



PM SHRI KENDRIYA VIDYALAYA KATHUA

SUMMER VACATION
HOLIDAY HOMEWORK
SESSION - 2026-27



PM SHRI KENDRIYA VIDYALAYA KATHUA
SUMMER BREAK HOLIDAYS HOMEWORK(2026-27)
CLASS- VI-A



SL.NO	SUBJECT	DESCRIPTION
01	Hindi	1. पुस्तक के पाठ 'मल्हार' 1 से 3 तक ध्यानपूर्वक पढ़ें । 2. प्रत्येक पाठ का संक्षिप्त सार 5-6 पक्तियों में लिखें । 3. हर पाठ से 5 नए शब्द चुनकर उनके अर्थ लिखें । 4. संज्ञा सर्वनाम और विशेषण के ,5-5परिभाषा लिखकर 5-5 उदाहरण लिखें । 5. कोई एक कविता याद करें और सस्वर पाठ करें । 6. परियोजना कार्य रचनाओं और विशेषताओं को चित्र , कवि उनके जीवन / मेरा प्रिय लेखक - सहित लिखें । 7. अनुच्छेद लेखनम - मेरा प्रिय खेल मेरा विद्यालय ,100 से 120 शब्दों में लिखें । 8. छुट्टियों के दौरान अपने अनुभवों को प्रतिदिन 4-5 वाक्यों में डायरी के रूप में लिखें । 9. अपने छोटे भाई को पत्र लिखें जिसमें समय का सदुपयोग करने की शिक्षा दी गई हो ।
02	Sanskrit	1. वर्णमाला को सुंदर अक्षरों में लिखिए । (स्वर एवं व्यंजन) 2. तक की संख्याएँ संस्कृत में लिखिए । 20 से 1 3. अपने बारे में पाँच वाक्य संस्कृत में लिखिए । 4. पुस्तक दीपकम् के पाठ तक पढ़ने का अभ्यास करें । 3 से 1 5. "मम विद्यालयः" विषय पर चित्र बनाकर पाँच वाक्य संस्कृत में लिखिए । 6. घर में सरल संस्कृत वाक्य बोलने का प्रयास करें जैसे:धन्यवादः आदि । , जलं देहि - 7. बालक शब्द रूप और बालिका शब्द रूप लिखें और स्मरण करें । 8. परियोजना कार्य "संस्कृत भाषा का महत्त्व" विषय पर वाक्य संस्कृत या 10 से 8 हिन्दी में लिखिए ।
03	Maths	Q1. Number Sequences — Fill in the missing terms and write the RULE: i. Counting numbers: 1, 2, 3, 4, 5, __, __ ii. Odd numbers: 1, 3, 5, 7, __, __ iii. Square numbers: 1, 4, 9, 16, __, __ iv. Triangular numbers: 1, 3, 6, 10, __, __ v. Cube numbers: 1, 8, 27, 64, __, __ Q2. Triangular Numbers Through Dot Diagrams: $T_1=1, T_2=3, T_3=6, T_4=10, T_5=15$ • What is T_6 and T_7? • Verify: $T_4 + T_5 =$ ____ (Is this a square number?) Q3. Shape Sequences: • A regular polygon with 3 sides is a triangle, 4 sides a square, 5 sides a pentagon... • Write the sequence of number of sides: 3, 4, 5, __, __ • How many sides does a decagon have? Q4. Define: Line, Line Segment, Ray, Acute Angle, Right Angle, Obtuse Angle, Straight Angle, Reflex Angle and Complete Angle. Draw and label each with a scale and protractor. Q5. Ask 10 friends or family members about their favorite fruit. Represent the data in pictograph. • ART INTEGRATED ACTIVITY Activity 1 — DOT ART: Visualising Number Sequences • On plain or graph paper, draw the first 5 SQUARE NUMBERS as square grids of dots. • Colour each square in a different colour. Label them: $1^2, 2^2, 3^2, 4^2, 5^2$ Activity 2 • Create a rangoli pattern using geometric shapes(triangles,squares, circles). Use color and symmetry. Paste it in your notebook or on an A4 sheet paper.

04	English	Section A: Reading Adventure • Pick any storybook you like! (Panchatantra / moral stories / children’s novels) • After reading, become a “Story Detective” and write: • Title of the story • Author’s name • Characters • Summary (80–100 words) • Moral of the story Section B: Writing Corner 1. Diary Writing • Write about your day like a real diary writer: • A day during your summer vacation • A visit to a relative’s place • A fun activity you enjoyed 2. Letter Writing • Write a friendly letter to your friend telling them how you are enjoying your holidays. Section C: Grammar Fun • Become a “Word Wizard”: • Learn 10 new words daily  • Make a sentence for each  • Create your own Mini Vocabulary Diary: • At least 30 new words • Add meaning + sentence Section D: Literature & Art Magic • Draw a beautiful picture based on any poem from your book • Be a “Literary Detective” and find: • Alliteration (In the poem that you have chosen) Section E: Creative Fun Time • Keep updating your Mini Vocabulary Diary daily • Art Integration Activity • Make a cool origami craft and enjoy creativity! Friendly Reminder • Keep your work neat and colorful • Use your own ideas—be creative! • Complete on time • Enjoy your holidays while learning								
05	Artificial Intelligence	Part1: 1. What is Artificial Intelligence? Write a short paragraph (5-6 sentences) answering the following: • What is Artificial Intelligence? • Give two examples of how AI is used in our daily life(like Alexa, Google Maps,etc.) Part 2: AI Around Me – Observation Activity Instructions: 1. Observe how AI is used around your home or school. 2. Write or draw 3 examples where you have seen AI helping people. Part 3: Creative Task – “If I Had a Robot...” Write a small story (about100-150 words) about a robot that helps you every day. Give your robot a name and describe what it can do. Part 4: Puzzle Time! Match the following AI tools to their function (can be designed as a worksheet): <table><tr><td>1. GoogleAssistant -</td><td>A.Self-driving</td></tr><tr><td>2. Chatbot -</td><td>B. VoiceSearch</td></tr><tr><td>3. TeslaCar -</td><td>C. Talk to users</td></tr><tr><td>4. FaceID -</td><td>D. Recognize Faces</td></tr></table>	1. GoogleAssistant -	A.Self-driving	2. Chatbot -	B. VoiceSearch	3. TeslaCar -	C. Talk to users	4. FaceID -	D. Recognize Faces
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06	Science	Observation skills- Observe your surroundings and list :- 5 natural things. 5 man made things. Daily Observation diary. - Weather conditions Science in daily life. - List the uses of science at (a) home (b) school - List renewable and non- renewable sources. Simple experiments - Dissolve salt / sugar in water. Write observation and conclusion. - Prove that air occupies space.eg:- Balloon activity. - Make a poster on Save environment. - Write 10 ways to protect our environment. Diagram Activity - Draw and label the water cycle. Science quiz - Prepare 10 interesting questions from daily Life Science. (MCQ or Descriptive)
07	Social Science	1) Collect pictures of different types of monuments such as forts, tombs, palaces, etc. and write the name of the monument, its location and just one feature of each. (minimum 5 monuments) 2) Prepare a family tree. 3) Draw a timeline depicting important events of your life 4) Prepare a collage on 'Diversity of India'. 5) Name any two National Parties and two Regional Parties. Draw their symbols and mention few leaders from each of these parties. 6) List out the Economic and Non- Economic activities in your neighborhood. 7) Prepare a table showing pictures of different types of sources like Archaeological Sources (monuments, coins, inscriptions, paintings and sculpture, artefacts, fossils), Literary Sources (manuscripts, religious literary sources, autobiography, biography, accounts by foreigners), and Oral Sources (folklore, stories, songs and poems). Take two examples and write the information received from those examples, like - What type of source is this? - What does it show or tell us? - Who wrote, produced or made it? - Why was it written or produced? 8) Read and understand chapter Timeline and sources of history and The value of work. "Homework to be done in Fair notebook"
08	VE	Holiday Project Title: The Glowing Origami Frog Objective: To understand simple electrical circuits and paper engineering by creating a functional, LED-powered origami toy. 1. Materials Required Paper: 1 square piece of Origami paper (Green preferred). Electronics: 2 LEDs (any color) and 1 Coin Cell Battery (\$3V\$). Conductive Material: Aluminium foil tape or copper tape (or thin strips of kitchen foil). Tools: Transparent tape, a pen/marker, and scissors. 2. Step-by-Step Instructions Step A: The Frog Body - Fold a jumping origami frog. (<i>Refer to your Chapter 1 notes for the folding steps</i>). - Use a pen to mark two spots for the eyes on the frog's head. Step B: Preparing the Circuit Test the LEDs: Slide the battery between the LED wires. The longer wire (positive) must touch the smooth side of the battery to light up. Unfold & Pierce: Gently unfold the paper. Use the LED legs to pierce small holes through the eye marks. Positioning: Ensure the positive (longer) wires are pointing toward the nose of the frog.

