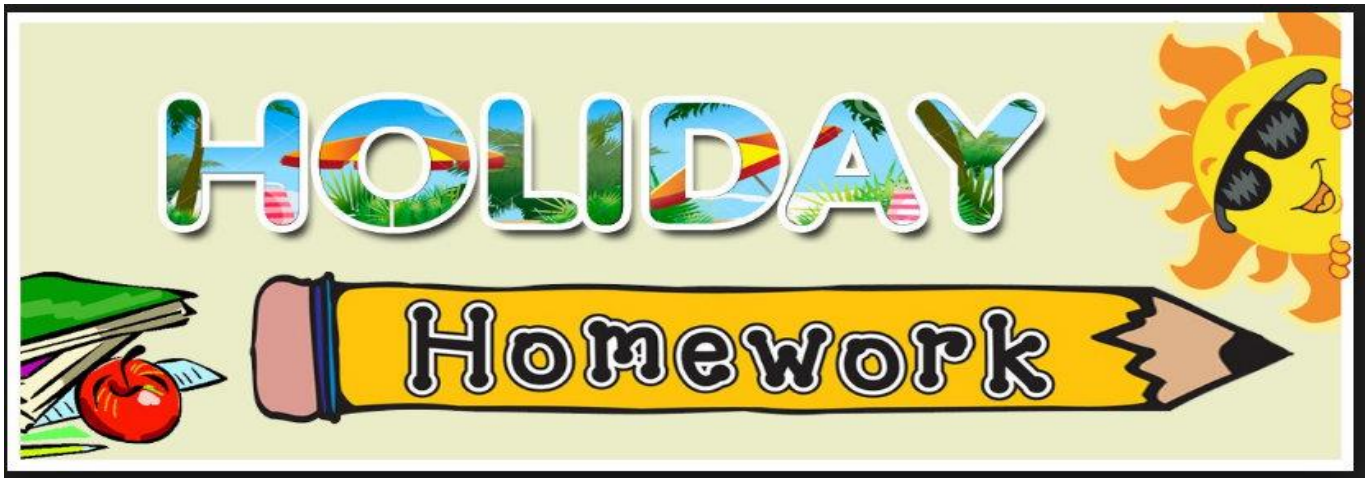
Aff. No. - 531572
Aff. to C.B.S.E. New Delhi
Delhi Road, Near Flyover, Ch. Dadri
Mob.8708451933, 9991038930 I apsdadri@gmail.com

APS SR. SEC. SCHOOL



Message from School: - We at APS SR. SEC. SCHOOL have planned certain assignments, projects, and revision work for you to make the winter holidays productive, enjoyable, and meaningful.
The holiday homework is designed on the principle of learning by doing, keeping in mind your holistic development.

General Instructions

- Appreciate Nature (Winter Edition)
  Enjoy morning sunlight, short walks, or time in open spaces to stay active and positive.
- Good Manners Matter

Respect your parents, grandparents, teachers, and elders. Always use the three magical words: Please, sorry, and Thank You.

- Stay Fit, Stay Warm

Engage in indoor or outdoor games suitable for winter. Keep yourself active and maintain a healthy routine.

- Learn About Our Heritage & Culture

Read books, watch educational programs or explore stories related to India's culture, festivals, and traditions.

- Care for Nature Save electricity, water, and fuel during winter. Switch off heaters, lights, and appliances when not in use.

Must Do

i) Eat healthy, warm food and drink enough water daily.

ii) Limit screen time and avoid excessive use of mobile phones and TV.

iii) Revise the syllabus already taught in class.

iv) Practice reading and writing daily (English and Hindi).

v) Help your parents in daily household activities (organizing books, arranging cupboards, watering plants, etc.).

vi) Maintain a regular sleep schedule and wake up early.

vii) Spend quality time with family members and share your thoughts.

Note to Students

Make this winter break a time to learn, reflect, improve habits, and stay healthy. Return to school refreshed, confident, and ready to learn.

Happy Winter Holidays! ❄📚

WINTER HOLIDAYS HOMEWORK

SESSION - 2025-2026

CLASS - 11th Non-Medical

English

READING AND WRITING

1. Write Notices on the following occasions (three of each category)

a. Tours
b. Sports
c. Cultural / Extra- curricular activities
d. Lost & Found
e. Appeals

2. Draft advertisements on the following topics (three of each category)

a. Situation Vacant
b. Situation Wanted
c. Sale and Purchase
d. Lost & Found
e. Matrimonial

3. Draft posters to create awareness on the following topics:

a. Measures and prevention of Covid 19
b. Prevention of Drug Abuse
c. Violence Against Women
d. Fire Safety and prevention

4. Write Formal letters on the following topics (three of each category)

a. Complaint
b. Editor

c. Placing order
d. Enquiry
e. Job Application

5. Write articles on the following topics (Word-limit 150- 200)

a. My vision of future India
b. Digital education in India
c. Women safety in India
d. 50- years of Earth Day

Physics

Chapter 1: Physical World

1.Explain the scope of Physics in science and technology with suitable examples.

2.Write any four fundamental forces in nature and mention one example of each.

Chapter 2: Units and Measurements

1.Derive the formula for propagation of errors in the product of two quantities.

2.Find the dimensional formula of gravitational constant.

3.The radius of a sphere is measured as (2.50 ± 0.02) cm.Calculate the percentage error in its volume.

Chapter 3: Motion in a Straight Line

1.Derive the three equations of motion using graphical method.

2.A particle starts from rest and accelerates uniformly at 2 m/s^2.Find the distance travelled in 10 s.

