



Sri Guru Harkrishan Public School,

Dugri Road Ludhiana

HOLIDAYS HOMEWORK

Relax ♥

Explore ☀

Learn 📖

Have Fun 😊

“Holidays
are the
perfect time
to relax,
explore,
and
grow. ♥

Come back
refreshed,
recharged and
ready to *shine!* ”

Use this time to do what makes
your *soul happy* and your future bright. ♥

KEEP LEARNING, KEEP GROWING, KEEP SMILING!



SRI GURU HARKRISHAN PUBLIC SCHOOL, LUDHIANA
SUMMER VACATION HOMEWORK 2026
CLASS – X

Subject- Social Science

CBSE Project Work (Internal Assessment)

Topic: Consumer Awareness / Sustainable Development / Social Issues (like child labour, Gender inequality, etc.)

Instructions:

- Choose any ONE topic.
- Prepare a handwritten project report of 10–12 pages.
- Include cover page, introduction, objective, case study/news references, data analysis (if any), conclusion, and bibliography.
- Use pictures, graphs, and illustrations wherever relevant.

2. MODEL BASED ACTIVITY

- Prepare a working/non-working model of a dam showing its main parts and uses.
OR
- Prepare a model showing the process of rainwater harvesting in homes, schools, or villages.
OR
- Prepare a 3D model/chart showing the three sectors of the Indian economy with suitable examples.

3. Map Work

Label the following on the Political Map of India – (As per CBSE Syllabus)

- Major Soil Types
- Major dams
- Major minerals and mines
- Important industrial region.

Attach maps neatly in your portfolio.

4. Art Integrated Activity - Economics - Design a Currency Note

Design a new Indian currency note (any denomination).

On the back, explain:

- Why did you choose the design?
- What message does it send about India's values or economy?

5. Political Science

Make a report on Ch-Political parties of India:

Meaning, National and State parties, symbols, functions, challenges before political parties, Reforms

6. Complete your notebook and revise the chapters done till date.

7. Write 15 Multiple choice questions with answers in your SST copy from each chapter

- Resource and Development
- The Rise of Nationalism in Europe.
- Forests and wildlife resources

Note:- Write the following questions in your class work copy only. Don't prepare any other copy for holiday homework.

Q.1 Describe the different steps of resource planning.

Q.2 Explain any three ways to protect land from degradation in various states of India.

Q.3 Distinguish between Khadar and Bangar soil.

Q.4 Distinguish between Red soil and Laterite soil.

Q.5 Describe any three-three main features of Alluvial soil and Black soil.

Q.6 What steps can be taken to control soil erosion in hilly areas?

Q.7 Why is soil considered as a resource? Explain

Q.8 How had Napoleonic code exported to other regions under French control? Explain with examples.

Q.9 Describe the ideology of liberalism during the early 19th century.

Q.10 Who hosted the Vienna Congress' in 1815? Analyse the main change brought by the Vienna Treaty.

Q.11 Define the term Romanticism . How did it facilitate the promotion of nationalist sentiment?

Q.12 Briefly describe the process of German Unification.

Q.13 Describe the process of Unification of Britain and Italy.

Q.14 How did the Balkan region become a source of nationalist in Europe after 1871?

Q.15 Name the female allegory who represents France. Describe her main characteristics.

Q.16 What is biodiversity? Why is biodiversity important for human lives?

Q.17 Why do we need to conserve our forests and wildlife? Explain any three steps taken by the government to protect forests and wildlife resources.

Q.18 Analyse the involvement of different traditional communities to conserve their own natural habitats in India.