		Step C: Wiring with Foil 1. Negative Path: Cross both short (negative) wires and tape them down using a strip of aluminium/copper tape. 2. Positive Path: Bend the long (positive) wires upward. Wrap a separate piece of conductive tape around them tightly. 3. Battery Placement: Tape the battery (positive side up) over the "negative" foil path using clear tape. Leave the top of the battery exposed. 3. The "Magic" Finish • Refold your frog into its jumping shape. • The Switch: Bend the positive wire path so it sits just above the battery without touching it. • Test: When you press the frog's back to make it jump, the wires should touch the battery, making the eyes glow! 4. Research Question (To be written in your notebook) <i>"What is Copper Tape, and why is it often used in paper circuits instead of regular wires?"</i> Submission Guidelines: • Functional Model: Bring your working LED frog to class. • Project Report: On your VE notebook, write the materials used and a 2-line summary of what you learned about circuits Note: Take photos of the process—from the initial flat net to the final illuminated frog—and paste them into Your VE Notebook. • The whole process is given to your Kaushal Pragyata book. Go through the book if you need some help. The link is provided below: Kaushal Pragyata - VI Pg. No. 27
09	Yoga	• Perform : Chakrasana, Vrikshasana, Ardhaa chakrasana, Padahasthasana , Trikonasana , Shashankasana , Ushtrasana , Vakrasana, Shalabhasana, Saral Dhanurasana , Setubandhasana and paste pictures of these asanas in your Yoga notebook. Draw a neat and clean picture of Astanga Yoga on chart paper.



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SUMMER BREAK HOLIDAYS HOMEWORK(2026-27)

CLASS- VI-B



SL.NO	SUBJECT	DESCRIPTION
01	Hindi	1 पाठ 1 से 3 तक स्मरण करें। 2. कविता मातृभूमि और पहली बूंद कंठस्थ करें। 3. अनुच्छेद लेखन- 1 मेरा प्रिय त्योहार 2. मेरा विद्यालय 3. समय का महत्व 4. मेरा प्रिय खेल उक्त चारों विषयों पर अनुच्छेद लिखें। 4. पत्र लेखन - 1. अपने चाचा जी को जन्म दिवस की भेंट भेजने पर धन्यवाद प्रकट करते हुए पत्र लिखिए। 5. दो दोस्तों में मोबाइल का ज्यादा उपयोग ना करने हेतु संवाद लिखिए। 6. परियोजना कार्य :- भारत की प्रमुख नदियों के नाम बताइए तथा उनसे होने वाले लाभों का चित्र सहित वर्णन कीजिए।
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01	Hindi	- मल्हार पुस्तक के पाठ 1 से 3 तक ध्यानपूर्वक पढ़ें। 5-6 पंक्तियों में पाठ का सार लिखें। - संज्ञा, सर्वनाम, विशेषण के 10-10 उदाहरण लिखें। 10 पर्यायवाची शब्द और 10 विलोम शब्द लिखें। - अनुच्छेद लेखन - ग्रीष्म ऋतु, मेरा प्रिय मित्र, समय का महत्व) 100 से 120 शब्दों में। - परियोजना कार्य " - जल संरक्षण " या पेड़- पौधों का महत्व " विषय पर चार्ट/फाइल। - पुस्तक से कोई एक कविता याद करें और उसका सस्वर पाठ करें - अपने पिता जी को ग्रीष्मकालीन अवकाश के दौरान अपने मित्रों के साथ हिमाचल राज्य के भ्रमण पर जाने के लिए अनुमति मांगते हुए एक पत्र लिखिए। 10 मुहावरे लिखकर उनके अर्थ व वाक्य बनाइए।
02	Sanskrit	- प्रतिदिन 5 संस्कृत शब्द लिखें एवं उनके हिंदी अर्थ लिखें। "दीपकम्" पुस्तक के पाठ 1 से 3 तक पढ़ें। - धातु रूप पठ, लिख, गम्, खाद्, (लट्, लृट्, लङ् लोट् लकार में रूप लिखें) - शब्द रूपाणि राम, फल, नदी) तीनों के रूप लिखें (सर्वनाम् रूपाणि अस्मद्, युष्मद् "वृक्षस्य महत्त्वम्" विषय पर एक चित्र बनाकर ५ वाक्य संस्कृत में लिखें। - संस्कृत में 5 श्लोक) सुभाषितानि (सुंदर लिखावट में लिखें और याद करें। - परियोजना कार्य " - संस्कृत भाषा का महत्व " - प्रतिदिन 10-5 मिनट संस्कृत पाठ का उच्चारण अभ्यास करें। 5 श्लोक कठस्थ करें।
03	Maths	Q1. Write each of the numbers given below in Indian and American Number System (a) 3,00,600 (b) 5,04,085 (c) 27,30,000 (d) 70,53,138 Q2. Solve the following: (a) $4 \times (8+6)$ (b) $-6+12+8$ (c) $32 \div 8 \times (6-2)$ (d) $-16-17-18$ Q3. Word Problems (Arithmetic Expression) - A shopkeeper sold 15 boxes containing 24 chocolates each. If he already had 120 chocolates, how many chocolates does he have in total? - A school bought 18 packets of pens with 12 pens in each packet. Out of them, 75 pens were distributed. How many pens are left? - A bus travels 45 km in one hour. How far will it travel in 8 hours? Q4. Create 5 arithmetic expressions using brackets and solve them neatly Example: $(31+13) - 14$ Q5. Mathematics Scrapbook: Create 5 page scrapbook about any one Mathematician. (Paste photo, date of birth, major contributions). ART INTEGRATED ACTIVITY** Activity 1 — MY INDIA IN NUMBERS POSTER - Create a colourful India-themed poster titled "Large Numbers Around Me": - Find 6 REAL large numbers from newspapers, TV, or family conversations this summer.

		• Examples: your city's population, distance to a landmark, price of a car, number of schools in your state. • Write each number in BOTH Indian and International numeral systems. • Draw a small picture representing each number (a city skyline, a car, a school building, etc.). • Use at least 5 bright colours and decorate with a patriotic border. 2. Activity 2 — NUMBER PLACE VALUE CHART (Decorated)** • Draw a beautiful hand-made place value chart in your notebook (Indian system) from Ones up to Crores. 1. Fill in the chart with the number: 4,56,78,321 2. Colour alternate columns in two different colours.
04	English	Section A: Reading Expedition Choose any interesting book/story to read (Storybooks / biographies / moral stories / short novels) After reading, write: Title of the book/story Author's name Main characters Summary (100–120 words) Theme or moral of the story Bonus Task: Write what you liked or disliked about the story (3–4 lines) Section B: Writing Zone Diary Writing (any one) 1. Write a diary entry on: • A rainy day you enjoyed • A challenge you faced and how you solved it • A moment that made you feel proud Paragraph Writing (any one) • If I Could Change One Thing in the World • Life Without Mobile Phones • The Power of Positive Thinking Informal Letter 2. Write a letter to your friend describing: • A new skill you tried during holidays OR How you managed your time during vacations Section C: Grammar & Vocabulary Lab Become a "Language Champ": • Learn 10 new words every alternate day • Use each word in a meaningful sentence • Maintain a Mini Vocabulary Journal: • At least 40 new words • Include meaning + sentence Practice: 1. Tenses (Present, Past, Future) 2. Adjectives and Adverbs Section D: Literature & Expression Activity 1: Poem Interpretation Through Art • Write any one poem neatly from your textbook • Draw an illustration showing its main idea or mood Activity 2: Literary Hunt • Add 2–3 new lines to the poem OR change its ending Section E: Art Integration Activity • <u>"My Growing Vocabulary Tree"</u> Aim: • To learn new words creatively by relating vocabulary growth to nature • Materials Required: • Chart paper / A4 sheet • Pencil, colours, sketch pens

