



**SANT NISCHAL SINGH PUBLIC SCHOOL  
LADWA**

# HOLIDAYS HOMEWORK (2024-25)

**CLASS - X**



**Dear Students!**

**Wishing you a season of happiness, positivity, and cherished memories. It's the time to recharge your spirits, and come back refreshed. The purpose of holiday's homework is to make you independent, efficient in time management and to develop life skills such as researching, critical thinking, and problem-solving.**

# ENGLISH

- Highlight the literary heritage of Manipur and Haryana by featuring renowned poets, writers and their work. Mention their contributions to Manipur literature and quote lines from their notable poems and writings.
- Complete the following Assignments from BBC
  - Reading Comprehension:
  - Module
  - Assignment 1,2,3 and 4
- Module 5
  - Grammar 2
  - Assignment 3,4 and 5
  - Complete letter to the Editor and Placing order in BBC module.
- Revise syllabus covered in class



ॐ नमो भगवते वासुदेवाय  
ॐ नमो भगवते वासुदेवाय  
ॐ नमो भगवते वासुदेवाय

# हिंदी

- \* उपभोक्ता को उसके अधिकारों की जानकारी देते हुए जागो ग्राहक जागो पर एक विज्ञापन बनाइए (Roll no 1 to 15)
- \* 'हरियाणा और मणिपुर के कवियों का तुलनात्मक अध्ययन करके परियोजना बनाइए (All) (Art Integrated)
- \* अंडमान निकोबार द्वीप समूह पर एक कोलाज बनाइए (Roll no 16 to last roll number)



- Revise all chapters and poems
- Do all the work on A4 sheet



- Revise Chapters 1-5 and 7 from textbook and exemplar book in practice notebook.
- Activities for lab manual:
  1. To obtain zeroes of linear polynomial.
  2. Verify the sequence is A.P.
  3. Finding the coordinates of points when a figure is transferred.
  4. Idea of an event through a double colour card experiment.
  5. Graph of quadratic polynomial.
- Art integrated project:  
Find out the total population, no. of men, no. of women, no. of children, no. of government schools, no. of government hospitals, no. of literates in the state of Haryana and Manipur.
  1. Find the HCF, LCM, ratio between the same type of quantities.
  2. Find the mean of each one of them.
  3. Find the distance between both the states.
  4. Find the mid point between both the states. Name the place.
  5. Find out the surface area of both the states.
  6. Paste the picture of a historical place of each state. Find the height, length and breadth of these and hence find the surface area and volume of each one of them.
  7. Paste the picture of famous food of each one of the states. Which food is commonly eaten in between both of them?
  8. Make a comparison of temperature in both the states for a week of June and find the mean, median and mode of each state .
- Portfolio:  
Write a report on famous Indian mathematician:
  1. Introduction.
  2. Inventions related to mathematics.
  3. Applications in daily life



### **Art integrated project**

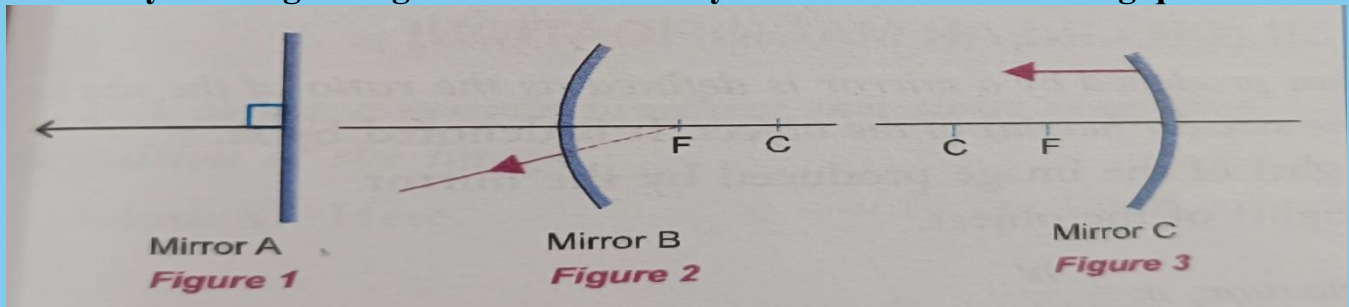
- Natural resources: Manipur is rich in natural resources, such as forests, minerals, and water bodies. You could create a scientific illustration or a work of art that showcases the different ways to save the environment with the objective of Sustainable Development.