8. Define these key words □

1. Absolute Monarchy
2. Constitutional Monarchy
3. Romanticism
4. Prussia
5. Junkers
6. Allegory
7. Imperialism
8. Liberalism
9. Conservatism
10. Utopian

11. Denudation
12. Soil erosion
13. Badland
14. Ravine
15. Sheet erosion
16. Wind erosion
17. Contour Ploughing
18. Plugging of Gullies
19. Reserved forests
20. Protected Forest
21. Chipko movement

9. Define these key Personality

1. Frederic Sorrieu
2. Napoleon
3. Giuseppe Mazzini
4. Otto von Bismarck
5. Emperor Kaiser William I
6. Victor Emmanuel II
7. Count Cavour
8. Giuseppe Garibaldi
9. Marianne
10. Germania

Subject- I.T

Digital documentation assignments to be completed using Microsoft Word:

1. Report on Social Media

Please prepare a report discussing the advantages and disadvantages of social media. The document must include:

- A cover page
- Relevant tables and images
- Page numbers
- Appropriate headers and footers

2. Project File

Please prepare a 10-sheet project file on one of the following topics:

- Digital India
- Online Banking
- E-Learning

Subject- Science

CHEMISTRY

Design a creative 'Chemical Secret Art Sheet' using natural indicators and hidden messages. Explain the science behind each color change and reaction in 1 page.

Objective:

To explore how natural substances can act as indicators and create secret chemical artwork

Materials:

Red cabbage / Turmeric / Hibiscus petals

Lemon juice, baking soda, soap solution

White paper, brush, cotton buds

Candle or bulb (for heat)

· Procedure:

-Prepare natural indicator (boil cabbage → purple liquid OR turmeric paste).

-Use brush to paint on paper using different solutions.

-Observe color changes (acid vs base).

-Write a secret message using lemon juice (invisible ink).

-Heat paper → message appears magically

Learning Outcome: students will be able to

-Understand pH scale in real life

-Identify acids and bases using natural indicators

-Learn about chemical reactions in daily life

SUBJECT-CHEMISTRY (ASSIGNMENT)

1. Why is respiration considered an exothermic reaction?

2. (a) What is the colour of ferrous sulphate crystal? How does this colour change after heating?

(b) Name the product formed on strongly heating ferrous sulphate crystal. What type of chemical reaction occurs in this change?

3. In electrolysis of water, why is the volume of gas collected over one electrode double that of gas collected over the other electrode?

4. What change in colour is observed when white silver chloride is left exposed to sunlight? State the type of chemical reaction in this change.

5. What is a redox reaction? When a magnesium ribbon burns in air with a dazzling flame and forms a white ash, is magnesium oxidised or reduced? Why?

6. Name the phenomenon due to which the taste and smell of oily foods change when kept for a long time in open. Suggest one method to prevent it.

7. Solid calcium oxide was taken in a container and water was added slowly to it. (i) State two observations made in the experiment.

(ii) Write the balanced chemical equation of this reaction.

8. Define a balanced chemical equation. Why should an equation be balanced?

9. State reasons: (i) Iron articles lose their shine gradually.

(ii) Foods should be kept in air tight containers.

PHYSICS

-Write: Laws of reflection

- Types of mirrors (Plane, Concave, Convex)
- Image formation (with ray diagrams)
- Draw neat labelled diagram
- Solve numericals based on:
- Mirror formula (given in Xact physics book)
- Magnification
- Solve the assignment in your science notebook.

Biology

Concept Mapping

Create a mind map/chart covering:

Nutrition

Respiration

Transportation

Excretion

1. Write the balanced chemical equation of photosynthesis.
2. List the events taking place during the process of photosynthesis
3. How does an amoeba take its food. Explain it with the help of the diagram.
4. Differentiate between autotrophic and heterotrophic nutrition.
5. How digestion occurs in small intestine
6. How does gaseous exchange take place in fish?
7. Why do arteries have thick and elastic walls whereas veins have valves?
8. (a) What is the role of HCl in our stomach?
(b) What is emulsification of fats?

© Which protein digesting enzyme is present in pancreatic juice?

9. (a) What is double circulation?

(b) Why is the separation of the right side and the left side of the heart useful? How does it help birds and mammals?