		 Steps: • Draw a tree with branches and leaves • Write 20–25 new words on the leaves • For each word, add: • Meaning • One sentence Use colours to classify: • Nouns • Verbs • Adjectives • At the bottom, write: • Which type of words are used by you the most? • Why vocabulary grows like a plant ?(2–3 lines) General Instructions • Complete all work neatly in your own handwriting • Keep your work clean, colorful, and well-presented • Use your own ideas and be creative • Submit your homework on time • Enjoy your holidays while learning						
05	Artificial Intelligence	♦ Part1: Introduction to AI (Research & Write) Write a short paragraph (6-8sentences) on: • What is Artificial Intelligence? • How is Ai different from human intelligence? • List 3 ways AI is used in real life (e.g., smart phones, online shopping, traffic apps). ♦ Part 2: AI in Every day Life (Observation & Listing) Task: Observe your surroundings (home, school, or community) and list any 5 devices or applications that use AI. For each, write: • Name of the AI tool/app/device • How it helps us in daily life Example: <table><tr><th>AI Tool</th><th>How it Helps</th></tr><tr><td>Google Maps</td><td>Suggests shortest travelroutes</td></tr><tr><td>YouTube</td><td>Recommends videos to watch</td></tr></table> ♦ Part 3: Creative Corner – My AI Invention Imagine you invent your own AI – based gadget. Write a paragraph (6-10 lines) describing: • What is the name of your invention? • What does it do? • How will it help people? You may also draw your invention on anA4 sheet and color it! ♦ Part 4: Fun Activity – AI Cross word Puzzle (A simple crossword puzzle based on AI terms like Robot, Voice,Smart, Alexa, App, Data,etc. Can be printed or handmade.)  Submission Tip: • Complete the project in a scrap book or file. • Include drawings, pictures, or printed images if possible.	AI Tool	How it Helps	Google Maps	Suggests shortest travelroutes	YouTube	Recommends videos to watch
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Worksheet: Acids, Bases and Neutral Substances**A. Fill in the blanks**

1. Substances that taste sour are called _____.
2. Substances that taste bitter and feel soapy are called _____.
3. A substance that is neither acidic nor basic is called _____.
4. Turmeric is a _____ indicator.
5. The reaction between an acid and a base is called _____.

B. Multiple Choice Questions

1. Which of the following is an acid? a) Soap b) Lemon juice c) Baking soda d) Detergent
2. Which natural indicator turns red in acid? a) Turmeric b) China rose c) Soap d) Salt
3. Which of the following is neutral? a) Vinegar b) Salt solution c) Lemon juice d) Soap solution
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5. Litmus solution is obtained from a) Plants b) Animals c) Rocks d) Soil

C. Short Answer Questions

1. What are acids? Give two examples.
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1. A device used to produce electricity is called a _____.
2. The path through which electric current flows is called an _____.
3. A device used to open or close a circuit is called a _____.
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1. Which material is a conductor of electricity? a) Plastic b) Rubber c) Copper d) Wood
2. Which device is used to control the flow of current? a) Bulb b) Switch c) Battery d) Wire
3. A broken circuit is called a) Closed circuit b) Open circuit c) Electric path d) Neutral circuit
4. The filament of a bulb is made of a) Copper b) Aluminium c) Tungsten d) Iron
5. Which of the following is an insulator? a) Aluminium b) Copper c) Plastic d) Iron

C. Short Answer Questions

1. What is an electric circuit?
2. What is the function of a switch?
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4. What is an insulator? Give two examples.
5. Draw a simple electric circuit with a bulb and a battery.

3. Herbarium Activity

Prepare a herbarium file by collecting three leaves each of any of the three categories of plants given below:

- (i) Cereals
- (ii) Fruits
- (iii) Vegetables
- (iv) Spices
- (v) Medicinal plants
- (vi) Ornamental plants

Paste the leaves in a scrapbook or herbarium file and write the following details under each leaf:

- Name of the plant
- Scientific name (if possible)
- Uses of the plant

4. Plant Activity

Plant one plant in a small pot at home. Take care of it during the holidays.

Write in your notebook:

- Name of the plant
- Date of planting
- Watering schedule

		- Growth observations Bring the plant to school after the holidays. 5. MDP Project Topic: Comparing the AQI of Metro Cities of India Include: • Introduction to AQI • Comparison of following Kathua Jammu samba Delhi Udhampur • Factors responsible for poor AQI (vehicle pollution, industries, construction dust, burning waste) • Effects on respiratory system (asthma, breathing problems, lung diseases) • Conclusion with ways to improve air quality Q5. Investigation Activity • Investigate the properties of various common household substances by testing their acidity or basicity using different indicators. • Examples of substances: lemon juice, vinegar, baking soda solution, soap solution, salt solution, etc. • Use indicators such as litmus paper, turmeric, or China rose indicator. • Record your observations in a table showing: ○ Name of substance ○ Indicator used ○ Colour change ○ Nature (Acidic / Basic / Neutral) Q7-Prepare a model of any scientific concept . Instructions to be followed - • Complete the work neatly in a notebook. • Plan your work: do 1–2 tasks daily during holidays. • Use diagrams, tables, and examples wherever required. • Activity work must be done safely under adult guidance. • Maintain clean handwriting and proper presentation. Submit the homework on the first day after vacation.
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08	Yoga	• Perform : Chakrasana,Vrikshasana, Ashwasanchalanasana, Padahastasana, Trikonasana , Shashankasana ,Ushtrasana , Vakrasana, Shalabhasana, Saral Dhanurasana , Setubandhasana and paste pictures of these asanas in your Yoga notebook. Draw a neat and clean picture of Pancha Kosha in your notebook

09	VE	Holiday Project: Creative Origami Toy Studio Task: To create a collection of 3 paper toys. 1. Project Categories You must make one toy from each of these three themes: Learning Toy: A toy that helps you study (e.g., a "Fortune Teller" for math tables or a map puzzle). Superhero Figure: A paper model of your favorite hero or a hero you design yourself. Modern Vehicle: An origami car, plane, or boat that can actually move when pushed or blown. 2. Materials Needed - Colored craft paper (Square sheets). - Markers, sketch pens, and glitter for decoration. - Glue or tape (for joining parts). - One shoe box (to display your "Toy Studio"). 3. Steps to Follow Selection: Pick your three favorite designs. Folding: Follow traditional origami steps to create the base shape. Creative Touch: This is the most important part! Don't just fold it—decorate it. <i>Example:</i> For a car, add paper wheels and a racing number. For a superhero, draw their mask and cape. The Display: Arrange your 3 toys inside a decorated shoe box to create a "Mini Exhibition." 4. The Submission The Toy Box: Your 3 finished and decorated origami toys. A Short Report (1 Page): * Name of your toys. - Which one was the hardest to make? - Why did you choose these specific designs? 5. Success Tips Be Neat: Make your folds sharp and clean by pressing down hard with your fingernail. Be Unique: Don't just copy a design; add your own colors and patterns. Recycle: You can use old magazines or newspapers for a "Modern/Eco-friendly" look! Evaluation: You will be marked on Neatness, Creativity, and Completing all 3 categories
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PM SHRI KENDRIYA VIDYALAYA KATHUA

SUMMER BREAK HOLIDAYS HOMEWORK(2026-27)

CLASS- VII-B



SL.NO	SUBJECT	DESCRIPTION
01	Hindi	- मल्हार पुस्तक के पाठ 1 से 3 तक ध्यानपूर्वक पढ़ें। 5-6 पंक्तियों में पाठ का सार लिखें। - संज्ञा, सर्वनाम, विशेषण के 10-10 उदाहरण लिखें। 10 पर्यायवाची शब्द और 10 विलोम शब्द लिखें। - अनुच्छेद लेखन - ग्रीष्म ऋतु, मेरा प्रिय मित्र, समय का महत्व) 100 से 120 शब्दों में। - परियोजना कार्य " - जल संरक्षण " या पेड़- पौधों का महत्व " विषय पर चार्ट/फाइल। - पुस्तक से कोई एक कविता याद करें और उसका सस्वर पाठ करें - अपने पिता जी को ग्रीष्मकालीन अवकाश के दौरान अपने मित्रों के साथ हिमाचल राज्य के भ्रमण पर जाने के लिए अनुमति मांगते हुए एक पत्र लिखिए। 10 मुहावरे लिखकर उनके अर्थ व वाक्य बनाइए।
02	Sanskrit	- प्रतिदिन 5 संस्कृत शब्द लिखें एवं उनके हिंदी अर्थ लिखें। "दीपकम्" पुस्तक के पाठ 1 से 3 तक पढ़ें। - धातु रूप पठ, लिख, गम्, खाद्, (लट्, लृट्, लङ् लोट् लकार में रूप लिखें) - शब्द रूपाणि राम, फल, नदी) तीनों के रूप लिखें (सर्वनाम् रूपाणि अस्मद्, युष्मद् "वृक्षस्य महत्त्वम्" विषय पर एक चित्र बनाकर 4 वाक्य संस्कृत में लिखें। - संस्कृत में 5 श्लोक) सुभाषितानि (सुंदर लिखावट में लिखें और याद करें। - परियोजना कार्य " - संस्कृत भाषा का महत्व " - प्रतिदिन 10-5 मिनट संस्कृत पाठ का उच्चारण अभ्यास करें। 5 श्लोक कठस्थ करें।
03	Maths	Q1. Write each of the numbers given below in Indian and American Number System (a) 3,00,600 (b) 5,04,085 (c) 27,30,000 (d) 70,53,138 Q2. Solve the following: (e) $4 \times (8+6)$ (f) $-6+12+8$ (g) $32+8 \times (6-2)$ (h) $-16-17-18$ Q3. Word Problems (Arithmetic Expression) 4. A shopkeeper sold 15 boxes containing 24 chocolates each. If he already had 120 chocolates, how many chocolates does he have in total? 5. A school bought 18 packets of pens with 12 pens in each packet. Out of them, 75 pens were distributed. How many pens are left? 6. A bus travels 45 km in one hour. How far will it travel in 8 hours? Q4. Create 5 arithmetic expressions using brackets and solve them neatly Example: $(31+13) - 14$ Q5. Mathematics Scrapbook: Create 5 page scrapbook about any one Mathematician. (Paste photo, date of birth, major contributions). 3. ART INTEGRATED ACTIVITY** Activity 1 — MY INDIA IN NUMBERS POSTER - Create a colourful India-themed poster titled "Large Numbers Around Me": - Find 6 REAL large numbers from newspapers, TV, or family conversations this summer.