3.A particle moves with velocity

v= 3t^2-4t+5

Find its acceleration at t= 2 sec.

Chapter 4: Motion in a Plane

1.State and explain the triangle law of vector addition with diagram.

2.Two forces of 6 N and 8 N act at right angles to each other.Find the magnitude of the resultant force.

3.Derive the expression for the resultant of two vectors acting at an angle theta.

Chapter 5: Laws of Motion

1.State and explain Newton’s three laws of motion.

2.Derive the relation using Newton’s second law of motion.

3.A body of mass 5 kg is acted upon by a force of 10 N. Find the acceleration produced.

Chapter 6: Work, Energy and Power

1.State and prove the work–energy theorem.

2.Derive the expression for kinetic energy.

3.A body of mass 2 kg is moving with a velocity of 10 m/s.Find its kinetic energy.

Chapter 7: System of Particles and Rotational Motion

1.Derive the expression for centre of mass of a two-particle system.

2.A force of 10 N acts at a perpendicular distance of 0.5 m from the axis.Calculate the torque produced.

Chapter 8: Gravitation

1.State Newton’s law of gravitation and write its mathematical form.

2.Derive the expression for acceleration due to gravity.

3.Derive the expression for escape velocity.

Chapter 9: Mechanical Properties of Solids

1.Define stress and strain. Derive the relation between them.

2.A wire of original length 2 m is stretched by 1 mm.Calculate the strain produced.

Chapter 10: Mechanical Properties of Fluids

1.State and explain Pascal’s law.

2.Derive Bernoulli’s theorem.

3.Calculate the pressure at a depth of 10 m in water, density 1000 kg/m^3

Chapter 11: Thermal Properties of Matter

1.Define specific heat capacity and write its SI unit.

2.Derive the expression for heat absorbed by a substance.

3.Calculate the heat required to raise the temperature of 2 kg of water from 20°C to 60°C.

Chapter 12: Thermodynamics

1.State and derive the first law of thermodynamics.

2.Find out work done in an adiabatic expension process.

Chapter 13: Kinetic Theory

1.Write any two assumptions of kinetic theory of gases.

2.Derive the expression for pressure exerted by a gas on the walls of a container.

3.Find out the degree of freedom for monoatomic, diatomic and triatomic gas.

Chapter 14: Oscillations

1.Define simple harmonic motion.

2.Derive the expression for time period of a simple pendulum. Also fine the equations for displacement, velocity and acceleration in S.H.M.

3.A pendulum has a time period of 2 s.

Calculate its effective length.

Chapter 15: Waves

1.Define wavelength and frequency. Explain the two main properties of a wave

2.Derive an expression for speed of wave in a stretched string.

3.A wave travels with a speed of 340 m/s and frequency 170 Hz. Find its wavelength.

Note: Pratice NCERT exercise questions for all chapters. (In rough notebook)

Note: Solve all given (Homework questions) in your fair notebook

Chemistry

1. Complete Chemistry Practical File.
2. Solve PYQ of unit – Organic Chemistry of exercise – 3 from Resonance Book.

Assignment-

A. Very Short Answer Questions

1. Define organic chemistry.
2. What is a homologous series?
3. Write the general formula of alkanes.
4. What is catenation?
5. Define functional group with one example.
6. What is the IUPAC name of CH_4?
7. What is the valency of carbon?
8. Name the reagent used to detect nitrogen in an organic compound.
9. What is isomerism?
10. Write the molecular formula of ethanol.

B. Short Answer Questions (2–3 marks)

1. Explain the tetravalency of carbon.

2. What are functional groups? Give two examples.
3. Write a note on homologous series and its characteristics.
4. Differentiate between empirical and molecular formula.
5. What is chain isomerism? Give one example.
6. Write the rules for naming organic compounds (IUPAC).
7. What is qualitative analysis in organic chemistry?
8. Name the methods used for purification of organic compounds.
9. Explain the principle of chromatography.
10. What is quantitative analysis of organic compounds?

C. Long Answer Questions (4–5 marks)

1. Explain the classification of organic compounds with examples.
2. Describe the various types of isomerism found in organic compounds.
3. Explain the IUPAC nomenclature of alkanes with suitable examples.
4. Discuss the methods used for purification of organic compounds.
5. Explain the detection of carbon and hydrogen in an organic compound.
6. Describe the estimation of nitrogen by Kjeldahl's method.
7. Write a detailed note on the structural representation of organic compounds.
8. Explain the techniques used for separation of organic mixtures.

D. Numerical / Analytical Questions

1. Calculate the percentage of carbon in methane (CH_4).
2. An organic compound contains 40% carbon, 6.7% hydrogen and 53.3% oxygen. Find its empirical formula.
3. Calculate the molecular formula of a compound whose empirical formula is CH_2 and molecular mass is 28.

E. Case Study–Based Question

Carbon plays a unique role in the formation of organic compounds.

Due to its tetravalency and catenation property, it forms a large number of compounds.

Questions:

a) What is tetravalency?
b) What is catenation?
c) Why does carbon form long chains?
d) Name two organic compounds formed due to catenation.

Mathematics

Learn all identities.
Do practice from R.D Sharma of Trigonometry, Ellipse, Parabola, Circles, Straight line and derivative chapter.
Also do practice from resonance minimum 50 questions on per day.

Computer

1. Make any ppt on Python (Minimum 5 slide)
2. Make a laptop with the help of thermocol and cardboard

3. Learn Ch 1 Computer system, Ch 2 Software, Ch 3 Number system, Ch 4 Boolean logic, Ch 5 Basics of Python, Ch 6 String, Ch 7 List, Ch 8 Dictionary