



**The Punjab Public School Nabha  
Holiday Home Work**

**Winter Break (Dec 2024– Jan 2025)**

**Class-VII (ICSE)**

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**ENGLISH**

**1. Stay updated with current affairs**

- Read an English newspaper daily.
- Select one news article each week, summarize it in your own words, and write why you found it interesting (100-150 words). Maintain these summaries in a neat notebook.

**2. Expressive Writing**

**(a) Essay Writing:**

Write a composition on “**India as I see it in 2047**”. (250-300 words). Share your vision for India in terms of education, technology, environment, equality, and cultural heritage.

**(b) Creative Letter Writing:**

Write a letter to a friend narrating an interesting or funny incident you recently witnessed. Be descriptive, use dialogues, and make it engaging.

**3. Biography Writing**

Research on **Kailash Satyarthi** and **Elon Musk** and write their biographies (200 words).

- Include their early life, career milestones, achievements, and how they inspire you.
- Add a concluding line about what you learned from their journey.

**4. Explore and Create**

**(a) Character Sketch:**

Choose a character from a story you have read recently and write a detailed character sketch (150-200 words). Describe their personality, role in the story, and what makes them memorable.

**(b) Mini Research Task:**

Pick a topic like “Famous Indian Authors,” “Eco-friendly Practices in Daily Life,” or “Inventions That Changed the World.”

**5. Vocabulary Builder**

Maintain a Vocabulary Journal:

Write 5 new words daily from the newspaper, a book, or a dictionary.

Include their meanings, synonyms, antonyms, and use them in a sentence of your own.

**6. Reading Challenge**

Read one storybook or novel during the holidays. Recommended options:

**“The Adventures of Tom Sawyer” by Mark Twain**

**“The Blue Umbrella” by Ruskin Bond**

**“Matilda” by Roald Dahl**

- Write a book review (200 words), mentioning the storyline, main characters, and your favourite part.

**Note:** Please solve Terminal Papers (Language & Literature) in your Language and Literature notebooks separately.

**MATHEMATICS**

**Note:** All the *HOLIDAY HOME WORK* is to be done on a separate notebook.

- Solve your Terminal Examination question paper.
- Do the specified questions of your Selina Textbook:

Exercise 1(B)	Q2( 1,3,5), Q3(2,4) Q6. (2, 4, 6, 8)
Exercise 1(C)	Q3, 5, 7 and 9
Exercise 2(B)	Q5 ( 7,8,9), Q8 ( 1,3)
Exercise 2(C)	Q2( 2,3, 7), Q4(1, 3, 5),Q6( 1, 5, 7), Q 10, Q 12
Exercise 2(D)	Q2 (1, 5, 9, 11) Q6 (2, 4, 7, 8)
Exercise 2(E)	Q1 (1, 5, 8, 9) Q 3, 5 and 7.
Exercise 5(A)	Q6(1,3,5), Q9 and Q10
Exercise 5(B)	Q3(1,3, 5, 7, 9, 11), Q4( 1,2,3)
Exercise 7(A)	Q1( 2, 5, 9) Q2, 4, 8.
Exercise 7(B)	Q 2( 2, 5), Q3 (1,2) Q 4( 1, 5)
Exercise 8 (A)	Q 1, 3, 5
Exercise 8 (C)	Q 1, 3, 5
Exercise 9 (A)	Q 4
Exercise 9 (B)	Q 1, 3, 5 and 7
Exercise 9 (C)	Q2 (1,3,5) Q3 (1,3)
Exercise 11	Q 2, 3, 6 and 10
Exercise 12 (A)	Q 1, 3, 5 and 7
Exercise 13 (A)	Q 5, 8
Exercise 13 (B)	Q 7,8, 11 and 13
Exercise 13 (C)	Q 2 (1,3,5)
Exercise 13 (D)	Q 1 ( 1, 3, 5, 9) Q2 ( 1,3,5)
Exercise 13(E)	Q 1, 3, 5, 10
Exercise 14 (A)	Q 11, 13, 15, 20
Exercise 14(B)	Q 1, 3, 5, 9
Exercise 14(C)	Q 1, 3, 5, 10
Exercise 14 (D)	Q 1, 3, 5, 11