### **Assignment 1**

1. What is the focal length of a plane mirror?
2. Magnification of plane mirror is + 1 comment on this statement.
3. A light ray is falling normally on a plane mirror then what will be the angle of incidence and angle of reflection?
4. Name the mirror, which converges the light.
5. Name the mirror, which diverges the light.
6. A parallel beam of light is brought to a point. What type of mirror is used to achieve this?
7. Where will the image of an object be formed by a concave mirror if the object is placed at infinity?
8. Name the spherical mirror, which can form real as well as virtual image of an object.
9. Name the spherical mirror, which always forms virtual image of an object.
10. Name the type of mirror used in motor head lights.
11. Name the type of mirror used by dentist to diagnose the teeth of a patient.
12. Name the mirror used as a rear view mirror in a car or a bus.
13. A ray of light is travelling parallel to the principle axis of a concave mirror. Name the point, through which this ray passes after reflection.
14. A point like or highly diminished and real image of an object is to be formed at the principle focus of a spherical mirror.
  - (a) Name the type of spherical mirror used.
  - (b) Where should the object be placed in front of the mirror?
15. Write the mirror formula.
16. What is linear magnification?
17. What are the units of linear magnification?
18. What is the value of linear magnification of a plane mirror?
19. When will the linear magnification produced by a mirror be positive ?
20. When will the linear magnification produced by a mirror be negative?

## Assignment 2

1. Study the diagrams given below carefully and answer the following questions:



- Which of the three mirrors is a convex mirror?
- Identify the mirror which reflects a parallel beam of light as (i) parallel beam, (ii) a converging beam.
- For the reflected rays, shown in the above diagrams, draw the corresponding incident rays in (i) Fig. 1, (ii) Fig. 2, (iii) Fig. 3
- Which of the three mirrors always produces an image equal in size to the size of the object ?
- Which of the three mirrors can produce a diminished as well as an enlarged image ?
- Which of the mirrors always produces an image of size smaller than that of the object ?
- Which of the three mirrors A, B and C is used by a dentist to observe cavities in the teeth ?
- Which mirror is used by doctors to focus light on a particular part of the human body, say inside the nose, throat etc. ?
- Which of the mirrors is used to check shop lifting ?
- Which of these three mirrors is used as the rear view mirror in automobiles ?

2. Study the following situation and answer the questions that follows:

A spherical mirror produces an image 48 cm in front of it, when an object is placed 12 cm from its pole.

- What is the nature of the mirror.
- Is the image magnified or diminished?
- State whether the image formed is real or virtual.
- Is the image formed erect or inverted?
- In the above situation,  $u =$  \_\_\_\_\_ cm.  $v =$  \_\_\_\_\_ cm
- Calculate the focal length of the mirror
- Calculate the magnification of the image.
- Draw the ray diagram, showing the formation of the image in the above case.
- If the object size is 5mm, calculate the size of the image formed.
- Write two applications of the type of spherical mirror used here.



An object of 50 cm in size is placed in front of a concave mirror. A real and inverted

mirror.

3. A concave mirror produces 3 times magnified real image of an object placed at 10 cm in front of the mirror. Where is the position of the image of the object?

4. An object is placed at a distance of 20.0 cm from a concave mirror of focal length 15.0 cm. The screen is placed in front of the mirror to get a sharp image of the object. What is the distance of the screen from the mirror?

### Assignment 3

1. What happens to the speed of light, when light goes from optically rarer medium to optically denser medium?

2. What happens to the speed of light, when light goes from optically denser medium to optically rarer medium?

3. Name the phenomenon due to which a stone at the bottom of a lake appears to be raised.

4. Name the phenomenon due to which the portion of a pencil immersed in water appears to bend.

5. Name the device used to measure refractive index of a material.

6. What is the value of speed of light in air ?

7. A ray of light travelling in a rarer medium incident on the interface separating it from a denser medium at angle  $i$  with the normal to the point of incidence. Will the angle of refraction  $r$  be equal to or less than or greater than  $i$  ?

