



**SURAJ
SCHOOL
MANESAR**

**SURAJ
EDUCATION**

*Summer
Vacation*
**HOLIDAY
HOMEWORK**

SESSION 2026-27

EXPLORE

LEARN

ENJOY

GROW

Make your vacation
meaningful, fun-filled
and full of learning!

Name : _____

Class & Section : _____

Roll No. : _____

READ

LEARN

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Mathematics

General Instructions:

All questions are compulsory

Use of calculator is not permitted

Draw neat diagrams wherever required

Write step-by-step solutions

Section A ($1 \times 10 = 10$ Marks) – Very Short Answer

1. Express $0.333\dots$ in p/q form

2. Find $\sqrt{49}$

3. Define polynomial

4. Write coordinates of origin

5. If $x = 2$, find value of x^2

6. Define axiom

7. Define complementary angles

8. Sum of angles of triangle

9. Write any irrational number

10. Degree of polynomial $x^3 + 2x^2$

Section B ($2 \times 10 = 20$ Marks) – Short Answer

1. Find 3 rational numbers between 2 and 3

2. Simplify: $(\sqrt{5} + \sqrt{2})^2$

3. Find zeroes of $x^2 - 5x + 6$

4. Plot point (2,3) and state its quadrant

5. Find 2 solutions of $x + y = 5$

6. Define line segment and ray

7. If one angle is 30° , find its complement

8. Find perimeter of triangle with sides 3,4,5

9. Rationalize: $1/\sqrt{3}$

10. Define vertically opposite angles

Section C ($4 \times 10 = 40$ Marks) – Long Answer

1. Prove that $\sqrt{2}$ is irrational

2. Factorize: $x^3 - 27$ and verify

3. Plot points A(2,3), B(-2,3), C(-2,-3), D(2,-3). Identify the figure formed
4. Draw graph of $x + y = 4$ and find its intercepts
5. Explain Euclid's 5th postulate with example
6. If two lines intersect and one angle is 60° , find all angles
7. Verify triangle inequality for sides 5, 6, 7
8. Find zeroes of $x^2 + 7x + 10$ and verify relationship
9. Explain difference between axiom and theorem
10. Find 3 solutions of $2x + y = 6$ and plot them

Section D (HOTS) ($5 \times 2 = 10$ Marks)

1. Can sum of two irrational numbers be rational? Give example
2. Can a polynomial have more zeroes than its degree? Explain
3. Can a point lie in two quadrants at once? Justify
4. If two angles are supplementary and equal, find each
5. Can a triangle have angles 100° , 50° , 40° ? Why?

Section E (Case Study) (5 Marks)

1. A student measures a rectangular field using coordinate geometry:
2. Points are A(0,0), B(4,0), C(4,3), D(0,3)
3. What shape is formed?
4. Find length AB and BC
5. Find perimeter of field
6. Is it a square? Justify

Science

Section A :-

1. The basic unit of life is:
 - a) Tissue
 - b) Organ
 - c) Cell
 - d) Organ system
2. Which organelle is known as the powerhouse of the cell?
 - a) Nucleus
 - b) Ribosome

c) Mitochondria

d) Vacuole

3. Diffusion becomes faster when:

a) Temperature decreases

b) Temperature increases

c) Air is removed

d) Volume decreases

4. Which state of matter has maximum intermolecular space?

a) Solid

b) Liquid

c) Gas

d) Plasma

5. Phloem transports:

a) Water

b) Minerals

c) Food

d) Oxygen

6. The process of conversion of solid directly into gas is called:

a) Condensation

b) Fusion

c) Sublimation

d) Evaporation

7. Which of the following is a homogeneous mixture?

a) Soil

b) Milk

c) Salt solution

d) Smoke

8. White blood cells help in:

a) Clotting

b) Transport of oxygen

c) Immunity

d) Digestion

9.The tissue responsible for movement is:

- a) Nervous tissue
- b) Muscular tissue
- c) Epithelial tissue
- d) Connective tissue

10.Which method is used to separate cream from milk?

- a) Filtration
- b) Distillation
- c) Centrifugation
- d) Sublimation

Section B – Very Short Answer Questions

- 1.Name the outer covering of a plant cell.
- 2.Define evaporation.
- 3.Name the tissue that connects bone to bone.
- 4.What is cytoplasm?
- 5.Name one pure substance.
- 6.Which tissue transports water in plants?
- 7.What happens to particles of matter on heating?
- 8.Define solution.

Section C – Short Answer Questions

- 1.Differentiate between plant cell and animal cell.
- 2.Why are lysosomes called suicidal bags?
- 3.State any two characteristics of particles of matter.
- 4.Differentiate between evaporation and boiling.
- 5.What are meristematic tissues? Name their types.

Section D – Long Answer Questions

- 1.Explain the structure and functions of nucleus.
- 2.Explain the factors affecting evaporation.
- 3.Make a chart on (a)Differentiate between true solution, suspension and colloid on the basis of:
 - (a)Nature of mixture
 - (b)Visibility of particles

(c)Tyndall effect

OR

Make a chart on separation techniques.

PHYSICS

1. Do back exercise of chapter work, energy and simple machines.

2. Paste or draw pictures of:

* Lever

* Pulley

* Wheel and axle

* Inclined plane

* Screw

* Wedge

3. Prepare a colourful chart on:

* “Forms of Energy” OR

* “Simple Machines Around Us”

4. Write five daily-life examples where simple machines are used.

5. Make 3D Working Model

Choose any one:

1. Pulley Lift System

2. Hydraulic Lift

3. Inclined Plane Model

4. Lever Working Model

SST

Section-A

Answer the following questions (words limit 100 words?)