		• Examples: your city's population, distance to a landmark, price of a car, number of schools in your state. • Write each number in BOTH Indian and International numeral systems. • Draw a small picture representing each number (a city skyline, a car, a school building, etc.). • Use at least 5 bright colours and decorate with a patriotic border. 4. Activity 2 — NUMBER PLACE VALUE CHART (Decorated)** • Draw a beautiful hand-made place value chart in your notebook (Indian system) from Ones up to Crores. 3. Fill in the chart with the number: 4,56,78,321 4. Colour alternate columns in two different colours.
04	English	Section A: Reading Expedition Choose any interesting book/story to read (Storybooks / biographies / moral stories / short novels) After reading, write: Title of the book/story Author's name Main characters Summary (100–120 words) Theme or moral of the story Bonus Task: Write what you liked or disliked about the story (3–4 lines) Section B: Writing Zone Diary Writing (any one) 3. Write a diary entry on: • A rainy day you enjoyed • A challenge you faced and how you solved it • A moment that made you feel proud Paragraph Writing (any one) • If I Could Change One Thing in the World • Life Without Mobile Phones • The Power of Positive Thinking Informal Letter 4. Write a letter to your friend describing: • A new skill you tried during holidays OR How you managed your time during vacations Section C: Grammar & Vocabulary Lab Become a "Language Champ": • Learn 10 new words every alternate day • Use each word in a meaningful sentence • Maintain a Mini Vocabulary Journal: • At least 40 new words • Include meaning + sentence Practice: • Tenses (Present, Past, Future) • Adjectives and Adverbs Section D: Literature & Expression Activity 1: Poem Interpretation Through Art • Write any one poem neatly from your textbook • Draw an illustration showing its main idea or mood Activity 2: Literary Hunt • Add 2–3 new lines to the poem OR change its ending Section E: Art Integration Activity • <u>"My Growing Vocabulary Tree"</u> Aim: • To learn new words creatively by relating vocabulary growth to nature • Materials Required: • Chart paper / A4 sheet • Pencil, colours, sketch pens

Steps:

- Draw a tree with branches and leaves
- Write 20–25 new words on the leaves
- For each word, add:
- Meaning
- One sentence

Use colours to classify:

- Nouns
- Verbs
- Adjectives
- At the bottom, write:
- Which type of words are used by you the most?
- Why vocabulary grows like a plant ?(2–3 lines)

General Instructions

- Complete all work neatly in your own handwriting
- Keep your work clean, colorful, and well-presented
- Use your own ideas and be creative
- Submit your homework on time

Enjoy your holidays while learning

♦ Part1: Introduction to AI

(Research&Write) Write a short paragraph (6-8sentences) on:

- What is Artificial Intelligence?
- How is Ai different from human intelligence?
- List 3 ways AI is used in real life (e.g., smart phones,online shopping, traffic apps).

♦ Part 2: AI in Every day Life (Observation & Listing)

Task: Observe your surroundings (home, school, or community) and list any 5 devices or applications that use AI. For each, write:

- Name of the AI tool/app/device
- How it helps us in daily life Example:

AI Tool

How it Helps

Google Maps

Suggests shortest travelroutes

YouTube

Recommends videos to watch

♦ Part 3: Creative Corner – My AI Invention

Imagine you invent your own AI – based gadget. Write a paragraph (6-10 lines) describing:

- What is the name of your invention?
- What does it do?
- How will it help people?

You may also draw your invention on anA4 sheet and color it!

♦ Part 4: Fun Activity – AI Cross word Puzzle

(A simple crossword puzzle based on AI terms like Robot, Voice,Smart, Alexa, App, Data,etc. Can be printed or handmade.)

♥ Submission Tip:

- Complete the project in a scrap book or file.
- Include drawings, pictures, or printed images if possible.

05

Artificial
Intelligence

Worksheet: Acids, Bases and Neutral Substances

A. Fill in the blanks

1. Substances that taste sour are called _____.
2. Substances that taste bitter and feel soapy are called _____.
3. A substance that is neither acidic nor basic is called _____.
4. Turmeric is a _____ indicator.
5. The reaction between an acid and a base is called _____.

B. Multiple Choice Questions

1. Which of the following is an acid? a) Soap b) Lemon juice c) Baking soda d) Detergent
2. Which natural indicator turns red in acid? a) Turmeric b) China rose c) Soap d) Salt
3. Which of the following is neutral? a) Vinegar b) Salt solution c) Lemon juice d) Soap solution
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5. Litmus solution is obtained from a) Plants b) Animals c) Rocks d) Soil

C. Short Answer Questions

1. What are acids? Give two examples.
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2. Worksheet: Electric Circuit

A. Fill in the blanks

1. A device used to produce electricity is called a _____.
2. The path through which electric current flows is called an _____.
3. A device used to open or close a circuit is called a _____.
4. A bulb glows only when the circuit is _____.
5. Materials that allow electricity to pass through them are called _____.

B. Multiple Choice Questions

1. Which material is a conductor of electricity? a) Plastic b) Rubber c) Copper d) Wood
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5. Draw a simple electric circuit with a bulb and a battery.

3. Herbarium Activity

Prepare a herbarium file by collecting three leaves each of any of the three categories of plants given below:

- (i) Cereals
- (ii) Fruits
- (iii) Vegetables
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Paste the leaves in a scrapbook or herbarium file and write following details under each leaf:

- Name of the plant
- Scientific name (if possible)
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4. Plant Activity

Plant one plant in a small pot at home. Take care of it during the holidays.

Write in your notebook:

- Name of the plant
- Date of planting
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Bring the plant to school after the holidays.

		5. MDP Project Topic: Comparing the AQI of Metro Cities of India Include: • Introduction to AQI • Comparison of following Kathua Jammu Samba Delhi Udhampur • Factors responsible for poor AQI (vehicle pollution, industries, construction dust, burning waste) • Effects on respiratory system (asthma, breathing problems, lung diseases) • Conclusion with ways to improve air quality Q5. Investigation Activity • Investigate the properties of various common household substances by testing their acidity or basicity using different indicators. • Examples of substances: lemon juice, vinegar, baking soda solution, soap solution, salt solution, etc. • Use indicators such as litmus paper, turmeric, or China rose indicator. • Record your observations in a table showing: - Name of substance - Indicator used - Colour change - Nature (Acidic / Basic / Neutral) Q7-Prepare a model of any scientific concept . Instructions to be followed - • Complete the work neatly in a notebook. • Plan your work: do 1–2 tasks daily during holidays. • Use diagrams, tables, and examples wherever required. • Activity work must be done safely under adult guidance. • Maintain clean handwriting and proper presentation. Submit the homework on the first day after vacation.
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09	VE	Holiday Project: Creative Origami Toy Studio Task: To create a collection of 3 paper toys. 1. Project Categories You must make one toy from each of these three themes: Learning Toy: A toy that helps you study (e.g., a "Fortune Teller" for math tables or a map puzzle). Superhero Figure: A paper model of your favorite hero or a hero you design yourself. Modern Vehicle: An origami car, plane, or boat that can actually move when pushed or blown. 2. Materials Needed - Colored craft paper (Square sheets). - Markers, sketch pens, and glitter for decoration. - Glue or tape (for joining parts). - One shoe box (to display your "Toy Studio"). 3. Steps to Follow Selection: Pick your three favorite designs. Folding: Follow traditional origami steps to create the base shape. Creative Touch: This is the most important part! Don't just fold it—decorate it. <i>Example:</i> For a car, add paper wheels and a racing number. For a superhero, draw their mask and cape. The Display: Arrange your 3 toys inside a decorated shoe box to create a "Mini Exhibition." 4. The Submission The Toy Box: Your 3 finished and decorated origami toys. A Short Report (1 Page): * Name of your toys. - Which one was the hardest to make? - Why did you choose these specific designs? 5. Success Tips Be Neat: Make your folds sharp and clean by pressing down hard with your fingernail. Be Unique: Don't just copy a design; add your own colors and patterns. Recycle: You can use old magazines or newspapers for a "Modern/Eco-friendly" look! Evaluation: You will be marked on Neatness, Creativity, and Completing all 3 categories.
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PM SHRI KENDRIYA VIDYALAYA KATHUA
SUMMER BREAK HOLIDAYS HOMEWORK(2026-27)
CLASS- VIII-A