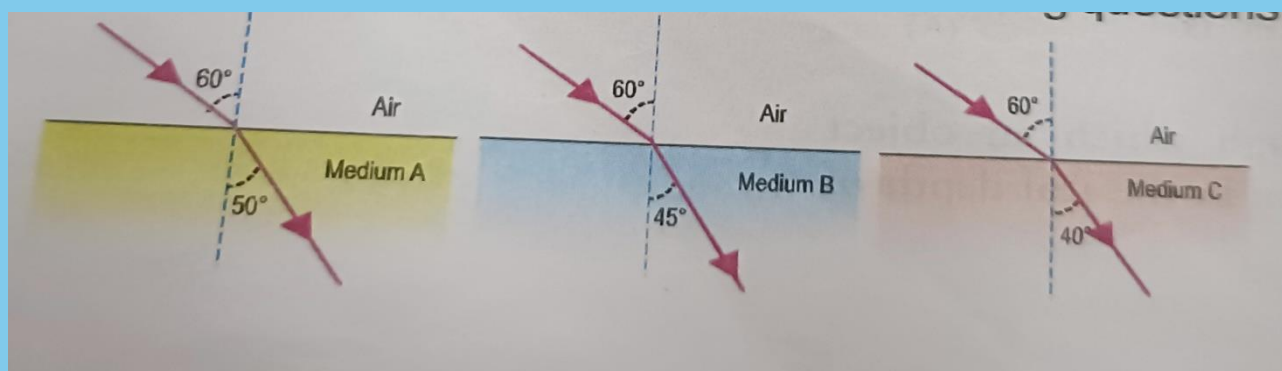
8. Speed of light in air is  $3 \times 10^8 \text{ ms}^{-1}$  and speed of light in glass is  $2 \times 10^8 \text{ ms}^{-1}$ . Define refraction of light in a glass. What is the refractive index of glass w.r.t. air?

9. Light enters from air to water which has refractive index  $4/3$ . What is the refractive index of water w.r.t. air?

10. Refractive index of glass w.r.t. air is 1.5 and refractive index of water w.r.t. air is  $4/3$ . What is the refractive index of glass w.r.t. water?

11. The path of a light ray from air to three different media A, B and C for a given angle of incidence is shown below:

**Study the diagrams and answer the following questions:**



- a) Which of the three media A,B or C has maximum optical density?
- (b) Through which of the three media, will the speed of light be maximum?
- (c) Will the refractive index of B relative to C be more than unity or less than unity?
- (d) Will the light travelling from A to B bend towards or away from the normal?
- (e) If  $n_a, n_b$  and  $n_c$  denote refractive indices of the three media, arrange  $n_a, n_b$  and  $n_c$  in descending order?
- (f) If angle of incidence is increased, what will be the change in angle of refraction?

#### Assignment 4

1. Name two types of lenses.
2. Name the lens, which acts as a converging lens.
3. Name the lens, which acts as a diverging lens.
4. Name the lens which always forms a virtual image of an object.
5. Name the lens which forms real as well as virtual image of an object.
6. Name the lens, which acts as a magnifying glass.
7. Name the unit of power of a lens.
8. A convex lens has focal length of 20 cm. If the image of an object is formed at 40 cm on the other side of the lens, what is the distance of the object from the lens ?
8. The focal length of a concave lens is 100 cm. What is the power of this lens ?
9. The power of a convex lens is 20 D. What is the focal length of this lens ? Show your calculation:
10. A convex lens of focal length 10 cm is placed in contact with a concave lens of focal length 5 cm.
  - (a) What is the focal length of the combination of lenses ?
  - (b) Name the nature of the equivalent lens formed by the combination of these two lenses.
11. **Study the following situation and answer the questions that follow:**

