RECOGNISED

Delhi National Public School

Session :2026-2027

Holiday Homework

Class : XI

Don’t stop until you are proud of yourself.”

SUMMER HOLIDAY

DEAR PARENTS,

HOLIDAYS ARE SPECIAL BREAKS FROM OUR EVERYDAY SCHEDULES, AND WE ALL EAGERLY AWAIT THEM. FINALLY, THE MUCH-AWAITED SUMMER VACATIONS ARE HERE! THE HOT, WINDY DAYS OF MAY AND JUNE MAKE US ALL EXCITED FOR THIS LONG BREAK, A TIME TO RELAX AND HAVE FUN.

IT'S A GREAT TIME FOR YOU TO CHERISH THE LITTLE JOYS OF YOUR CHILD. IT'S IMPORTANT TO LIMIT SCREEN TIME AND SUPERVISE THE CHANNELS YOUR CHILD WATCHES. PROVIDE VALUABLE GUIDANCE AND SPEND QUALITY TIME WITH THEM. MAKE THESE HOLIDAYS MEMORABLE BY CREATING A NURTURING AND STIMULATING ENVIRONMENT AT HOME THAT IS FULL OF FUN, EXCITEMENT, AND LEARNING. HERE ARE A FEW SUGGESTIONS FOR PARENTS:

ENGAGE IN MEANINGFUL CONVERSATIONS EVERY DAY.
READ A VARIETY OF STORYBOOKS.
ASSIGN SMALL HOUSEHOLD RESPONSIBILITIES TO HELP THEM BECOME INDEPENDENT.
TEACH THEM THE IMPORTANCE OF MORAL VALUES IN THEIR LIVES.
PARTICIPATE IN VARIOUS INDOOR GAMES WITH THEM. WHILE IT'S CRUCIAL TO TAKE BREAKS AND HAVE FUN, IT'S EQUALLY IMPORTANT TO KEEP LEARNING. FIND A BALANCE BETWEEN WORK AND PLAY, AND LET YOUR CHILD GROW ALONG THE WAY.

THE OBJECTIVE OF HOLIDAY HOMEWORK IS TO EMPOWER OUR STUDENTS TO WORK INDEPENDENTLY AND ENHANCE THEIR ACADEMIC ABILITIES. PLEASE TAKE NOTE:

PREPARE A SYSTEMATIC TIMETABLE AND FOLLOW IT RELIGIOUSLY FROM THE VERY FIRST DAY.
ALLOW THEM TO COMPLETE THEIR HOMEWORK ON THEIR OWN UNDER YOUR GUIDANCE.
REMEMBER TO CAPTURE THE FUN MOMENTS WHILE ENGAGING IN THE GIVEN ACTIVITIES AND PASTE THE CORRESPONDING PICTURES IN YOUR ALBUM!.

Subject: Physics

SECTION A: CONCEPTUAL & THEORETICAL QUESTIONS

1. State two limitations of dimensional analysis. Mention distinct scenarios where this methodology fails to provide an unambiguous physical formulation.
2. Identify and name two physical quantities that possess a standard operational unit but remain completely dimensionless.
3. What physical parameter does the slope of a velocity-time (v-t) graph represent? Briefly explain its significance.
4. Derive the standard equations of motion ($v = u + at$, $s = ut + \frac{1}{2}at^2$, and $v^2 - u^2 = 2as$) using the structured graphical method.
5. Write down the rigorous dimensional formulas for the following physical quantities:
   (a) Luminous intensity
   (b) Planck's constant (h)
   (c) Latent heat (L)
   (d) Universal Gravitational constant (G)