SL.NO	SUBJECT	DESCRIPTION																																						
01	Hindi	1. हम पक्षियों की किस प्रकार सहायता कर सकते हैं किसी एक पक्षी का चित्र बनाकर या फोटो चिपका कर उस पर 10- 15 पंक्तियां लिखो। 2. हम अपने स्तर पर देश के किस तरह सेवा कर सकते हैं लगभग 10-15 पंक्तियों में लिखो। 3. ग्रीष्मकालीन छुट्टियां के दौरान अपनी हिंदी पाठ्य पुस्तक से हटकर अन्य किसी पुस्तक से कम से कम दो पाठ पढ़ कर प्रत्येक पाठ पर लिखिए कि आपने उस पाठ में से क्या पढ़ा। 4. संज्ञा, सर्वनाम ,विशेषण व क्रिया की परिभाषा व प्रमुख भेद उदाहरण सहित लिखना हैं। 5. अपने मनपसंद के किसी एक वृक्ष की फोटो बनाकर या चिपका कर उसके बारे में 10-15 पंक्तियां लिखो तथा यह भी लिखो कि हमें पेड़ पौधे क्यों उगाने चाहिए तथा हम उनकी देखभाल किस तरह से कर सकते हैं ? 6. ग्रीष्मकालीन अवकाश दौरान घूमने फिरने जाने हेतु अपने मित्र को पत्र लिखो। 7. पाँच पेज सुलेख लिखने हैं। 8. आपकी ग्रीष्मकालीन अवकाश की छुट्टियां किस तरह से बीती। अपने अनुभव सांझा करते हुए एक पेज लिखो।																																						
02	Sanskrit	1. प्रतिदिन 5 संस्कृत शब्द लिखें एवं उनके हिंदी अर्थ लिखें । 2. दैनिक जीवन पर आधारित 10 वाक्य संस्कृत में लिखें । 3. धातु रूप पठ, खाद, गम्, खाद, (लट्, लृट्, लङ् लोट् लकार में रूप लिखें) 4. शब्द रूपाणि राम, फल, लता (तीनों के रूप लिखें) 5. चित्र बनाकर संस्कृत में वर्णन करें । (5 से 8 वाक्य) (जैसे- उद्यान, विद्यालय, ग्राम आदि) 6. संधि-विच्छेद करें (10 उदाहरण) जैसे – विद्यालयः = विद्या+आलयः । 7. परियोजना कार्य – संस्कृत श्लोक (नैतिक शिक्षा सहित कोई पाँच श्लोक) 8. प्रतिदिन 5-10 मिनट संस्कृत पाठ का उच्चारण अभ्यास करें । 9. 5 श्लोक कठस्थ करें ।																																						
03	Maths	PM SHRI KENDRIYA VIDYALAYA KATHUA HOLIDAY HOMEWORK MATHS Class – VIII (i) Write the Square of the numbers from 1 to 30. 1. Write the Cube of the numbers from 1 to 25. 2. Learn and write tables from 1 to 20. 3. Find square root of following numbers by Prime factorization method. $\sqrt{64}$, $\sqrt{144}$, $\sqrt{256}$, $\sqrt{441}$, $\sqrt{676}$ 4. Find cube root of following numbers by Prime factorization method. $\sqrt[3]{64}$, $\sqrt[3]{1000}$, $\sqrt[3]{512}$, $\sqrt[3]{729}$, $\sqrt[3]{1728}$ 5. Find the smallest square number that is divisible by each of the following numbers: A, 9, and 10. 6. How many numbers lie between the squares of the following numbers? (i) 16 and 17 (ii) 99 and 100 7. State true or false. Explain your reasoning. (i) The cube of any odd number is even. (ii) There is no perfect cube that ends with 8. (iii) The cube of a 2-digit number may be a 3-digit number. (iv) The cube of a 2-digit number may have seven or more digits. (v) Cube numbers have an odd number of factors. 8. Make magic square of 5 × 5 from 1 to 25 numbers. 9. Make magic square of 7 × 7 from 1 to 49 numbers. 10. The image below shows a logic machine, where numbers move from Column 1 to Column 2 (starting from column 1 as input and reach column 4) through the tunnel, where they change in a different way, each time. What would be the sum of A, B, and C? <table><tr><th>Column 1</th><th>Column 2</th><th>Column 3</th><th>Column 4</th></tr><tr><td>4</td><td>12</td><td>8</td><td>116</td></tr><tr><td>22</td><td>683</td><td>15</td><td>517</td></tr><tr><td>11</td><td>139</td><td>9</td><td>27</td></tr><tr><td>2</td><td>A</td><td>B</td><td>C</td></tr></table> 13. Each geometrical shape denotes a certain operation. What will come in place of "x"? <table><tr><td>18</td><td>→</td><td>288</td><td>19</td><td>→</td><td>361</td></tr><tr><td>18</td><td>→</td><td>3276</td><td>11</td><td>→</td><td>121</td></tr><tr><td>18</td><td>→</td><td>121</td><td>→</td><td>?</td><td></td></tr></table> Write the laws of exponents with examples. Express the following numbers in standard form. 1) 59,653, 2) 65,950, 3) 3,420,000 Write in the exponential form. 1) 4900, 2) 15625, 3) 490,000	Column 1	Column 2	Column 3	Column 4	4	12	8	116	22	683	15	517	11	139	9	27	2	A	B	C	18	→	288	19	→	361	18	→	3276	11	→	121	18	→	121	→	?	
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04

English

Class VIII – English

Section A: Reading & Reflection

 Read any one:

Short novel / biography / inspirational story

 Complete a Reading Response Page:

Title & Author

Type of text (fiction/non-fiction)

5 new words you learned

3 lessons from the story

Your favourite character and why (4–5 lines)

Section B: Writing Portfolio

Create a small “Holiday Writing Folder” and include:

1. Diary Entries (Any 2)

A day without mobile phone

A surprising incident

A day you helped someone

2. Factual Description

A historical place you visited or know about

Your city/town

3. Narrative Writing

Write a story beginning with:

“It was a day I will never forget...”

4. Speech Writing

Topic: “The Importance of Time in Student Life”

(100–120 words)

Section C: Vocabulary & Language Builder

Make a Word Bank Notebook:

Write 40–50 new words

Add:

Meaning

Synonym

Sentence

Sound Words Activity (Onomatopoeia)

Collect 10 sound words (e.g., buzz, splash, bang, chirp)

Write:

What sound it represents

One sentence using each

Challenge Task:

Use at least 5 new words + 2 sound words in your diary or story writing

Section D: Literature in Action

Character Interview Activity

Choose a character from any story/lesson

Prepare 5 questions you would ask them

Write their imaginary answers

Creative Twist

Draw or design the character

OR

Write a short monologue (as if the character is speaking)

Section E: Art Integration Activity

“Language Around Me” Project

 Aim:

To observe how English is used in real life

 What to Do:

 Observe your surroundings (home, market, TV, internet)

 Note down 10–15 English words/phrases you see (signboards, advertisements, product labels, etc.)

 Classify them into:

Nouns

		Verbs Adjectives ✍ Write: Where you found them Their meaning One sentence using each 👁 Observation Task: Where do you see English used the most? Why is English important in daily life? (4–5 lines) 🌟 General Instructions ✦ Compile your work neatly in a file/folder 😊 Use colours and headings to make it attractive 🧠 Be original—avoid copying 🕒 Submit on time 😊 Learn while enjoying your holidays
05	Artificial Intelligence	1. Choose the correct options: i. Which skill is considered essential for AI professionals to analyze and break down complex problems? A) Creativity B) Critical Thinking C) Time Management D) Adaptability ii. What is the main role of a Data Scientist in the field of AI? A) Building robots for industrial applications B) Designing machine learning algorithms C) Analyzing data and using it to solve complex problems D) Managing AI ethics and bias iii. Which soft skill is important for AI Professionals as robots may not excel in this area? A) Programming B) Conflict Management C) Data Analytics D) Deep Learning iv. Machine learning engineers are responsible for: A) Gathering data from various sources B) Developing robots that can act as caregivers C) Creating machines that can learn and improve overtime D) Managing large-scale software development projects v. Which of the following is a key skill for NLP engineers? A) Knowledge of electrical engineering B) Expertise in mechanical systems C) Strong foundation in linguistics D) Designing robotic arms 2. Choose the correct options: 1. Imagine you are working in a hospital, and the management wants to implement an AI-based system to predict patient illnesses based on their medical history. What steps would you take to design this system, and what kind of data would you need to make the AI system effective? 2. You are part of a team developing an AI-powered app that helps farmers predict crop yields based on weather and soil data. How would you work with the team to ensure that the AI system is accurate and useful for farmers across different regions? What factors would you need to

consider?