## PHYSICS

### Q1. Choose the correct Option:

1. What is the source of natural light?  
a) Bulb                                      b) Sun  
c) Lamp                                        d) Moon
2. What is the speed of light in air?  
a) 300,000 km/s                          b) 500,000 km/s  
c) 200,000 km/s                          d) 100,000 km/s
3. What happens when light strikes a smooth, shiny surface?  
a) Reflection                                b) Refraction  
c) Absorption                                d) Diffusion
4. Which of the following is an example of refraction?  
a) Light bending when passing through water                      b) Light bouncing off a mirror  
c) Light spreading through a small hole                                d) Light splitting into colours
5. Which colour of light bends the least when passing through a prism?  
a) Red    b) Blue  
c) Green                                        d) Violet
6. The angle of incidence is always equal to the angle of:  
a) Refraction                                b) Diffraction  
c) Reflection                                 d) Dispersion
7. What kind of mirror is used in a car's rearview mirror?  
a) Concave mirror                         b) Convex mirror  
c) Plane mirror                              d) None of the above
8. Which of the following is true about shadows?  
a) They are formed when light passes through a transparent object  
b) They are formed when light is blocked by an opaque object  
c) They have no size  
d) They always appear brighter than the light source
9. The image formed by a concave mirror is:  
a) Always virtual                            b) Always real  
c) Depends on the distance of the object                                d) None of the above
10. Which of these can bend light?  
a) Water                                        b) Air  
c) Glass                                         d) All of the above
11. Which is the base unit of mass in the International System of Units (SI)?  
a) Gram                                         b) Kilogram  
c) Pound                                        d) Ounce
12. The unit of temperature in the SI system is:  
a) Celsius                                      b) Fahrenheit  
c) Kelvin                                        d) Rankine
13. What is the SI unit of length?  
a) Meter                                        b) Centimetre  
c) Kilometre                                 d) Foot
14. What is the base unit of time in the SI system?  
a) Hour                                         b) Second  
c) Minute                                        d) Day

15. The amount of space occupied by a body is called:
  - a) Mass
  - b) Volume
  - c) Density
  - d) Weight
16. Which of the following is a scalar quantity?
  - a) Velocity
  - b) Speed
  - c) Force
  - d) Displacement
17. Which of the following is a vector quantity?
  - a) Temperature
  - b) Speed
  - c) Displacement
  - d) Mass
18. The SI unit of force is:
  - a) Newton
  - b) Joule
  - c) Watt
  - d) Pascal
19. What is the unit of speed in the SI system?
  - a) Meter
  - b) Meter per second
  - c) Kilogram
  - d) Kilogram per meter
20. What does a ruler measure?
  - a) Weight
  - b) Mass
  - c) Length
  - d) Temperature
21. Which of the following is a form of energy?
  - a) Light
  - b) Sound
  - c) Heat
  - d) All of the above
22. What is the SI unit of energy?
  - a) Joule
  - b) Watt
  - c) Kelvin
  - d) Newton
23. The energy possessed by an object due to its motion is called:
  - a) Potential energy
  - b) Kinetic energy
  - c) Chemical energy
  - d) Thermal energy
24. The energy possessed by an object due to its position or state is called:
  - a) Potential energy
  - b) Kinetic energy
  - c) Mechanical energy
  - d) Electrical energy
25. What happens to the potential energy of an object when it is lifted higher?
  - a) It decreases
  - b) It stays the same
  - c) It increases
  - d) It becomes zero
26. When you rub your hands together, the energy is transformed into:
  - a) Kinetic energy
  - b) Chemical energy
  - c) Heat energy
  - d) Electrical energy
27. What happens when an object falls to the ground?
  - a) Its potential energy is converted into kinetic energy
  - b) Its kinetic energy is converted into potential energy
  - c) Its energy is lost
  - d) None of the above
28. What is the main source of energy for the Earth?
  - a) Wind
  - b) Water
  - c) Sun
  - d) Fossil fuels
29. The energy stored in a battery is:
  - a) Electrical energy
  - b) Chemical energy
  - c) Potential energy
  - d) Thermal energy