SECTION B: DIMENSIONAL ANALYSIS & MODEL BUILDING

1. If position $X = a + bt^2$, where X is measured in meters and t is in seconds, determine the absolute SI units and dimensional formula of the constants a and b.
2. If Length (L), Time (T), and Energy (E) are explicitly taken as fundamental base units instead of standard mass, length, and time, calculate and establish the new dimension of Mass (M).
3. Alternatively, if Force (F), Velocity (v), and Time (T) are selected as foundational base units, evaluate and determine the corresponding dimensional formula for mass.
4. The escape velocity (v) of a celestial body depends fundamentally on (i) the acceleration due to gravity (g) of the planet, and (ii) the radius (R) of the planet. Establish the exact functional relation dimensionally.
5. The frequency (ν) of vibration of a stretched string depends on: (i) tension (T) acting in the string, (ii) mass per unit length (m) of the string, and (iii) the vibrating length (l) of the string. Derive its dimensional formula.
6. If E, M, J, and G denote total energy, mass, angular momentum, and the gravitational constant respectively, prove or calculate the final dimensions of the composite expression: $P = E J^2 M^{-5} G^{-2}$.
7. Derive an expression for the centripetal force (F) acting on a particle of mass m moving with a uniform velocity v in a perfectly circular path of radius r using dimensional consistency principles.
8. Calculate the individual dimensions of the product parameters $a \times b$ from the given real relation: $P = (b - x^2) / (at)$, where P denotes power, x indicates linear distance, and t represents time.

SECTION C: UNIT CONVERSIONS & SIGNIFICANT FIGURES

1. Execute the following systematic unit conversions using standard dimensional conversion techniques:
   i. Convert a linear acceleration of $3\ ms^{-2}$ directly into $km\ h^{-2}$.
   ii. Convert the Gravitational constant $G = 6.67 \times 10^{-11}\ N\ m^2\ kg^{-2}$ into CGS units ($cm^3\ g^{-1}\ s^{-2}$).

2. A calorie is a conventional unit of heat/energy equal to roughly *4.2 J*, where *1 J = 1 kg m2 s-2*. Suppose we employ a customized system of units where the unit of mass equals *α kg*, the unit of length is *β m*, and the unit of time is *γ s*. Show that a calorie has a magnitude of *4.2 α-1β-2γ2* in this new system.

3. Evaluate the magnitude of a *100 J* energy workload on a specialized system that utilizes *20 cm*, *250 g*, and *0.5 minute* as its standard fundamental base units of length, mass, and time respectively.

4. State the exact number of significant figures contained within each of the following measured values:
   (i) *2.64 × 1024*
   (ii) *0.056300*
   (iii) *3690*
   (iv) *5010.30*

5. Apply proper precision and arithmetic rules for significant figures to solve the following practical tracking problems:
   i. A vehicle runs a total distance of *1200 m* in exactly *22.5 s*. Calculate its average speed to the correct significant figure.
   ii. The measured volume of a single laboratory sphere is *2.42 cm3*. Compute the total combined volume of *15* such identical spheres taking into account significant precision limits.
   iii. The length of a rectangular block is measured as *2.5 m* and its breadth is *1.75 m*. Compute the total surface area of the block taking into account significant figures.

Note: Complete this assignment systematically on standard A4 sheets. Internal assessments will evaluate step-by-step clarity.

Biology

1. Make a chart on classification of taxonomy critegories with example.
2. Make an assignment on five kingdom classification proposed by R.H.Whittaker.(eg. Kingdom monera, protista etc.)
3. Make a list of organisms with their taxonomic categories.

Subject: Chemistry

GENERAL INSTRUCTIONS:

- All questions are compulsory. Complete this assignment in a dedicated Chemistry homework notebook.
- Show clear, step-by-step calculations for all numerical problems, including formulas and proper SI units.
- Maintain clean presentation and neat handwriting throughout the assignment.

SECTION A: MULTIPLE CHOICE QUESTIONS

Q1. Number of significant figures in the number ***2.005*** is:

(a) 3 (b) 4

(c) 2 (d) 1

Q2. What will be the molality of the solution containing ***18.25 g*** of ***HCl*** gas in ***500 g*** of water?