10. State the role of the following
 - (i) Diaphragm (iii) Larynx

Subject- English

Question Bank

Q1: Compare how Lencho and Mrs. Pumphrey reacted when their problems were solved. Why were their reactions so different?

Answer: Lencho: He became angry because he expected exactly 100 pesos and felt cheated. Mrs. Pumphrey: She was crying with joy and gratitude, calling it a "triumph of

surgery."Lencho focused blindly on what was missing, while Mrs. Pumphrey was completely relieved to see her pet healthy again.

Q2: Why did Mrs. Pumphrey keep overfeeding Tricki even when he was getting sick? What does this tell us about her mind?

Answer: Mrs. Pumphrey loved Tricki too much and thought he was suffering from malnutrition. She could not say "no" to his love for food. This shows that blind love and emotional weakness can blind a person to the practical health needs of those they care about.

Q3: Did Dr. Herriot do the right thing by lying to Mrs. Pumphrey that Tricki needed immediate surgery?

Answer: Yes, Dr. Herriot did the right thing. It was a "white lie" told entirely to save the dog's life. He knew Mrs. Pumphrey would never let Tricki leave the house otherwise. His practical veterinary wisdom was more important than telling the strict truth.

Q4: How does the postmaster's action show the concept of "community support" during a natural disaster?

Answer: When Lencho's crops were destroyed by hailstorms, he had no money. The postmaster did not know Lencho personally, but he collected money from his staff and friends. This shows how human communities naturally come together to support victims of natural disasters through charity.

Q5: How do both Tricki and the poet in Dust of Snow get healed by changing their surroundings?

Answer: Tricki: He was sick in a wealthy, lazy home. He got healthy when he moved to a natural environment with other dogs.

The Poet: He was sad indoors. He felt better when he went outside and a crow shook snow on him.

Both stories show that moving closer to nature and a natural lifestyle can cure physical and mental sadness.

Q6: Why did Lencho feel angry after receiving the money, even though his faith in God was answered? What does this say about human nature?

Answer: Lencho was confident that God would not deny him or make a mistake. When he counted the money, it was less than he asked for. He believed the post office employees were "crooks" who stole his money. This shows that sometimes extreme faith or blind belief can lead to suspicion and ignorance of human kindness.

Q7: How does the poet use a "crow" and a "hemlock tree" to show nature's positive power?

Answer: Usually, poets use beautiful things like roses or nightingales. However, Robert Frost uses a black crow and a poisonous hemlock tree to show that nature is not always pretty. Even ordinary or "negative" elements of nature can bring joy, change a person's mood from sad to happy, and give them a positive perspective.

Q8: What do "Fire" and "Ice" represent in the context of global destruction? Which is more powerful?

Answer: In the poem, "Fire" represents uncontrollable desires, greed, and passion. "Ice" represents hatred, coldness, and indifference. The poet implies that both are equally strong to

destroy the world. While desire (fire) can destroy it quickly, hatred (ice) can also silently, but effectively, destroy humanity.

Q9: Was Tricki's sickness caused by a virus or his lifestyle? How did Dr. Herriot cure him without any medicine?

Answer: Tricki was not suffering from a virus; he was sick because of overfeeding and lack of exercise provided by Mrs. Pumphrey. Dr. Herriot cured him by changing his lifestyle—giving him only water for two days, providing a strict diet, and letting him play with other dogs. This shows that proper nutrition and activity are essential for health.

Q10: Compare how the postmaster (A Letter to God) and Dr. Herriot (A Triumph of Surgery) used "kindness" to solve a problem.

Answer: Postmaster: Showed empathy by giving part of his salary to help a poor farmer maintain his faith.

Dr. Herriot: Showed tough love by taking the dog away from its owner to save its life.

Both were empathetic, but they acted differently based on the needs of the person/pet.