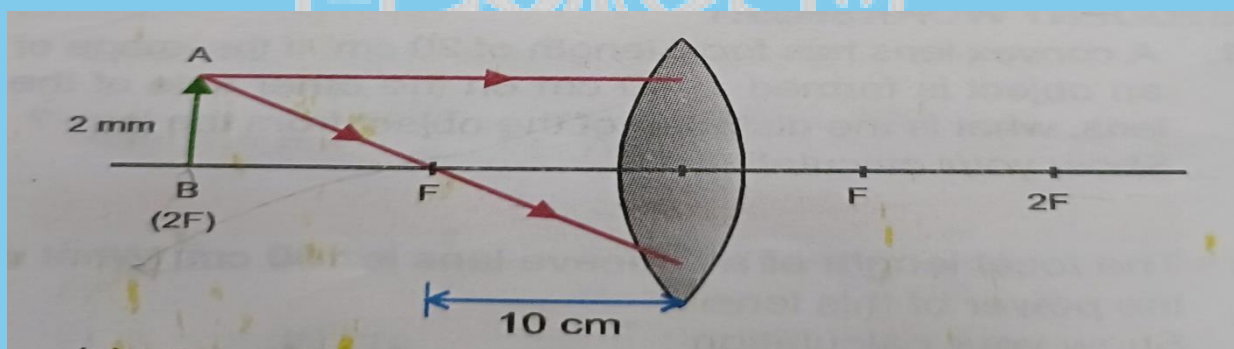
"A lens produces an erect image of size 6mm, when an object of size 3 mm is placed 20 cm from its optical centre."

  - (a) Identify the nature of the lens.
  - (b) What is the magnification produced?

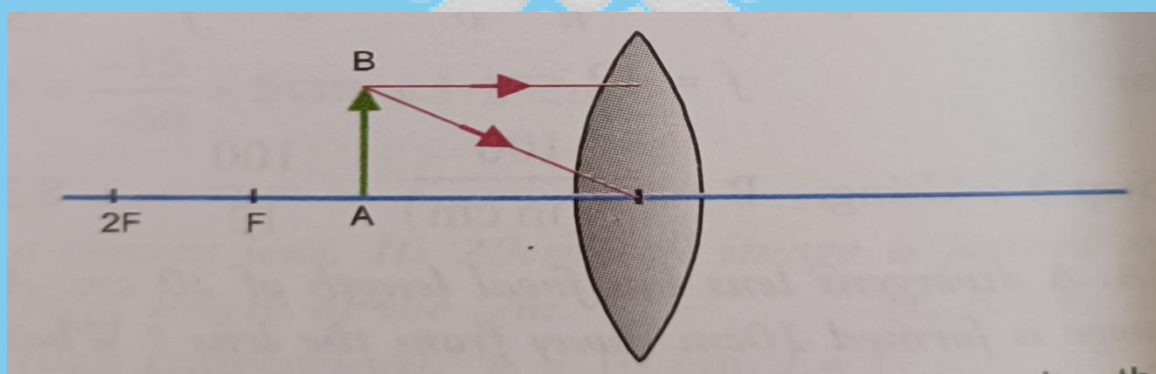
- (c) What is the position of the object to have an image of the type given ?
- (d) Draw the diagram to justify your answer to the above question.
- (e) Calculate the image distance and focal length of the lens.
- (f) What is the power of this lens ?
- (g) Give an application of this type of lens in a situation similar to the one given here.

**12. Study the diagram given below and answer the questions that follow:**

- a) Complete the above ray diagram to show the image formation.
- (b) In the diagram,  $u = \underline{\hspace{2cm}}$  cm  
Object size =  $\underline{\hspace{2cm}}$  cm
- (c)  $v = \underline{\hspace{2cm}}$  cm  
Image size =  $\underline{\hspace{2cm}}$  cm
- (d) Will the magnification (numerically) equal to, less than or greater than 1?



**Study the diagram given below and answer the questions that follow:**



- (a) Complete the above ray diagram showing the image formation.
- (b) State the nature of the image formed.
- (c) Will the image position and focal length be positive or negative?
- (d) Give one application of this lens for this position of the object.