1.How does studying history help us make better decisions in present-day life?

2.Explain how ancient Indian education systems can inspire modern education.

3.What lessons can modern leaders learn from Emperor Ashoka's.

Section-B

Activity:1 Family history project ,

Interview your grandparents or elder and write:

Important historical events they witnessed

Changes in education, transport, technology, and lifestyle

Comparison between past and present life.

Activity 2: Historical Observation

Visit any nearby historical place, museum, monument, or memorial and write:

Historical importance

Architecture and design

What you learned from the visit

How such places connect us to our heritage.

Section-C

Creative Thinking Questions (100 words)

If you could meet any historical leader, whom would you choose and what would you ask them?

Imagine India without the freedom struggle. How would life be different today?

Which historical event teaches the greatest lesson about unity? Explain.

●Section D – Skill Development Task

Prepare any one of the following:

Timeline chart of Indian freedom struggle

Poster on “Save Historical Monuments.

ENGLISH

Instructions

Complete all tasks in regular school notebook

Write neatly and honestly.

Add pictures wherever possible.

Focus on observation and real-life learning.

1. Daily Conversation Practice

Talk in English with your family/friends for 15 minutes daily.

Write a short weekly reflection on:

What you spoke about

New words you used

Difficulty faced

2. Interview an Elder

Interview your grandparents/parents or any elder on:

“What was life like when you were my age?”

Ask at least 8 questions.

Write:

Their answers

What surprised you

What lesson you learned

3. Read and Reflect

Read any one motivational book / biography / newspaper articles for 7 days

Examples:

Wings of Fire

Newspaper editorials

Short inspirational stories

Write:

What you read

Three important learnings

How it can help your life

4. Household Responsibility Challenge

Take responsibility for one household task for 10 days.

Examples:

Organising your study table

Helping in kitchen

Watering plants

Teaching younger sibling

Write a short report:

Task performed

Challenges faced

What you learned

5. Digital Detox Activity

Stay away from mobile/social media for 3 hours daily for one week.

Maintain a record:

Day

What I did instead

How I felt

Then write:

“How reducing screen time changed my routine.”

6. Observe Your Surroundings

Observe your locality and identify 5 real-life problems

Examples:

Garbage disposal

Water wastage

Traffic discipline

Noise pollution

For each, write:

Problem

Cause

Practical solution

7. Kindness Journal

Perform one act of kindness daily for 7 days

Examples:

Helping someone

Sharing notes

Respecting workers

Helping at home

Write what you did and how it made you feel.

8. Self-Improvement Reflection

Write a self-analysis on:

“Three habits I need to improve as a student.”

Also write your action plan.

9. Real-Life Vocabulary Hunt

Collect 25 English words from:

Newspaper

Advertisements

Product labels

Public notices

Write meanings and where you found them.

10. Vision Board

Prepare a creative chart/file page on:

“My Goals for Class 9 and Beyond”

Include:

Academic goals

Personal goals

Skills to learn

Career dream

HINDI

1. निम्नलिखित विषय पर अनुच्छेद लेखन कीजिए -

1. पर्यावरण संरक्षण

2. डिजिटल शिक्षा

2. अपने मित्र को ग्रीष्मावकाश कैसे बिताया इस विषय पर अनौपचारिक पत्र लिखें ।

3. दी गई व्याकरण की अभ्यास पत्रिका उत्तर पुस्तिका में कीजिए ।

4. पाठ्य पुस्तक के कराए गए काव्य , गद्य के प्रश्न उत्तर दोहराए ।

प्रश्न 1. निम्नलिखित शब्दों में से मूल शब्द और उपसर्ग छाँटिए -

1 प्रतिकूल

2 सु यश

3 कुपुत्र

4 अनपढ़

प्रश्न 2. नीचे दिए गए शब्दों में से प्रत्यक्ष और मूल शब्द अलग-अलग करके लिखिए

1 ईर्ष्यालु

2 ओढ़नी

3 मनुष्यत्व

4 कड़वाहट

5 जादूगर

प्रश्न 3. निम्नलिखित वाक्यों को निर्देशानुसार बदलिए।

1. मैं अपने प्यारे बेटे को नहलाऊंगी। (निषेध वाचक)

2. भोजन स्वादिष्ट है। (प्रश्नवाचक)

3. तुम नीचे बैठ गए। (आज्ञावाचक)

4. क्या तुम्हारे अध्यापक करते हैं? (विस्मयवाचक)

प्रश्न 4. अपने मित्र को जन्म दिवस पर निमंत्रित करते हुए पत्र लिखिए

COMPUTER

1. Explain the communication cycle with a suitable diagram and examples.

2. Explain the correct sitting posture and keyboard placement while typing.

3. What is stress? Explain any five stress management techniques.

4. Describe the various services offered under IT-enabled services with examples.

Explain the importance of typing speed and accuracy. Mention methods to improve them.

Learn by Doing

1. Digital Poster Creation

Create a poster on Cyber Safety.

2. Household Data Survey

Survey 10 families and create charts in Excel.

3. AI Tool Exploration Explore an AI tool and write observations.

4. Create Resume Design your resume.

5. File Management Perform file management tasks with screenshots