**** Write the answers in your school copy.**

1. Short Answer Questions

1. What are microorganisms? Give two examples.
2. Name the four main groups of microorganisms.
3. How are bacteria useful to us?
4. Write two harmful effects of microorganisms.
5. What is fermentation?
6. What is the role of nitrogen-fixing bacteria in soil?
7. What are communicable diseases? Give two examples.
8. How can we prevent food spoilage?

2. Fill in the Blanks

1. Microorganisms can be seen with the help of a _____.
2. _____ converts milk into curd.
3. _____ is used in baking bread.
4. Cholera is caused by _____.
5. _____ bacteria fix nitrogen in soil.

3. Match the Following

Column A	Column B
Yeast	Bread making
Bacteria	Curd formation
Virus	Causes diseases
Fungi	Mushroom

4. Activity Work

Activity 1 – Observation of Food Spoilage

Keep a slice of bread in a moist place for 3–4 days. Observe mould growth and record:- Day-wise observation- Colour change- Smell

Activity 2 – Kitchen Science

Write how microorganisms are used in:- Making curd- Baking bread- Making cheese

Write following steps for these activities:

1. Aim, 2. Material Required, 3. Procedure, 4. Observation, 5. Draw observation table, 6. Conclusion/Result

Activity -3

Balanced diet investigation

Survey 5 family member and record their diet

Name	Age	Food eaten in a day	Is it balanced?
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Conclusion:

Explain what improvements can be made for a healthier diet.

5)Mini Research project

Topic: **“Common Diseases and Their Prevention”**

Tabulate Communicable and non – communicable diseases

For each disease write:

- Cause
- Symptoms
- Prevention

6) Write a short essay: "Importance of Science in Daily Life".

7) MDP- SUSTAINABLE DEVELOPMENT

(i) **Research and write** about Sustainable Development focusing on environmental protection, pollution control, and ecosystem balance.

(ii) **Conduct a small survey/data collection** on water conservation, waste management, or energy consumption in your home/community and represent it graphically.

(iii) **Develop one innovative idea/solution** to solve an environmental problem in your surroundings with proper explanation.

(iii) **Submit a project file** including introduction, observations, findings, conclusion, and personal reflection on adopting sustainable practices.

PROJECT WORK (Subject Enrichment Activity)

S.No.	Topic	Roll No.	D/O Sub.
1	Food, Health & Hygiene	1	
		16	
		31	
2	Agriculture	2	
		17	
		32	
3	Transport & Communication	3	
		18	
		33	
4	Natural Farming	4	
		19	
		34	
5	Disaster Management	5	
		20	
		35	
6	Mathematical Modelling & Computational Thinking	6	
		21	
		36	
7	Waste Management and alternative to plastic	7	
		22	
		37	
8	Resource Management	8	
		23	
		38	
9	Sustainable Agriculture	9	
		24	
		39	
10	Clean energy, Green Energy	10	
		25	
11	Emerging Technology	11	
		26	
12	Water Conservation and Management	12	
		27	
13	Education	13	
		28	

14	assistive devices	14	
		29	
15	Environment	15	
		30	

Guidelines for Project Work

You should prepare a prototype on the above mentioned topic

Instructions for Prototype Preparation & Idea Development Identify a real-life problem from your surroundings such as waste management, water conservation, pollution, agriculture, health, transport, school life, or energy conservation etc.

Your idea should be:

- Original and innovative
- Practical and useful for society
- Low-cost and sustainable
- Easy to explain and demonstrate

Clearly define:

- Problem Statement – What problem are you trying to solve?
- Proposed Solution – How does your idea solve the problem?
- Target Users – Who will benefit from your project?
- Expected Impact – How will society/environment benefit?

Research your topic before building:

- Collect information from books, internet, newspapers, and observations.
- Study existing solutions and think of improvements.
- *Avoid copying ready-made internet projects.*
- *Focus on creativity, originality, and problem-solving.*
- *Parent guidance is allowed, but the work should primarily reflect the student's own effort and understanding.*

"Innovation begins with observation, curiosity, and the courage to solve problems."

Dear Students,

Use your holidays wisely by maintaining a healthy routine, eating nutritious food, and exercising regularly. Dedicate time each day to revision and self-study to strengthen your concepts for the academic year ahead. Stay disciplined, positive, and motivated, as small consistent efforts today will lead to big success tomorrow. Enjoy your holidays while balancing learning and well-being.

07

Social
Science

A) On a physical map of India, locate and label the following five important centers of the National Movement mentioned in your History chapters:

1. Champaran (Movement of Indigo Planters)
2. Amritsar (Jallianwala Bagh Incident)
3. Chauri Chaura (Calling off the Non-Cooperation Movement)
4. Dandi (Salt March)
5. Jhansi (1857 Revolt)

B) Walk through your house and list 5 items for each category:

- Natural Resources
- Human-Made Resources
- Sustainable Action: Write three simple ways you can "Conserve Resources" at home during the summer (e.g., "I will reuse vegetable wash-water for plants").

C) Interview a grandparent or an elderly neighbor about their life. Ask them:

1. What is the biggest change you have seen in India since your childhood?
2. What was a popular song or movie when you were my age?
3. How did people get the news back then without the internet?

D) Read the preamble of India from your textbook and mention the values mentioned in it.

E) Imagine you are the "Head of the House" for one day.

- Write down 3 Basic Rules (Laws) that everyone in your house must follow during summer and label it your mini constitution.

F) Make Save water poster.

G) Read chapters : Reshaping India's political map and The rise of Marathas.

All the Holiday Homework is to be done in Fair Notebook only.

Holiday Project : The Geometry of Light**Topic : Constructing a Cuboctahedron (Mathematical Lamp)****1. Objective**

To understand the properties of 3D geometric shapes (specifically the Cuboctahedron) by constructing a functional, decorative paper lamp and integrating basic electrical circuitry.

2. Materials Required

- **Paper:** 8 sheets of A4 pastel paper (different colors can be used for a vibrant effect).
- **Tools:** Scissors, stapler, Fevicol (or any strong paper glue).
- **Electricals:** String light (Ladiya)-2 meters, wire, and a plug.
- **Templates:** Printouts of Appendix 1 (The Unit Module) (Pg.no.6) and Appendix 2 (The Assembly Net) (Pg. no. 7).

3. Project Procedure (Step-by-Step) Phase I: Preparation of Units

1. **Printing:** Take 8 printouts of the template provided in **Appendix 1**.
2. **Modifying:** As per the instructions, remove the square sections from **two** of the cutouts to allow for light ventilation and design variation.
3. **Cutting:** Carefully cut out the outer boundary of the shapes.

Important: Do not cut off the flaps (the small tabs on the edges). These are essential for joining the pieces together.

1. **Detailing:** Use a craft knife or scissors to cut out the inner geometric patterns (triangles/squares) to let the light shine through.

Phase II: Assembly

1. **Creating the Net:** Layout your cut pieces on a flat surface to match the arrangement shown in **Appendix 2**.
2. **Joining:** Apply glue to the flaps and paste them to the corresponding edges of the adjacent pieces. Use a stapler for extra reinforcement if the pastel paper is heavy.

3. **Forming the 3D Shape:** Begin folding the "net" upward to form the volume of the lamp.

Phase III: Electrical Integration

1. **Wiring:** Before closing the final flap, insert the string lights (Ladiya) into the center of the structure.
2. **Hanging Point:** Instead of coming out of a flat face, thread the wire through one of the **vertices** (corners). This allows the lamp to hang diagonally, creating a more aesthetic, diamond-like appearance.
3. **Final Seal:** Paste the last flap shut once the light is securely positioned.

4. Observations & Learning

Students should include a brief "Project Report" section in their VE Notebook answering:

- **Faces:** How many square faces and triangular faces does a cuboctahedron have? (Answer: 6 squares, 8 triangles).
- **Vertices and Edges:** Count the total number of corners and lines on your completed lamp.
- **Light Physics:** Observe how the size of holes you cut affects the patterns of light cast on walls.

5. Safety Instructions

- Ensure all electrical connections (plug and wire) are handled with adult supervision.
- Check that the bulb/LED string does not generate high heat, as this is a paper-based project. Use LED lights for safety.

6. Evaluation Criteria

Criteria	Weightage
Precision of Cuts & Folds	30%
Structural Stability	20%
Creative Design (Inner cutouts)	20%
Functional Lighting & Wiring	20%
Timely Submission	10%

Note: Take photos of the process— from the initial flat net to the final illuminated lamp— and paste them into Your VE Notebook.