30. The energy we get from food is:  
 a) Kinetic energy                      b) Chemical energy  
 c) Electrical energy                      d) Potential energy
31. The distance covered by an object in a unit of time is called:  
 a) Speed                                      b) Acceleration  
 c) Displacement                              d) Velocity
32. The rate of change of velocity is known as:  
 a) Speed                                      b) Velocity  
 c) Acceleration                              d) Force
33. Which of the following is an example of uniform motion?  
 a) A car speeding up on a highway      b) A ball rolling down a hill  
 c) A car moving at a constant speed      d) A rocket launch
34. A car moves from rest to a speed of 20 m/s in 5 seconds. What is the acceleration of the car?  
 a) 4 m/s<sup>2</sup>                                      b) 5 m/s<sup>2</sup>  
 c) 10 m/s<sup>2</sup>                                      d) 20 m/s<sup>2</sup>
35. If an object is moving in a straight line with a constant speed, its acceleration is:  
 a) Zero    b) Increasing  
 c) Constant    d) Negative
36. What does a speed-time graph show?  
 a) The distance travelled by the object                                      b) The speed of the object  
 c) The time taken for the object to travel                                      d) The acceleration of the object
37. Which of the following affects the motion of an object?  
 a) Mass    b) Force  
 c) Speed    d) All of the above
38. An object moving at a constant speed in a circular path has:  
 a) Constant velocity                              b) Constant acceleration  
 c) Changing velocity                              d) No acceleration
39. The motion of an object under the influence of gravity is called:  
 a) Circular motion                              b) Free fall  
 c) Uniform motion                              d) Harmonic motion
40. What happens to the speed of an object when it is in free fall?  
 a) The speed decreases                              b) The speed increases  
 c) The speed remains constant                              d) The speed becomes zero

## Q2. Long Answer Questions

1. Explain the phenomenon of refraction. How does it differ from reflection? Provide an example of refraction in daily life.
2. Describe the working of a concave mirror. How does the image change when the object is placed at different distances from the mirror?
3. What is the difference between a real image and a virtual image? Discuss the formation of both types of images using lenses and mirrors with suitable examples.
4. Define the terms 'scalar quantity' and 'vector quantity'. Give two examples of each and explain how they are different from one another.
5. What is the importance of units in measurement? Explain the role of the International System of Units (SI) and list the seven base units used in the SI system.

6. Explain how to calculate the area of a rectangle and a triangle. What units do we use for measuring area and how are they derived from the SI system?
7. Explain the law of conservation of energy. How is energy converted from one form to another in a simple machine, such as a pulley system or an inclined plane?
8. What is potential energy? How does it change when an object is raised to a certain height? Give examples of potential energy in daily life.
9. Describe the difference between speed and velocity. How is velocity a vector quantity while speed is a scalar? Give examples to explain the concept.
10. Explain the concept of acceleration. What is the relationship between acceleration, velocity, and time? How would you calculate the acceleration of an object moving with uniform motion?

## **Project (Select any one project and make a project file)**

### **1. Shadow Formation and the Nature of Light**

- **Objective:** To explore how light travels in straight lines and forms shadows.
- **Project Description:** Use a flashlight, different objects (like a ball, cube, or irregular shapes), and a screen to demonstrate how shadows are formed. Vary the distance between the light source and object to show how the shadow size changes.
- **Learning Outcome:** Understand the behaviour of light, the concept of light traveling in straight lines, and how shadows are formed.

### **2. Exploring Reflection of Light Using Mirrors**

- **Objective:** To investigate the laws of reflection of light.
- **Project Description:** Use a plane mirror to show how light reflects from different angles. Measure the angle of incidence and the angle of reflection. Create a simple diagram to demonstrate these concepts.
- **Learning Outcome:** Understand the laws of reflection, and learn how to measure angles of incidence and reflection.