Q11: Both poems Dust and snow And Fire and Ice show that small things change our reality. Contrast the "change" in both poems.

Answer: In Dust of Snow, a small natural event changes the poet's mood from sad to happy. In Fire and Ice, the poet suggests that small, daily human hatreds can lead to a huge, final destruction. One shows positivity, the other warns of negativity.

Q12: What is the poet's opinion about how the world will end?

Answer: The poet thinks the world will end in fire because human greed and desires are growing too fast. However, he adds that if the world had to die twice, ice (hatred) is also strong and sufficient enough to destroy it completely.

Long Question/Answers

Q1. In A Letter to God, Lencho shows deep suspicion toward the post office workers, while Fire and Ice warns us about the destructive power of cold human hatred. Connect these two ideas: How can a lack of trust and empathy (Ice) between different groups of people lead to the breakdown of a peaceful society?

Answer:

The Connection Between Suspicion and "Ice"

When Lencho labeled the post office workers as "crooks," he was acting out of extreme suspicion. He did not know these people, so he found it impossible to trust them. This lack of trust is the exact starting point of the "Ice" that Robert Frost warns us about in his second poem.

"Ice" begins when we build cold mental walls between ourselves and others. Because Lencho isolated himself in his own narrow worldview, he could not empathize with the struggles of the workers or imagine that they could be kind. His cold suspicion instantly killed any chance of mutual respect or gratitude.

How this Breaks Society Apart

From a sociological and ethical viewpoint, a peaceful society cannot survive without a basic foundation of trust and empathy. When suspicion and cold indifference take over a community, several things happen:

Destruction of Cooperation: People stop helping one another. The postoffice workers sacrificed their own money to do a good deed, but because they were met with insults, they might think twice before ever helping a stranger again.

Division into Groups: Society splits into hostile camps. People begin to view strangers not as fellow human beings, but as enemies or "crooks" who are out to get them.

The Final Freeze: This continuous cycle of suspicion builds up over time into permanent hatred (Ice). When a society completely loses its warmth, trust, and empathy, it stops functioning as a community and slowly destroys itself from within, proving that coldness is just as lethal as a violent explosion.

Q2. In both *A Letter to God* and *Dust of Snow*, characters have to face a problem, and they look at nature. How is nature an enemy to Lencho but a helpful friend to the poet?

Answer: Nature as an Enemy to Lencho

In *A Letter to God*, Lencho is a poor farmer who needs rain for his fields. At first, the rain seems like a good thing, but it suddenly changes into a terrible hailstorm. Large, icy rocks fall from the sky for a whole hour. This storm destroys everything Lencho owns. It breaks his crops and leaves his family with no food for the year. For Lencho, nature acts like a cruel enemy that destroys his hard work and makes him feel completely hopeless.

Nature as a Friend to the Poet

In *Dust of Snow*, the poet starts his day in a very bad, sad mood. He is walking outside in the winter, feeling unhappy. Suddenly, a crow sitting on a tree shakes a branch, and a little bit of cold snow falls on the poet. This small touch of cold snow surprises him and makes him stop worrying. It instantly changes his mood from sad to happy. For the poet, nature acts like a kind friend that saves his day.

The Main Connection

When we look at both stories together, we learn that nature has two different sides. The exact same natural elements—like ice, snow, and winter weather—can be dangerous enough to destroy a farmer's life, or they can be gentle enough to cure a poet's sad mind. Nature is not good or bad; it depends on what is happening to the person experiencing it.

Q3. In *A Letter to God*, Lencho thinks the kind post office workers are thieves. In *Fire and Ice*, the poet talks about how "Ice" (hatred and coldness) can destroy the world. How does Lencho's behavior show us what "Ice" really means?

Answer: Lencho's Cold Behavior

In *A Letter to God*, the post office workers do a very kind thing. They use their own money to help a stranger (Lencho) who lost his farm. But when Lencho opens the envelope and sees less money than he wanted, he instantly gets angry. He does not stop to think that someone was trying to help him. Instead, he blindly decides that the workers are "crooks" who stole his money. He treats them with zero trust, zero thanks, and absolute coldness.