The whole process is given to your Kaushal Pragyata book. Go through the book if you need some help. The link is provided below:

[Kaushal Pragyata-VIII-PgNo.5 to 7](#)

09	Yoga	Perform: Surya Namaskar and paste pictures of these asanas in your Yoga notebook. Write the following questions and their answers in your Yoga notebook 1. What is Yoga? Answer: Yoga is an ancient Indian practice that helps in the development of body, mind, and soul. It includes asanas (postures), pranayama (breathing), and meditation to maintain overall health. What are the benefits of Yoga? Answer: 1. Improves flexibility and strength 2. Enhances concentration and memory 3. Reduces stress and anxiety 4. Helps in maintaining good posture 5. Improves breathing and overall health What is Pranayama? Answer: Pranayama is the practice of controlled breathing techniques in yoga. It helps in calming the mind and improving lung capacity. Name any two breathing exercises. Answer: 6. Anulom Vilom 7. Bhramari Pranayama 2. What is the importance of warm-up before yoga? Answer: Warm-up exercises prepare the body for yoga by: 1. Increasing blood circulation 2. Preventing injuries 3. Making muscles flexible 3. What is Tadasana? Explain briefly. Answer: Tadasana (Mountain Pose) is a basic standing posture. Steps: 1. Stand straight with feet together 2. Raise hands above the head 3. Stretch the body upwards Benefits: Improves posture and balance. 4. What is Vrikshasana? Answer: Vrikshasana (Tree Pose) is a balancing pose where one foot is placed on the opposite thigh. Benefits: Improves concentration and body balance. 5. What is the role of meditation in yoga? Answer: Meditation helps in: 1. Relaxing the mind 2. Improving focus 3. Reducing stress 4. Increasing emotional stability 6. Why is regular practice of yoga important? Answer: Regular yoga practice helps maintain physical fitness, mental peace, and emotional balance, making a person healthy and active. 7. What precautions should be taken while doing yoga? Answer: 1. Practice on an empty stomach 2. Wear comfortable clothes 3. Do yoga in a clean, ventilated place 4. Avoid overexertion 5. Follow proper guidance
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PM SHRI KENDRIYA VIDYALAYA KATHUA
SUMMER BREAK HOLIDAYS HOMEWORK(2026-27)
CLASS- VIII-B



SL.NO	SUBJECT	DESCRIPTION																																							
01	Hindi	1. हम पक्षियों की किस प्रकार सहायता कर सकते हैं किसी एक पक्षी का चित्र बनाकर या फोटो चिपका कर उस पर 10- 15 पंक्तियां लिखो। 2. हम अपने स्तर पर देश के किस तरह सेवा कर सकते हैं लगभग 10-15 पंक्तियों में लिखो। 3. ग्रीष्मकालीन छुट्टियां के दौरान अपनी हिंदी पाठ्य पुस्तक से हटकर अन्य किसी पुस्तक से कम से कम दो पाठ पढ़ कर प्रत्येक पाठ पर लिखिए कि आपने उस पाठ में से क्या पढ़ा। 4. संज्ञा, सर्वनाम ,विशेषण व क्रिया की परिभाषा व प्रमुख भेद उदाहरण सहित लिखना हैं। 5. अपने मनपसंद के किसी एक वृक्ष की फोटो बनाकर या चिपका कर उसके बारे में 10-15 पंक्तियां लिखो तथा यह भी लिखो कि हमें पेड़ पौधे क्यों उगाने चाहिए तथा हम उनकी देखभाल किस तरह से कर सकते हैं? 6. ग्रीष्मकालीन अवकाश दौरान घूमने फिरने जाने हेतु अपने मित्र को पत्र लिखो। 7. पाँच पेज सुलेख लिखने हैं। 8. आपकी ग्रीष्मकालीन अवकाश की छुट्टियां किस तरह से बीती। अपने अनुभव सांझा करते हुए एक पेज लिखो।																																							
02	Sanskrit	1. प्रतिदिन 5 संस्कृत शब्द लिखें एवं उनके हिंदी अर्थ लिखें । 2. दैनिक जीवन पर आधारित 10 वाक्य संस्कृत में लिखें । 3. धातु रूप पठ, खाद, गम्, खाद, (लट, लृट, लङ् लोट लकार में रूप लिखें) 4. शब्द रूपाणि राम, फल, लता (तीनों के रूप लिखें) 5. चित्र बनाकर संस्कृत में वर्णन करें । (5 से 8 वाक्य) (जैसे- उद्यान, विद्यालय, याम आदि) 6. संधि-विच्छेद करें (10 उदाहरण) जैसे – विद्यालयः = विद्या+आलयः । 7. परियोजना कार्य – संस्कृत श्लोक (नैतिक शिक्षा सहित कोई पाँच श्लोक) 8. प्रतिदिन 5-10 मिनट संस्कृत पाठ का उच्चारण अभ्यास करें । 9. 5 श्लोक कठस्थ करें ।																																							
03	Maths	PM SHRI KENDRIYA VIDYALAYA KATHUA HOLIDAY HOMEWORK MATHS Class – VIII Q1. Write the Square of the numbers from 1 to 30. 1. Write the Cube of the numbers from 1 to 25. 2. Learn and write tables from 1 to 20. 3. Find square root of following numbers by Prime factorization method. $\sqrt{64}$, $\sqrt{144}$, $\sqrt{256}$, $\sqrt{361}$, $\sqrt{776}$ 4. Find cube root of following numbers by Prime factorization method. $\sqrt[3]{64}$, $\sqrt[3]{1000}$, $\sqrt[3]{812}$, $\sqrt[3]{729}$, $\sqrt[3]{1728}$ 5. Find the smallest square number that is divisible by each of the following numbers: 4, 9, and 10. 6. How many numbers lie between the squares of the following numbers? (i) 16 and 17 (ii) 99 and 100 7. State true or false. Explain your reasoning. (i) The cube of any odd number is even. (ii) There is no perfect cube that ends with 8. (iii) The cube of a 2-digit number may be a 3-digit number. (iv) The cube of a 2-digit number may have seven or more digits. (v) Cube numbers have an odd number of factors. 8. Make magic square of 5 x 5 from 1 to 25 numbers. 9. Make magic square of 7 x 7 from 1 to 49 numbers. 10. The image below shows a logic machine, where numbers move from Column 1 to Column 4 (starting from column 1 as input and reach column 4) through the tunnel, where they change in a different way, each time. What would be the sum of A, B, and C? <table><tr><th>Column 1</th><th>Column 2</th><th>Column 3</th><th>Column 4</th></tr><tr><td>4</td><td>15</td><td>8</td><td>216</td></tr><tr><td>32</td><td>483</td><td>15</td><td>3176</td></tr><tr><td>11</td><td>128</td><td>3</td><td>27</td></tr><tr><td>7</td><td>A</td><td>B</td><td>C</td></tr></table> 11. Each geometrical shape denotes a certain operation. What will come in place of "?" <table><tr><td>$\square$</td><td>$\rightarrow$</td><td>266</td><td>$\square$</td><td>$\rightarrow$</td><td>361</td></tr><tr><td>$\square$</td><td>$\rightarrow$</td><td>3376</td><td>$\square$</td><td>$\rightarrow$</td><td>1221</td></tr><tr><td>$\square$</td><td>$\rightarrow$</td><td>$\square$</td><td>$\rightarrow$</td><td>$\square$</td><td>$\rightarrow$</td><td>?</td></tr></table> Write the laws of exponents with examples. Express the following numbers in standard form. 1) 59,853 2) 65,950 3) 34,30,000 Write in the exponential form. 1) 4900 2) 15625 3) 100,000	Column 1	Column 2	Column 3	Column 4	4	15	8	216	32	483	15	3176	11	128	3	27	7	A	B	C	$\square$	$\rightarrow$	266	$\square$	$\rightarrow$	361	$\square$	$\rightarrow$	3376	$\square$	$\rightarrow$	1221	$\square$	$\rightarrow$	$\square$	$\rightarrow$	$\square$	$\rightarrow$	?
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04