### Assignment 5

1. Why a combustion reaction an oxidation reaction?
2. A solution of potassium chloride when mixed with silver nitrate solution, an insoluble white substance is formed. Write the chemical reaction involved and also mention the type of the chemical reaction.
3. Write the balanced chemical equations for the following reactions.
  - (a) Sodium carbonate on reaction with hydrochloric acid in equal molar concentrations gives sodium chloride and sodium hydrogen-carbonate.
  - (b) Sodium hydrogen carbonate on reaction with hydrochloric acid gives sodium chloride, water and liberates carbon dioxide.
  - (c) Copper sulphate on treatment with potassium iodide precipitates cuprous iodide ( $\text{Cu}_2\text{I}_2$ ), liberates iodine gas and also forms potassium sulphate.
4. Why do fireflies glow at night?
5. Write the balanced chemical equations for the following reactions and identify the type of reaction in each case.
  - (a) Thermit reaction, iron (III) oxide reacts with aluminium and gives molten iron and aluminium oxide.
  - (b) Magnesium ribbon is burnt in an atmosphere of nitrogen gas to form solid magnesium nitride.
  - (c) Chlorine gas is passed in an aqueous potassium iodide solution to form potassium chloride solution and solid iodine.
  - (d) Ethanol is burnt in air to form carbon dioxide, water and releases heat. Grapes hanging on the plant do not ferment but after being plucked from the plant can be fermented. Under what conditions do these grapes ferment? Is it a chemical or a physical change?
6. During the reaction of some metals with dilute hydrochloric acid, following observations were made.
  - (a) Silver metal does not show any change.
  - (b) The temperature of the reaction mixture rises when aluminium (Al) is added.
  - (c) The reaction of sodium metal is found to be highly explosive.
  - (d) Some bubbles of a gas are seen when lead (Pb) is reacted with the acid. Explain these observations giving suitable reasons.
7. A substance X, which is an oxide of a group 2 element, is used intensively in the cement industry. This element is present in bones also. On treatment with water, it forms a solution which turns red litmus blue. Identify X and also write the chemical reactions involved.

8. A magnesium ribbon is burnt in oxygen to give a white compound X accompanied by emission of light. If the burning ribbon is now placed in an atmosphere of nitrogen, it continues to burn and forms a compound Y.

(a) Write the chemical formulae of X and Y.

(b) Write a balanced chemical equation, when X is dissolved in water

9. A silver article generally turns black when kept in the open for a few days. The article when rubbed with toothpaste again starts shining.

(a) Why do silver articles turn black when kept in the open for a few days? Name the phenomenon involved.

(b) Name the black substance formed and give its chemical formula.

10. Write the balanced chemical equation for the following reactions for the following reaction and identify the type of reaction in each case.

(a) Nitrogen gas is treated with hydrogen gas in the presence of a catalyst at 773 K to form ammonia gas.

(b) Sodium hydroxide solution is treated with acetic acid to form sodium acetate and water.

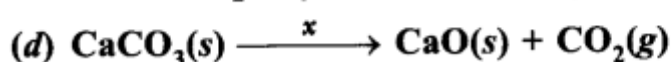
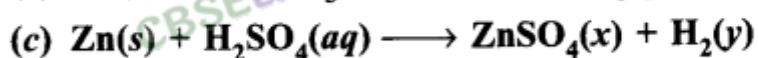
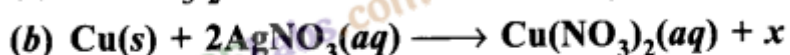
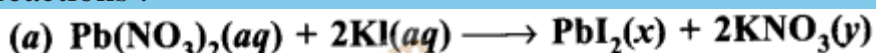
(c) Ethanol is warmed with ethanoic acid to form ethyl acetate in presence of cone.  $\text{H}_2\text{SO}_4$ .

(d) Ethene is burnt in presence of oxygen to form carbon dioxide, water and releases heat and light.

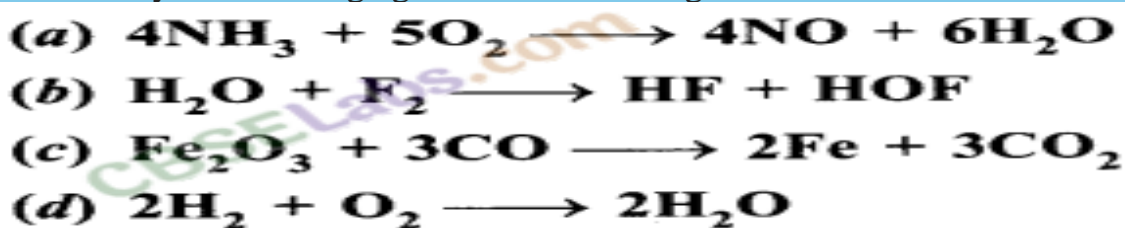
11. Identify the oxidising agent (oxidant) in the following reactions :



12. Complete the missing components/variables given as x and y in the following reactions :



13. Identify the reducing agent in the following reactions :



14. Ferrous sulphate decomposes with the evolution of gas having a characteristic order of burning sulphur. Write the chemical reaction involved and identify the type of reaction.