What "Ice" Means

In the poem *Fire and Ice*, the poet says that "Ice" represents human hatred and cold feelings. Ice is when people stop caring about each other, stop trusting each other, and become mean or blind to the goodness in the world.

The Main Connection

Lencho's behavior is a perfect example of this "Ice." Because he is trapped in his own stubborn thoughts, his heart is frozen. He cannot see the kindness of the workers. This tells us that when people stop trusting each other and start assuming the worst about strangers, it kills human kindness. If the post office workers decide to stop helping poor people because Lencho insulted them, then Lencho's cold attitude has successfully destroyed a good part of society.

Q4. The poet in Dust of Snow and the dog in A Triumph of Surgery both get better without using any fancy medicines or expensive tools. How do simple changes help them both?

Answer: The Poet's Simple Cure

In Dust of Snow, the poet is suffering from a very heavy, sad mind. He doesn't go to a doctor or take medicine. Instead, a tiny natural event cures him. The cold feeling of snow falling on his skin instantly wakes up his brain, forces him to stop overthinking, and makes him feel glad to be alive. It was a completely simple, free solution from nature.

Tricki's Simple Cure

In A Triumph of Surgery, Tricki is dangerously sick and cannot walk. Dr. Herriot does not perform a scary surgery or give him expensive drugs. Instead, he uses a very simple method. He takes Tricki away from his luxurious home, gives him only water for two days, and makes him run around outside with other dogs. By simply changing the dog's food and environment, Tricki's body heals itself.

The Main Connection

Both of these stories teach us that humans often make things too complicated. When we feel mentally sad (like the poet) or physically out of shape (like Tricki), we don't always need complex or expensive solutions. Often, the best medicine is to return to a simple life: spending time outside, getting moving, changing our daily environment, and enjoying the basic things in nature.

Note-Kindly do write (English Notebook) and learn these question answers.

Subject-Punjabi

- 1• ਪੰਜਾਬ ਅਤੇ ਉੜੀਸਾ ਪ੍ਰਾਂਤਾਂ ਦੇ ਸੱਭਿਆਚਾਰ ਨੂੰ ਦਰਸਾਉਂਦੇ ਹੋਏ ਉਥੋਂ ਦੇ ਲੋਕ ਨਾਚਾ ਅਤੇ ਪਹਿਰਾਵੇ ਦਾ ਵਰਨਣ ਤਸਵੀਰਾਂ ਸਹਿਤ ਕਰਦੇ ਹੋਏ ਇੱਕ ਪ੍ਰੋਜੈਕਟ ਫਾਈਲ ਤਿਆਰ ਕਰੋ।
 - 2• ਕਿਸੇ ਵੀ ਇੱਕ ਵਿਸ਼ੇ ਤੇ ਸਵੈ ਰਚਨਾ ਲਿਖੋ(ਅਸਲ ਜੀਵਨ ਵਿੱਚ ਵਾਪਰੀ ਕੋਈ ਘਟਨਾ, ਚੁਟਕਲਾ, ਸੰਦੇਸ਼, ਕਵਿਤਾ, ਗੀਤ ਆਦਿ)
 - 3• ਕਰਵਾਏ ਗਏ ਸਿਲੇਬਸ ਦੀ ਦੁਹਰਾਈ ਕਰੋ।
 - 4• ਨਿੱਜੀ ਪੱਤਰ
- ਮਿੱਤਰ / ਸਹੇਲੀ ਨੂੰ ਦਸਵੀਂ ਜਮਾਤ ਵਿੱਚੋਂ ਮੈਰਿਟ 'ਤੇ ਆਇਆ ਹੈ, ਉਸ ਨੂੰ ਵਧਾਈ ਦਿੰਦੇ ਹੋਏ ਪੱਤਰ ਲਿਖੋ।