(a) 0.1 m (b) 1 M

(c) 0.5 m (d) 1 m

Q3. The number of oxygen atoms in ***100 g*** of $CaCO_3$ is:

(a) 6.033×10^{23} (b) 9.033×10^{23}

(c) 8.033×10^{23} (d) None of these

Q4. The number of molecules in ***4.4 g*** of Carbon dioxide (CO_2) is:

(a) 3.0×10^{23} (b) 6.022×10^{22}

(c) $16/6.022 \times 10^{23}$ (d) $16/3.0 \times 10^{23}$

Q5. One molar solution contains 1 mole of solute in:

(a) 1000 g of the solvent (b) One litre of the solvent

(c) One litre of the solution (d) 22.4 litres of the solution

Q6. The formula which represents the simple ratio of atoms in a compound is called:

(a) empirical formula
(b) molecular formula
(c) structural formula
(d) rational formula

Q7. Number of atoms in ***1.4 g*** of nitrogen gas (N_2) is:

(a) 1.20×10^{23}
(b) 3.01×10^{23}
(c) 6.02×10^{23}
(d) none of these

Q8. The litres of CO_2 represented by ***4.4 g*** of CO_2 at S.T.P. are:

(a) 2.4 litres
(b) 2.24 litres
(c) 44 litres
(d) 22.4 litres

Q9. Equal volumes of different gases under identical conditions of temperature and pressure have:

(a) equal densities
(b) equal masses
(c) equal atoms
(d) equal molecules

Q10. The empirical formula and molecular mass of a compound are CH_2O and ***180 g/mol*** respectively. What will be the molecular formula of the compound?

(a) $C_9H_{18}O_9$
(b) CH_2O
(c) $C_6H_{12}O_6$
(d) $C_2H_4O_2$

SECTION B: SHORT & LONG ANSWER PROBLEMS

Q11. To redefine the kilogram, scientists use extremely pure spheres of Silicon-28. If a silicon sphere has a mass of exactly ***1000.0 g***, calculate the total number of silicon atoms it contains. (Assume the atomic mass of Silicon-28 is ***28.0 Da***).

Q12.A standard aspirin tablet contains ***500 mg*** of acetylsalicylic acid. Given its average molecular mass is ***180.157 Da***, calculate the amount of substance (in moles) provided in one tablet.

Q13. Using the relationship that ***1 amu*** is approximately 1.66×10^{-24} ***g***, calculate the absolute mass in grams of a single atom of Carbon-12.

Q14. Which sample contains a greater total number of oxygen atoms: ***1 mole*** of glucose ($C_6H_{12}O_6$) or ***2 moles*** of carbon dioxide (CO_2)? Show your calculation steps clearly.

Q15. At Standard Temperature and Pressure (STP), a patient is administered ***5.6 L*** of an ideal anesthetic gas. Calculate the number of moles of gas delivered.

Q16. A cylinder contains ***11.2 L*** of hydrogen gas at STP. Calculate the total number of hydrogen atoms present in the cylinder.

Q17. A room contains ***128 g*** of sulfur dioxide gas. Determine the volume this gas would occupy at STP. (Atomic masses: ***S = 32***, ***O = 16***).

Q18. Calculate the number of nitrogen molecules present in ***12 L*** of nitrogen gas measured at Room Temperature and Pressure (r.t.p.), where the molar volume is ***24 L/mol***.

Q19. A garden fertilizer claims to have a phosphorus content of ***30.0%*** "soluble in water". Calculate the actual percentage by mass of the element phosphorus (***P***) in the fertilizer framework.

Q20. A ***15 g*** sample of hydrated sodium sulfate crystals ($Na_2SO_4 \cdot xH_2O$) is heated until all water of crystallization is removed, leaving a residue of ***7.95 g*** of anhydrous salt. Calculate the value of coefficient ***x***.

Q21. A liquid cleaning agent is analyzed and found to contain ***53.3%*** carbon, ***11.1%*** hydrogen, and ***35.6%*** oxygen by mass. Deduce its empirical formula.

Q22. An organic compound has the empirical formula CH_2 and a molar mass of ***228 g/mol***. Determine its molecular formula.

Q23. In the Haber process, how many grams of nitrogen gas (N_2) are required to produce exactly ***34 g*** of ammonia (NH_3)?

Q24. A student reacts ***10 mL*** of ***1 mol/L*** silver nitrate solution ($AgNO_3$) with excess potassium iodide (***KI***) to produce silver iodide precipitate (***AgI***). If the student actually collects ***2 g*** of precipitate, calculate the percentage yield. (Molar mass of ***AgI = 234.7 g/mol***).