### **3. Building a Simple Electromagnet**

- **Objective:** To understand how electromagnets work and how the strength of an electromagnet changes with different factors.
- **Project Description:** Use a piece of iron, copper wire, and a battery to create a simple electromagnet. Test how the number of coils or the power of the battery affects the strength of the magnet.
- **Learning Outcome:** Learn how electromagnetism works and how changing variables like coil number or battery power can affect the strength of a magnet.

### **4. Creating a Solar Oven**

- **Objective:** To demonstrate the conversion of solar energy into heat energy.

- **Project Description:** Construct a simple solar oven using a cardboard box, aluminium foil, plastic wrap, and black paper. Use the oven to cook something small like s'mores or heat up food.
- **Learning Outcome:** Understand how solar energy can be harnessed for practical uses and the concept of heat transfer.

# Solve The Terminal Term Paper in your fair Notebook #

## CHEMISTRY

### Q1. Choose the correct Option:

- Which of the following is a property of solids?**
  - Definite shape and definite volume
  - Indefinite shape and definite volume
  - Definite shape and indefinite volume
  - No definite shape and no definite volume
- Which state of matter has the highest density?**
  - Solid
  - Liquid
  - Gas
  - Plasma
- What happens when a substance is heated?**
  - It becomes colder
  - Its particles move slower
  - Its particles move faster
  - It turns into a new substance
- Which of the following is an example of a liquid?**
  - Iron
  - Air
  - Water
  - Oxygen
- Which of the following properties is common to both liquids and gases?**
  - Definite shape
  - Definite volume
  - Indefinite shape
  - High density
- Which of the following is NOT a property of gases?**
  - Gases have no definite shape.
  - Gases have a definite volume.
  - Gases can be compressed.
  - Gases expand to fill the container.
- What is the process called when a solid turns into a liquid?**
  - Freezing
  - Condensation
  - Melting
  - Sublimation
- Which of the following substances is a solid at room temperature?**
  - Water
  - Oxygen
  - Iron
  - Mercury
- Which property of matter changes during physical changes?**
  - Chemical composition
  - Physical state, shape, and size
  - Molecular structure
  - Atomic number
- Which of the following is an example of a physical change?**
  - Rusting of iron
  - Burning wood
  - Freezing water
  - Digesting food
- Which of the following is a characteristic of a physical change?**
  - New substances are formed
  - Energy is absorbed or released
  - The chemical composition remains unchanged
  - It is irreversible

12. **What is an example of a chemical change?**  
 a) Melting ice  
 b) Dissolving sugar in water  
 c) Burning a candle  
 d) Breaking glass
13. **Which of the following is evidence of a chemical change?**  
 a) Change in shape  
 b) Change in colour  
 c) Change in size  
 d) Change in state
14. **Which of the following is a physical change?**  
 a) Formation of a gas  
 b) Cooking food  
 c) Dissolving salt in water  
 d) Oxidation of iron
15. **What happens when an iron nail rusts?**  
 a) Physical change  
 b) Chemical change  
 c) No change  
 d) Evaporation
16. **Which of the following processes is reversible?**  
 a) Burning paper  
 b) Melting butter  
 c) Cooking an egg  
 d) Tarnishing silver
17. **Which of the following best describes a chemical change?**  
 a) A change in size  
 b) A change in colour  
 c) A change in state  
 d) A change in volume
18. **What is the main difference between a physical and a chemical change?**  
 a) Only physical changes release energy  
 b) Only chemical changes form new substances  
 c) Physical changes are reversible, while chemical changes are not  
 d) Chemical changes do not involve energy changes
19. **Which of the following processes is an irreversible chemical change?**  
 a) Melting ice  
 b) Boiling water  
 c) Burning paper  
 d) Crushing a can
20. **The process of fermentation is an example of a...**  
 a) Physical change  
 b) Chemical change  
 c) Both physical and chemical change  
 d) Neither physical nor chemical change
21. **Which of the following is a compound?**  
 a) Oxygen  
 b) Nitrogen  
 c) Water  
 d) Iron
22. **Which of the following is a mixture?**  
 a) Salt  
 b) Water  
 c) Air  
 d) Hydrogen
23. **What is the smallest unit of an element?**  
 a) Atom  
 b) Molecule  
 c) Proton  
 d) Electron
24. **Which of the following best describes a compound?**  
 a) It is made of only one kind of atom.  
 b) It is made by mixing two or more different substances.  
 c) It is made by combining two or more elements chemically.  
 d) It can be separated by physical methods.
25. **Which of the following is NOT a mixture?**  
 a) Air  
 b) Salt water  
 c) Sugar  
 d) Soil
26. **Which of the following is a characteristic of a compound?**  
 a) It can be separated by physical means.  
 b) It consists of only one type of atom.