15. Which among the following are physical or chemical changes

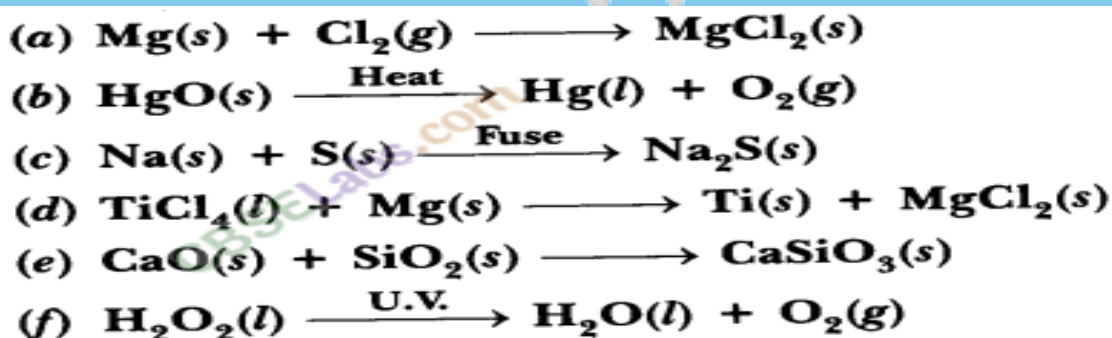
- (a)Evaporation of petrol.
- (b)Burning of liquefied petroleum gas (LPG).
- (c)Heating of an iron rod to red hot.
- (d)Curdling of milk.
- (e)Sublimation of solid ammonium chloride

#### Assignment 6

1. Write a balanced chemical equation for each of the following reactions and also classify them.

- (a)Lead acetate solution is treated with dilute hydrochloric acid to form lead chloride and acetic acid solution.
- (b)A piece of sodium metal is added to absolute ethanol to form sodium ethoxide and hydrogen gas.
- (c)Iron (III) oxide on heating with carbon monoxide reacts to form solid iron and liberates carbon dioxide gas.
- (d)Hydrogen sulphide gas reacts with oxygen gas to form solid sulphur and liquid water.

2. Balance the following chemical equations and identify the type of chemical reaction:



3. Zinc liberates hydrogen gas when reacted with dilute hydrochloric acid, whereas copper does not. Explain why?

4. On heating blue coloured powder of copper (II) nitrate in boiling tube, copper oxide (black), oxygen gas and a brown gas 'X' is formed.



- (a) Write a balanced chemical equation of the reaction.  
(b) Identify the brown gas 'X' evolved.  
(c) Identify the type of reaction.  
(d) What could be the pH range of aqueous solution of the gas 'X'?
5. Give the characteristic tests for the following gases.  
(a)  $\text{CO}_2$  (b)  $\text{SO}_2$  (c)  $\text{O}_2$  (d)  $\text{H}_2$
6. What happens when a piece of  
(a) zinc metal is added to copper sulphate solution?  
(b) aluminium metal is added to dilute hydrochloric acid?  
(c) silver metal is added to copper sulphate solution? Also, write the balanced chemical equation if the reaction occurs..
7. What happens when zinc granules are treated with dilute solutions of  $\text{H}_2\text{SO}_4$ ,  $\text{HCl}$ ,  $\text{HNO}_3$ ,  $\text{NaCl}$  and  $\text{NaOH}$ ? Also write the chemical equations if reaction, occurs.
8. On adding a drop of barium chloride solution to an aqueous solution of sodium sulphite, white precipitate is obtained.  
(a) Write a balanced chemical equation of the reaction involved.  
(b) What other name can be given to this precipitation reaction?  
(c) On adding dilute hydrochloric acid to the reaction mixture, white precipitate disappears. Why?
9. You are provided with two containers made up of (A) copper and (B) aluminium. You are also provided with solutions of (a) dilute  $\text{HCl}$  (b) dilute  $\text{HNO}_3$  (c)  $\text{ZnCl}_2$  and (d)  $\text{H}_2\text{O}$ . In which of the above containers these solutions can be kept?
10. A rod of metal X is placed in an aqueous solution of lead nitrate. After sometime, it was observed that a thin layer of lead is deposited on the the rod of metal X. According to you, which is more reactive, lead or metal X and why?