Q25. A laboratory technician needs to prepare ***1.0 L*** of ***2.00 mol/L*** sulfuric acid (H_2SO_4) from a concentrated stock solution of ***8.00 mol/L***. Calculate the volume of the stock solution required.

हिंदी

१. हिंदी पाठ्यक्रम में से किसी एक लेखक का जीवन परिचय, साहित्यिक परिचय पर परियोजना कार्य करें।

२. अमेरिका और ईरान युद्ध के बारे में परियोजना कार्य करिए।

अथवा

आईपीएल 2026 विषय पर परियोजना कार्य।

निर्देश:-

१.परियोजना कार्य के लिए गत्ते वाली फाइल का प्रयोग करें।

२. परियोजना कार्य के लिए रंगीन ए- ४ सीट का प्रयोग करें।

३. परियोजना कर में चित्र का प्रयोग करें। ४. हिंदी में दोनों विषय पर परियोजना कार्य करना है।

ENGLISH

1. Read the newspaper daily to enrich your vocabulary.
2. Read some story books/ novels / Hornbill text/ Snapshot to develop your creative and reading skills.
3. Read the lesson 'A Portrait of a Lady ‘ & prepare a critical analysis on A-4 sheet.
4. Prepare a tense chart showing the conjugation of the verb ‘eat’ in all tense forms on A3 sheet and paste it in your English Register. Create separate columns for singular and plural forms of the 1st, 2nd, and 3rd persons, and fill in all the tense types for each person. Also, mention the formula or structure of each tense type.
5.. Prepare a POSTER on A-4 sheet on ENVIRONMENT DAY or any current topic of your choice.

👍NOTE: Students must compile and paste the above English holiday assignment in English register.

History

1. Facets of the Industrialization in sixteenth- eighteenth centuries.
2. Crusades: causes; rationale; events; outcomes; Holy Alliance
3. Ancient History in depth: Mesopotamia
4. Greek Philosophy and City States
5. Contributions of Roman Civilization
6. The spirit of Renaissance: Manifestation in art; Literature; Sculpture; Influen Community; Social Fabric; Philosophy; Political Values; Rational Thinking;
7. Aspects of Development -South American States/Central American States
8. Different schools of thoughts- Realism: Humanism: Romanticism
9. Piecing together the past of Genghis Khan
10. Myriad Realms of Slavery in ancient, medieval, and modern world.
11. History of Aborigines - America/Australia
12. Facets of Modernization - China/Japan/Korea

Geography

Collect the names of National parks, sanctuaries and biosphere reserves of the different state of India on political map of India and explain their importance,
Make the project informative and decorative
Use only A4 size sheets and cardboard file ,Paste pictures accordingly

Political Science

1. Make scrapbook of 'Fundamental Rights"
2. Prepare a project on Constitution
3. Prepare an art project on ' Preamble "

Note:- Do any One

Economics

• Effect on PPC due to various government policies
• Effect of Price Change on a Substitute Good
• Solar Energy, a Cost-Effective Comparison with Conventional Energy Sources

Note:- Prepare a project anu one of above mentioned topic.

Accountancy

1. Syllabus Chapters Covered • Chapter 1: Introduction to Accounting - meaning, objectives, advantages, limitations, users, branches. • Chapter 2: Basic Accounting Terms - transactions, goods, assets, liabilities, capital, drawings, expenses, income, profit, loss, debtor, creditor, stock, voucher, etc.

1. Homework Questions

A.Very Short Answer Questions 1. Define Accounting. 2. What is meant by Assets? Give one example. 3. Who are Debtors? 4. State any two advantages of accounting.

B. Short Answer Questions

5. Explain any four objectives of accounting.
6. Distinguish between Capital and Revenue expenditure.
7. Write the difference between Debtor and Creditor.

8. What are Liabilities? Classify them with examples.
C. Long Answer Questions
9. Discuss the limitations of accounting.
10.Explain the Accounting Cycle with a neat diagram.

Project Work (Choose ANY ONE) • Project 1: Survey on the Use of Accounting in Daily Life - questionnaire, findings, conclusion.
Project 2: File of 20 Basic Accounting Terms - definitions + examples.

Activity (Compulsory) Make a colourful chart showing Users of Accounting Information.