## Q2. Long Answer Questions

1. Explain the three states of matter with their properties. How do the particles behave in solids, liquids, and gases?
2. Describe the changes that occur when matter is heated or cooled. Explain the processes of melting, freezing, condensation, and evaporation, with examples for each.
3. What are the differences between a solid, liquid, and gas? Discuss their shape, volume, compressibility, and particle arrangement in detail.
4. What is the difference between physical and chemical changes? Explain each with two examples. Discuss the changes that occur at the molecular level during these processes.
5. Describe a chemical reaction in detail, using the example of burning wood. What are the signs of a chemical change, and how does energy play a role in this process?
6. Explain the process of rusting of iron. Is it a physical or chemical change? Describe the conditions required for rusting and the chemical reactions involved.
7. Explain the difference between elements, compounds, and mixtures. Provide two examples of each and describe how they are formed.
8. Describe the process of separating mixtures. Explain at least three methods of separation, such as filtration, distillation, and evaporation, and give examples of when each method is used.
9. What is a chemical compound? How is it different from a mixture? Provide examples of common compounds and discuss how their properties are different from the properties of the elements they are made from.
10. Describe the structure of an atom. Explain the roles of protons, neutrons, and electrons, and discuss how their arrangement determines the properties of an element. Include an explanation of the atomic number and atomic mass.

## **Project (Select any one project and make a project file)**

**Note:** "Always perform experiments in the presence of an adult to ensure your safety and receive immediate assistance in case of an emergency."

### **1. Physical and Chemical Changes:**

- **Objective:** Investigate and demonstrate the difference between physical and chemical changes.
- **Project:** Conduct experiments like dissolving sugar in water (physical change), burning paper (chemical change), and mixing vinegar with baking soda (chemical

reaction). Create a poster or a booklet explaining the changes with examples from daily life.

## 2. Solar Energy and Chemistry:

- **Objective:** Explore the chemistry behind solar energy and its environmental benefits.
- **Project:** Investigate how solar panels work to convert sunlight into energy and discuss the chemical processes involved in solar energy generation. You can build a small solar oven or a model solar-powered device as part of the project.

## 3. Water Filtration:

- **Objective:** Learn the process of purifying dirty water and the science behind filtration.
- **Project:** Design and create a simple water filtration system using materials like sand, gravel, and charcoal. Test the system by filtering different samples of contaminated water and observe the changes. Document the scientific principles behind the filtration process

## 4. Building a Simple Model of an Atom:

**Objective:** Understand the structure of an atom and how its components (protons, neutrons, and electrons) interact.

**Project:** Create a 3D model of an atom using materials like Styrofoam balls, clay, or coloured paper to represent protons, neutrons, and electrons. Explain how atoms combine to form molecules and how the atomic structure is related to the properties of elements.

# Solve The Terminal Term Paper in your fair Notebook #

## BIOLOGY

- **Solve the Terminal Term Paper in Fair Biology Notebook.**
- **Do the following in a scrap book.**
  1. Draw neat labeled diagrams of: (a) Human Excretory system (b) Human Kidney (c) Amoeba (d) Bacteria (e) Nerve cell- neuron. (f) Human Brain.
  2. Write a note on allergy. Collect pictures of common allergens and the types of allergy caused by them.
  3. Visit a hospital and search information regarding Dialysis (artificial kidney).