- ਆਪਣੇ ਪਿਤਾ ਜੀ ਨੂੰ ਚਿੱਠੀ ਲਿਖੇ ਜਿਸ ਵਿੱਚ ਇਹ ਦੱਸੋ ਕਿ ਤੁਸੀਂ ਦਸਵੀਂ ਪਾਸ ਕਰਨ ਉਪਰੰਤ ਤੁਸੀਂ ਕੀ ਕਰਨਾ ਚਾਹੁੰਦੇ ਹੋ।
- ਵਿਦੇਸ਼ ਗਏ ਪਿਤਾ ਜੀ ਨੂੰ ਮਾਤਾ ਜੀ ਦੀ ਸਿਹਤ ਖਰਾਬ ਹੋ ਗਈ ਹੈ ਉਸ ਬਾਰੇ ਦੱਸਦੇ ਹੋ ਜਲਦੀ ਵਾਪਸ ਘਰ ਪਰਤਣ ਲਈ ਪੱਤਰ ਲਿਖੋ।
- ਚਾਚਾ ਜੀ ਨੂੰ ਜਨਮਦਿਨ ਤੇ ਭੇਜੇ ਤੋਹਫੇ ਲਈ ਧੰਨਵਾਦ ਪੱਤਰ ਲਿਖੋ।
- ਪਿਤਾ ਜੀ ਨੂੰ ਪੱਤਰ ਲਿਖ ਕੇ ਆਪਣਾ ਮਹੀਨਾ ਖਰਚ ਵਧਾਉਣ ਲਈ ਲਿਖੋ। (ਸਕੂਲ ਦੀ ਕਾਪੀ ਉੱਤੇ)

5• ਲੇਖ ਵਿਚਾਰ ਪ੍ਰਧਾਨ

ਨਾਨਕ ਦੁਖੀਆ ਸਭ ਸੰਸਾਰ

ਜਿਹੀ ਸੰਗਤ ਤਿਹੀ ਰੰਗਤ

ਬੱਚਿਆਂ ਦਾ ਮਾਂ ਬਾਪ ਪ੍ਰਤੀ ਫਰਜ

ਫਾਸਟ ਫੂਡ ਦੇ ਨੁਕਸਾਨ

(ਸਕੂਲ ਦੀ ਕਾਪੀ ਉੱਤੇ)