### Assignment 7

1. Name the following

- (a) The process in plants that links light energy with chemical energy  
(b) Organisms that can prepare their own food  
(c) The cell organelle where photosynthesis occurs  
(d) Cells that surround a stomatal pore  
(e) Organisms that cannot prepare their own food  
(f) An enzyme secreted from gastric glands in the stomach that acts on proteins.
2. "All plants give out oxygen during the day and carbon dioxide during the night". Do you agree with this statement? Give a reason.
3. Two green plants are kept separately in oxygen-free containers, one in the dark and

the other in continuous light. Which one will live longer? Give reasons.

4. If a plant is releasing carbon dioxide and taking in oxygen during the day, does it mean that there is no photosynthesis occurring? Justify your answer.
5. Why do fishes die when taken out of water?
6. What are the adaptations of leaves for photosynthesis?
7. Is 'nutrition' a necessity for an organism? Discuss.
8. Differentiate between an artery and a vein.
9. Leaves of a healthy potted plant were coated with vaseline. Will this plant remain healthy for long? Give reasons for your answer.
10. How does aerobic respiration differ from anaerobic respiration?
11. Why is the small intestine in herbivores longer than in carnivores?
12. What will happen if the mucus is not secreted by the gastric glands?
13. What is the significance of the emulsification of fats?
14. What causes movement of food inside the alimentary canal?
15. Why does the absorption of digested food occur mainly in the small intestine?
16. Match Group (A) with Group (B)

Group A	Group B
(a) Autotrophic nutrition	(i) Leech
(b) Heterotrophic nutrition	(ii) Paramecium
(c) Parasitic nutrition	(iii) Deer
(d) Digestion in food vacuoles	(iv) Green plant

17. Why is the rate of breathing in aquatic organisms much faster than in terrestrial organisms?
18. Why is blood circulation in the human heart called double circulation?
19. What is the advantage of having a four-chambered heart?
20. Mention the major events during photosynthesis

### Assignment 8

1. In each of the following situations what happens to the rate of photosynthesis?
  - (a) Cloudy days
  - (b) No rainfall in the area
  - (c) Good manuring in the area
  - (d) Stomata get blocked due to dust
2. Name the energy currency in the living organisms. When and where is it produced?
3. What is common for Cuscuta, ticks and leeches?
4. Explain the role of the mouth in digestion of food.
5. What are the functions of gastric glands present in the wall of the stomach?
6. Match the terms in Column (A) with those in Column (B)

Column (A)	Column (B)
(a) Trypsin	(i) Pancreas
(b) Amylase	(ii) Liver
(c) Bile	(iii) Gastric glands
(d) Pepsin	(iv) Saliva

7. Name the correct substrates for the following enzymes  
(a) Trypsin- (b) Amylase- (c) Pepsin- (d) Lipase-
8. Why do veins have thin walls as compared to arteries?
9. What would happen if platelets were absent in the blood?
10. Plants have low energy needs as compared to animals. Explain.
11. Why and how does water enter continuously into the root xylem?
12. Why is transpiration important for plants?
13. How do leaves of plants help in excretion?
14. Describe the process of urine formation in kidneys.
15. Describe the alimentary canal of man.
16. Explain the process of breathing in man
17. Explain the importance of soil for plant growth.



18. Draw the diagram of the alimentary canal of man and label the following parts.  
Mouth, Oesophagus, Stomach, Intestine
19. How do carbohydrates, proteins and fats get digested in human beings?
20. Describe the flow of blood through the heart of human beings.

## **SOCIAL SCIENCE**

### Subject Enrichment Activity

#### PROJECT REPORT ON Consumer Awareness(Page limit 7-8 )

- (a) Introduction to COPRA
- (b) Ways of Consumer exploitation
- (c) Consumer Rights

#### Art Integrated Project

Comparision of Economy of Manipur and Haryana –(GDP and employment in three sectors )

Page limit (2-3)

#### Learning Task

Revise the following chapters :

#### Economics

Chapter -1 (Development)

chapter -2 (People as resource)

#### Geography

chapter -1 ( Resource and Development)

Chapter -2 (Forest and Wildlife Ressources)

Chapter -3 (Water Resources)

Chapter -4 (Agriculture)

#### Civics

chapter -1 (Power Sharing)

Chapter -2 (Federalism)

Chapter -4 (Gender, Religion and Caste)

History

Chapter -1 (The Nationalism in Europe)

Note: Submit your holiday's home work in a handmade file cover.

