List of contents with page numbers.
  - v. Introduction
  - vi. Explanation of all the sub topics given
  - vii. Conclusions based on your findings.
  - viii. Bibliography: Should have the name of the author and the book referred to, and in case of a website the name of the website must be mentioned.
  - ix. All the photographs and sketches should be labelled.
  - x. All the written work should be on right side of the page and pictures, diagrams etc on left side.
  - xi. Number all the pages.

IV. Write all the new terms given in history and Political Science textbook on A3 size sheet chapter wise and learn them.

V. Revise all the chapters done in the class .

## CLASS X INFORMATION TECHNOLOGY (402) DIGITAL PRESENTATION

1. Prepare a power point presentation on the following topics:

- a. Artificial Intelligence.
- b. Emerging Trends.

**NOTE:** Make at least 15-18 slides. Insert Images, Insert tables, Insert Charts, Insert Movie Clip, Audio Clip, Use Word Art/, Use Smart Art, Insert Objects, Insert transition Effects.

### DBMS

**Prepare a softcopy - document on the following tables.**

**Q1. Write the SQL commands on the basis of the given table:**

**Table:-Supplier**

SNo	Pname	Sname	Qty	Price	City
S1	Bread	Britannia	150	8	Delhi

S2	Cake	Britannia	250	20	Mumbai
S3	Coffee	Nescafe	170	45	Mumbai
S4	Chocolate	Amul	380	10	Delhi
S5	Sauce	Kissan	470	36	Jaipur

- Identify the primary key and display data types from the table.
- Create table Supplier and insert all the record in the table.
- To select all the columns of the above table.
- To select the Pname, Sname and Price from the above table.
- Display data for all products sorted by their price in descending order.
- Increase the price of sauce by 10%.
- Display only Delhi city Suppliers.
- Display only Product name, price reduced to 20% from the table.
- Delete the record from the table whose SNo is S10.
- Prepare a report and form.

**Q2. Write the SQL commands to answer the queries based on Hospital table:**

SNO	Name	Age	Dept	Charges	Gender
1	Sandeep	65	Surgery	500	M
2	Kanika	24	Orthopedic	600	F
3	Zubin	36	ENT	450	M
4	Ankita	30	ENT	450	F
5	Kush	29	Surgery	500	M

- Create a table hospital.
- Name the primary key of the table.
- Display all the information of the table Hospital.
- To list the names of female patients who are in orthopedic department.
- To list names of all patients with their charges in descending order.
- Increase the charges of ENT by 10%.
- To display the list of doctors whose age is greater than 30 and less than 50.
- Delete the record of Zubin.
- Change the department of ankita to Surgery.
- Prepare a report and form of the table.

**Q3. Write the SQL commands on the basis of the given table:**

**Table: Student**

Sid	Sname	Class	Sec	Sage	Scity	Per
S12	RAM	X	A	15	Delhi	85
S13	RADHIKA	X	B	15	Delhi	95
S45	AMAN	IX	C	14	Pune	85
S66	SUBHAM	IX	A	13	Pune	75
S23	KRITIKA	X	C	16	Delhi	53
S98	AMITA	X	A	16	Agra	49
S78	SUMIT	IX	B	15	Delhi	99
S90	RAJ	X	B	15	Agra	82
S22	ANIL	IX	C	14	Pune	63
S33	HIMANSHI	X	C	15	Delhi	45

- Identify Primary Key and data types of the table student.
- Write the query to create a table.
- Add any 3 records in the table and Display full table.
- Display studentid, students name and age in ascending order of age.

- e. Display all the student details those who belong to Delhi City.
- f. Display all the student details that belong to Delhi and Pune of class X.
- g. Display all the student details who scored in the range of 40 to 60.
- h. Show the details according to the age in ascending order.
- i. Show the details according to the age in descending order.
- j. Increase the Percentage of class IX students to 3%.
- k. Change the percentage of S33 to 48.
- l. Show the details of only class X sec B students.
- m. Update the city of Raj to Pune.
- n. Delete the details of Anil student.
- o. Prepare a form and report of the same.

### **ART**

- A. Draw a Still Life on A3 size sheet by using water colours or pencil shading.
- B. Draw one Bird and one Animal on A4 size sheet by using colours or pencil shading.