6• ਪੋਰਟਫੋਲੀਓ ਬਣਾਓ

1 ਸਕੂਲ ਯੂਨੀਫਾਰਮ ਵਿੱਚ ਤਸਵੀਰ ਚਿਪਕਾ ਕੇ ਆਪਣਾ ਨਾਂ ਲਿਖੋ।

2. ਜਨਮ ਮਿਤੀ

3. ਜਮਾਤ ਸੈਕਸ਼ਨ

4. ਰੋਲ ਨੰਬਰ

5. ਸਕੂਲ ਦਾ ਨਾਂ

6. ਕੱਦ

7 ਸਕੂਲ ਦਾ ਦਾਖਲਾ ਨੰਬਰ

8 ਬਲੱਡ ਗਰੁੱਪ

9 ਆਧਾਰ ਕਾਰਡ

10 ਪਿਤਾ ਦਾ ਨਾਂ

11 ਮਾਤਾ ਦਾ ਨਾਮ

12 ਫੋਨ ਨੰਬਰ

13 ਪਰਿਵਾਰਕ ਮੈਂਬਰਾਂ ਦੀ ਗਿਣਤੀ

14 ਘਰ ਦਾ ਪਤਾ

15 ਮੈਂ ਇਹ ਪਸੰਦ ਨਹੀਂ ਕਰਦਾ ਹਾਂ।

16 ਮੇਰੀ ਤਾਕਤ

17 ਮੇਰੀ ਕਮਜ਼ੋਰੀ

18 ਮੇਰੀ ਮਨ ਪਸੰਦ ਖੇਡ

19 ਮੇਰਾ ਸ਼ੌਂਕ

20 ਮਾਤਾ ਪਿਤਾ ਬਾਰੇ

21 ਮੇਰੀ ਜ਼ਿੰਦਗੀ ਦਾ ਉਦੇਸ਼

22 ਮੈਨੂੰ ਡਰ ਲੱਗਦਾ ਹੈ

23 ਮੇਰਾ ਪੱਕਾ ਮਿੱਤਰ

Subject-Hindi

ਪ੍ਰਸਤੁਤਿ ਕਾ ਤਰੀਕਾ -- ਸਕ੍ਰੈਪਬੁਕ/ ਪ੍ਰੋਜੇਕਟ ਫਾਇਲ/ ਸੁਲੇਖ ਕੇ ਲਿਏ ਨੋਟਬੁਕ

ਪ੍ਰਸਤੁਤਿ ਕੇ ਸੁਝਾਵ ਪ੍ਰਥੋ ਕੋ ਕਲਰਫੁਲ ਬਨਾਏ/ ਸ਼ੀਰਸ਼ਕ ਕੋ ਰਚਨਾਤਮਕ ਬਨਾਏ /ਝਮੋਜੀ, ਸਟੀਕਰ ਯਾ ਛੋਟੀ ਡੂਡਲ ਆਰਟ ਸ਼ਾਮਲ ਕਰੋਂ ।

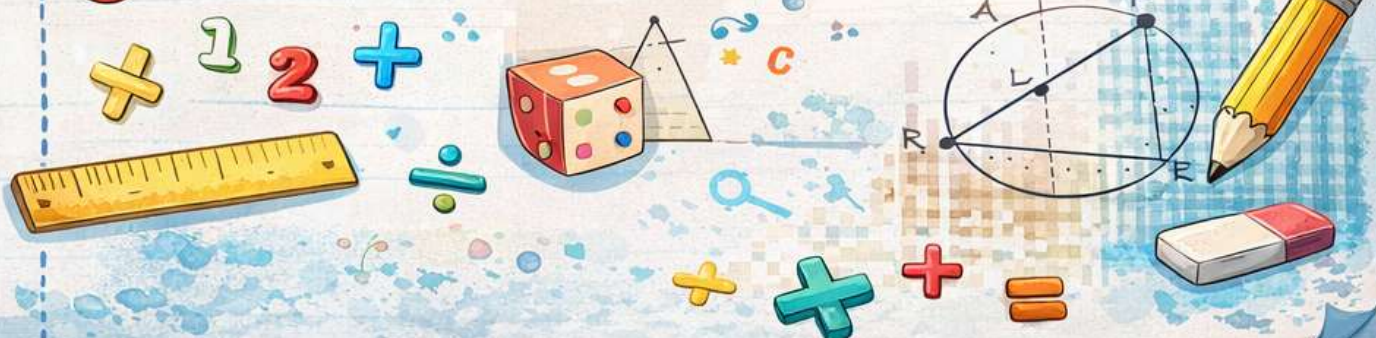
ਮੇਰੀ ਨਜਰ ਮੇਂ ਆਦਰਸ਼ਸ਼ਿਕਸ਼ਕ ਏਕ ਰਚਨਾਤਮਕ ਲੇਖ ਲਿਖਿਏ* *ਜਬ ਮੈਂਨੇ ਪਹਲੀ ਬਾਰ ਕਿਸੀ ਕੀ ਮਦਦ ਕੀ* ਡਾਯਰੀ ਸ਼ੈਲੀ ਮੇਂ 100-120 ਸ਼ਬਦੋਂ ਮੇਂ ਅਪਨੇ ਅਨੁਭਵ ਸਾਂਝਾਂ ਕਰੋਂ ।