Use A4 ruled sheets and do extensive art and craft.

PORTFOLIO

Result analysis of Lok Sabha Elections 2024. (Page limit 1- 2)



**Make a report on given below given topic according to the roll no.**

Roll no.:	Topic
	1. Computer Health and safety Tips (1-7)
	2. Concept of Health, Safety and Security at Workplace (8-14)
	(15-21)
	3. First Aid for Electrical Emergencies (22- 29)
	(30
	4. Fire Hazards at Workplace and Fire Prevention onwards)
	5. Types of Emergencies and General Evacuation Procedure

**Practical Work (Practice at Home):**

Write a paragraph on “Healthcare and safety measures at Workplace “.Add a picture related to it from gallery. Do the following modifications:

1. Resize the image according to the page size by setting the width as '3.77' and height as '3.99'
2. Add 'red 'border to the picture.
3. Crop the picture with the scaling parameter of width as '50%' and height as '50%'
4. Create own style and mention their own name.

# **Health and Physical Education**

- 1.Draw and Write about Track.**
- 2. Draw the Athletics chart and write about it.**
- 3. Draw and write about Field Event –**
  - i. Jump Event - Long Jump, High Jump , Triple Jump**
  - ii. Throw Event – Shot Put , Discus throw , Hammer Throw , Javelin Throw**
- 4. Draw and write about any one of your favourite games.**
- 5. Draw and write about any 8 Yoga Asans.**

## **Topics for charts class X**

### **ENGLISH (ROLL NO.- 1-5)**

1. Literary Devices: Create a chart showcasing various literary devices like - Simple, Metaphor, Personification, Oxymoron etc along with examples
2. Parts of speech : Create a chart illustrating the different parts of speech such as Noun, Adjective, Verb ,Adverbs etc.Along with their definition and examples.
3. Grammar Rules: Design a chart highlighting essential grammar rules such as Subject verb agreement ,punctuation ,tenses usage etc.with explanations and examples.
4. Review the mind maps of any five chapters or poems of your choice and identify the main concept ,theme and idea presented.
5. English Tenses:Create a chart illustrating Tenses ,their definition with examples

### **SST (ROLL NO.- 6-10)**

6. Pocso Act,2012
7. Germania symbols.
8. Symbols of any 5 political parties.
9. RTI Act,2005
- 10.Important RBI guidelines to be known to common people.



### **HINDI (ROLL NO.- 11-15)**

- 11.समास उदाहरण एवं चित्रों के साथ
- 12.पद बंद
- 13.मुहावरे चित्रों के साथ
- 14.रचना के आधार पर वाक्य भेद
- 15.कबीर और मीरा के शिक्षाप्रद दोहे

### **MATHS (ROLL NO.- 16-20)**

- 16.Number system.
- 17.Polynomials.
- 18.Linear equations in two variables.
- 19.Quadratic equation.
- 20.Arithmetic progressions.

### **INFORMATION TECHNOLOGY (ROLL NO.- 21-25)**

- 21.Network Architecture - CLIENT SERVER AND PEER 2 PEER NETWORK
- 22.NETWORK TOPOLOGY
23. CYBER ATTACKS
- 24.COMPONENTS OF NETWORK
25. Health, SAFETY and Security at WORKPLACE

### **GENERAL KNOWLEDGE (ROLL NO.- 26-37)**

- 26.GDP of three sectors of Indian Economy
27. Cyber Securities and Cyber Crime
- 28.Special powers granted to states under federalism
- 29.Functioning of Red Cross Society
- 30.UNESCO World Heritage
- 31.list of IPL and World Cup Winners
- 32.National Education Policy framework
- 33.Artificial Intelligence
- 34.Bharat Ratna Award winner list
35. National Symbols of India
- 36.Schedules of Indian Constitution
- 37.Dada Saheb Phalke Award Winners