Submission Instructions • Handwritten work only. • Project should be neat and decorated. • Include Name, Class, Section, Roll Number.

Business Studies

Chapter 1: Nature & Purpose of Business and Chapter 2: Forms of Business Organisation
Homework Questions
A. Very Short Answer
1. Define Business.
2. What is Economic Activity?
3. Who is a Sole Proprietor?
4. State one feature of Partnership.
B. Short Answer
1. Explain any four objectives of business.
2. Differentiate between Industry and Commerce.
3. State the merits and limitations of Sole Proprietorship.
4. What are the factors affecting the choice of form of organisation?
C. Long Answer
1. Discuss the role of profit in business.
2. Explain different types of companies in detail.
Project Work (Do ANY ONE Project)
Project 1: Study of a Local Business

Objectives of business
* Industry vs commerce
* Types of business organisations
Add diagrams, flowcharts, and examples.
Activity (Compulsory)
Make a flowchart showing Types of Business Organisations on an A4 sheet.
Submission Guidelines
* Work must be handwritten & neat
* Include Name, Class, Section, Roll No.
Select a small business (bakery, salon, stationery shop, café).
* Collect information on:
* Type of business activity (industry/commerce)
* Objectives
* Form of business organisation
* Risks faced
* Make a 2–3 page report with observations & conclusion.
Project 2: Compare Two Business Forms
Choose any two: Sole Proprietorship, Partnership, HUF, Cooperative Society, Company.
Prepare a comparison on:

* Ownership
* Liability
* Capital
* Continuity
* Control
* Merits & Limitations

Present in table form + 1 page explanation.
Project 3: Create a Mini Booklet
Prepare a small booklet (6–8 pages) on Basic Concepts of Business, including:
* Economic & non-economic activities

Mathematics

READ THESE INSTRUCTIONS FIRST
1.Answer all questions given you in your assignment.
2.You may submit the homework in a non plastic with an attractive cover.
3.Do not use class math notebook for doing holiday homework.
4.Write your name, class on the cover page.
5. Revise all questions and examples of chapter-1.
Assignment-1
https://acrobat.adobe.com/id/urn:aaid:sc:AP:487f56b0-5e6c-4c75-8380-9b65a880f92d
Assignment-2
https://acrobat.adobe.com/id/urn:aaid:sc:AP:3de21769-6e13-4e07-877c-6cf2215c8579
Assignment-3
https://acrobat.adobe.com/id/urn:aaid:sc:AP:21ee713b-197d-49df-939b-cb316f586b21

Physical Education

1. Written Work
Read Chapter 1 and Chapter 2 from your Physical Education textbook.
* Prepare neat handwritten notes in your notebook.
* Learn the important definitions, objectives, and key terms from both chapters.
2. Practical File Work
Prepare a practical file on any **one game of your choice**:
* Basketball
* Football
* Volleyball
* Kabaddi
* Kho-Kho
* Hockey
* Athletics
Your file should include:

1. History of the Game (National & International)
2. Fundamental Skills
3. Latest Rules and Regulations
4. Labeled Diagram of Court/Field with Measurements
5. Names and Dimensions of Equipment Used
6. Important Tournaments and Awards
7. Famous Players of India and the World
3. Yoga Activity
Write and paste pictures of any **5 Yoga Asanas** for:
* Flexibility
* Concentration
* Stress Relief
Include:
* Procedure
* Benefits
* Contraindications
4. Fitness Activity
* Measure your **Height and Weight**
* Calculate your BMI using the formula:
BMI=\frac{Weight\ (kg)}{Height^2\ (m^2)}
* Make a small chart showing:
 * Underweight
 * Normal Weight
 * Overweight
 * Obesity
5. Physical Activity Record
Maintain a daily record of any physical activity done during holidays such as:
* Walking
* Running
* Cycling
* Yoga
* Exercise
* Sports Practice
(Write at least 30 minutes of activity daily.)

Instructions

* Complete all work neatly and sincerely.

* Use proper headings and diagrams.

* Submit the homework after reopening of school.

* Holiday homework will be assessed for internal evaluation.

Happy Holiday

Submission date of holiday homework is 6 July 2026.

Warm Regards
Class Teacher
Class XI
DNPS