Subject-Maths

CLASS X HOLIDAY HOMEWORK

MATH ACTIVITY PORTFOLIO

- 1 To find the HCF of two numbers experimentally based on Euclid Division Lemma.
- 2 To draw the graph of a quadratic polynomial and observe:
(i) The shape of the curve when the coefficient of x^2 is positive.
(ii) The shape of the curve when the coefficient of x^2 is negative. (iii) Its number of zeroes.
- 3 To verify the conditions of consistency/inconsistency for a pair of linear equations in two variables by graphical method.
- 4 To find the sum of first n natural numbers.
- 5 To verify the distance formula by graphical method.
To establish the criteria for similarity of two triangles.
- 6 To verify experimentally that the tangent at any point to a circle is perpendicular to the radius through that point.
- 7 To find the height of a building using a clinometer.
- 8 To find the height of a building using a clinometer.



Class X Mathematics Holiday Homework

Chapters Covered: Real Numbers, Polynomials, Statistics & Probability

General Instructions:

- Attempt all questions neatly in your notebook.
 - Show complete calculations wherever required.
 - Use proper formulas and steps.
 - Maintain neat handwriting and presentation.
-

Real Numbers

- Q1.** Find the HCF of 96 and 404 using Euclid's division algorithm.
- Q2.** Express 144 as a product of its prime factors.
- Q3.** Check whether $7 \times 11 \times 13 + 13$ is a composite number.
- Q4.** Find the LCM and HCF of 24 and 90.
- Q5.** Using prime factorisation, find the cube root of 1728.
- Q6.** Determine whether $\sqrt{5}$ is irrational.
- Q7.** Find the decimal expansion of $13/125$.
- Q8.** State whether the decimal expansion of $7/18$ is terminating or non-terminating recurring.

Polynomials

- Q9.** Find the zeroes of the polynomial $x^2 - 5x + 6$.
- Q10.** Verify the relationship between zeroes and coefficients for $x^2 - 7x + 10$.
- Q11.** Divide $x^3 - 3x^2 + 5x - 3$ by $x - 1$.
- Q12.** Find the remainder when $p(x) = x^3 - 4x + 1$ is divided by $x + 2$.
- Q13.** Factorise $x^2 + 7x + 12$.
- Q14.** Find a quadratic polynomial whose zeroes are 2 and -3 .
- Q15.** Check whether $x + 2$ is a factor of $x^3 + 8$.
- Q16.** Find the value of k if $x - 2$ is a factor of $x^2 + kx + 4$.

Statistics (Latest Syllabus Based)

- Q17.** Find the mean of the following distribution using direct method: 10, 20, 30, 40, 50

Q18. Calculate the mean of the grouped data given below.

Class Interval	Frequency
0 – 10	5
10 – 20	8
20 – 30	7

Q19. Find the median of the data: 12, 15, 18, 20, 22, 25, 28

Q20. Find the median of the grouped data given below.

Class Interval	Frequency
0 – 10	4
10 – 20	6
20 – 30	10
30 – 40	5

Q21. Find the mode of the data: 6, 7, 8, 8, 8, 9, 10, 11

Q22. Find the modal class from the grouped data given below.

Class Interval	Frequency
10 – 20	7
20 – 30	12
30 – 40	9

Q23. Construct a cumulative frequency table for the following data: 5, 10, 15, 20, 25, 30

Probability

Q24. Find the probability of getting a head when a coin is tossed once.

Q25. A die is thrown once. Find the probability of getting an even number.

Q26. Find the probability of drawing a red card from a deck of cards.

Q27. A bag contains 5 red balls and 3 blue balls. Find the probability of selecting a blue ball.

Q28. Find the probability of getting a prime number on throwing a die.

Q29. A coin is tossed twice. Find the probability of getting two heads.

Q30. A card is drawn from a pack of cards. Find the probability of getting a king.

“Practice is the bridge between concepts and confidence.”