English

 **Class VIII – English**
 **Section A: Reading & Reflection**
 Read any one:
 Short novel / biography / inspirational story
 Complete a Reading Response Page:
 Title & Author
 Type of text (fiction/non-fiction)
 5 new words you learned
 3 lessons from the story
 Your favourite character and why (4–5 lines)
 **Section B: Writing Portfolio**
 Create a small “Holiday Writing Folder” and include:
 **1. Diary Entries (Any 2)**
 A day without mobile phone
 A surprising incident
 A day you helped someone
 **2. Factual Description**
 A historical place you visited or know about
 Your city/town
 **3. Narrative Writing**
 Write a story beginning with:
 “It was a day I will never forget...”
 **4. Speech Writing**
 Topic: “The Importance of Time in Student Life”
 (100–120 words)
 **Section C: Vocabulary & Language Builder**
 **Make a Word Bank Notebook:**
 Write 40–50 new words
 Add:
 Meaning
 Synonym
 Sentence
 **Sound Words Activity (Onomatopoeia)**
 Collect 10 sound words (e.g., buzz, splash, bang, chirp)
 Write:
 What sound it represents
 One sentence using each
 **Challenge Task:**
 Use at least 5 new words + 2 sound words in your diary or story writing
 **Section D: Literature in Action**
 **Character Interview Activity**
 Choose a character from any story/lesson
 Prepare 5 questions you would ask them
 Write their imaginary answers
 **Creative Twist**
 Draw or design the character
 OR
 Write a short monologue (as if the character is speaking)
  **Section E: Art Integration Activity**
 **“Language Around Me” Project**
 **Aim:**
 To observe how English is used in real life
 **What to Do:**
 Observe your surroundings (home, market, TV, internet)
 Note down 10–15 English words/phrases you see
 (signboards, advertisements, product labels, etc.)
 **Classify them into:**
 Nouns

		Verbs Adjectives ✍ Write: Where you found them Their meaning One sentence using each 👁 Observation Task: Where do you see English used the most? Why is English important in daily life? (4–5 lines) 🌟 General Instructions ✦ Compile your work neatly in a file/folder 🎨 Use colours and headings to make it attractive 🔄 Be original—avoid copying 🕒 Submit on time 😊 Learn while enjoying your holidays
05	Artificial Intelligence	1. <u>Choose the correct options:</u> i. Which skill is considered essential for AI professionals to analyze and break down complex problems? A) Creativity B) Critical Thinking C) Time Management D) Adaptability ii. What is the main role of a Data Scientist in the field of AI? A) Building robots for industrial applications B) Designing machine learning algorithms C) Analyzing data and using it to solve complex problems D) Managing AI ethics and bias iii. Which soft skill is important for AI Professionals as robots may not excel in this area? A) Programming B) Conflict Management C) Data Analytics D) Deep Learning iv. Machine learning engineers are responsible for: A) Gathering data from various sources B) Developing robots that can act as caregivers C) Creating machines that can learn and improve overtime D) Managing large-scale software development projects v. Which of the following is a key skill for NLP engineers? A) Knowledge of electrical engineering B) Expertise in mechanical systems C) Strong foundation in linguistics D) Designing robotic arms 2. <u>Choose the correct options:</u> 3. Imagine you are working in a hospital, and the management wants to implement an AI-based system to predict patient illnesses based on their medical history. What steps would you take to design this system, and what kind of data would you need to make the AI system effective? 4. You are part of a team developing an AI-powered app that helps farmers predict crop yields based on weather and soil data. How would you work with the team to ensure that the AI system is accurate and useful for farmers across different regions? What factors would you need to consider? ** Write the answers in your school copy.

1. Short Answer Questions

1. What are microorganisms? Give two examples.
2. Name the four main groups of microorganisms.
3. How are bacteria useful to us?
4. Write two harmful effects of microorganisms.
5. What is fermentation?
6. What is the role of nitrogen-fixing bacteria in soil?
7. What are communicable diseases? Give two examples.
8. How can we prevent food spoilage?

2. Fill in the Blanks

1. Microorganisms can be seen with the help of a _____.
2. _____ converts milk into curd.
3. _____ is used in baking bread.
4. Cholera is caused by _____.
5. _____ bacteria fix nitrogen in soil.

3. Match the Following

Column A	Column B
Yeast	Bread making
Bacteria	Curd formation
Virus	Causes diseases
Fungi	Mushroom

4. Activity Work**Activity 1 – Observation of Food Spoilage**

Keep a slice of bread in a moist place for 3–4 days. Observe mould growth and record:- Day-wise observation- Colour change- Smell

Activity 2 – Kitchen Science

Write how microorganisms are used in:- Making curd- Baking bread- Making cheese

Write following steps for these activities:

1. Aim, 2. Material Required, 3. Procedure, 4. Observation, 5. Draw observation table, 6. Conclusion/Result

Activity -3**Balanced diet investigation**

Survey 5 family member and record their diet

Name	Age	Food eaten in a day	Is it balanced?
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Conclusion:

Explain what improvements can be made for a healthier diet.

5) Mini Research project**Topic: “Common Diseases and Their Prevention”**

Tabulate Communicable and non – communicable diseases

For each disease write:

- Cause
- Symptoms
- Prevention

6) Write a short essay: "Importance of Science in Daily Life".

7) MDP- SUSTAINABLE DEVELOPMENT

(i) **Research and write** about Sustainable Development focusing on environmental protection, pollution control, and ecosystem balance.

(ii) **Conduct a small survey/data collection** on water conservation, waste management, or energy consumption in your home/community and represent it graphically.

(iii) **Develop one innovative idea/solution** to solve an environmental problem in your surroundings with proper explanation.

(iii) **Submit a project file** including introduction, observations, findings, conclusion, and personal reflection on adopting sustainable practices.

PROJECT WORK (Subject Enrichment Activity)

S.No.	Topic	Roll No.	D/O Sub.
1	Food, Health & Hygiene	1	
		16	
		31	
2	Agriculture	2	
		17	
		32	
3	Transport & Communication	3	
		18	
		33	
4	Natural Farming	4	
		19	
		34	
5	Disaster Management	5	
		20	
		35	
6	Mathematical Modelling & Computational Thinking	6	
		21	
		36	
7	Waste Management and alternative to plastic	7	
		22	
		37	
8	Resource Management	8	
		23	
		38	
9	Sustainable Agriculture	9	
		24	
		39	
10	Clean energy, Green Energy	10	
		25	
11	Emerging Technology	11	
		26	
12	Water Conservation and Management	12	
		27	
13	Education	13	
		28	
14	assistive devices	14	
		29	
15	Environment	15	
		30	

		Guidelines for Project Work You should prepare a prototype on the above mentioned topic Instructions for Prototype Preparation & Idea Development Identify a real-life problem from your surroundings such as waste management, water conservation, pollution, agriculture, health, transport, school life, or energy conservation etc. Your idea should be: ○ Original and innovative ○ Practical and useful for society ○ Low-cost and sustainable ○ Easy to explain and demonstrate Clearly define: ○ Problem Statement – What problem are you trying to solve? ○ Proposed Solution – How does your idea solve the problem? ○ Target Users – Who will benefit from your project? ○ Expected Impact – How will society/environment benefit? Research your topic before building: ○ Collect information from books, internet, newspapers, and observations. ○ Study existing solutions and think of improvements. • <i>Avoid copying ready-made internet projects.</i> • <i>Focus on creativity, originality, and problem-solving.</i> • <i>Parent guidance is allowed, but the work should primarily reflect the student's own effort and understanding.</i> "Innovation begins with observation, curiosity, and the courage to solve problems." Dear Students, Use your holidays wisely by maintaining a healthy routine, eating nutritious food, and exercising regularly. Dedicate time each day to revision and self-study to strengthen your concepts for the academic year ahead. Stay disciplined, positive, and motivated, as small consistent efforts today will lead to big success tomorrow. Enjoy your holidays while balancing learning and well-being.
07	Social Science	B) On a physical map of India, locate and label the following five important centers of the National Movement mentioned in your History chapters: 1. Champaran (Movement of Indigo Planters) 2. Amritsar (Jallianwala Bagh Incident) 3. Chauri Chaura (Calling off the Non-Cooperation Movement) 4. Dandi (Salt March) 5. Jhansi (1857 Revolt) B) Walk through your house and list 5 items for each category: • Natural Resources • Human-Made Resources • Sustainable Action: Write three simple ways you can "Conserve Resources" at home during the summer (e.g., "I will reuse vegetable wash-water for plants"). D) Interview a grandparent or an elderly neighbor about their life. Ask them: 1. What is the biggest change you have seen in India since your childhood? 2. What was a popular song or movie when you were my age? 3. How did people get the news back then without the internet? D) Read the preamble of India from your textbook and mention the values mentioned in it. E) Imagine you are the "Head of the House" for one day. • Write down 3 Basic Rules (Laws) that everyone in your house must follow during summer and label it your mini constitution. H) Make Save water poster. I) Read chapters : Reshaping India's political map and The rise of Marathas. All the Holiday Homework is to be done in Fair Notebook only.

08	VE	Holiday Project : The Geometry of Light Topic : Constructing a Cuboctahedron (Mathematical Lamp) 1. Objective To understand the properties of 3D geometric shapes (specifically the Cuboctahedron) by constructing a functional, decorative paper lamp and integrating basic electrical circuitry. 2. Materials Required • Paper: 8 sheets of A4 pastel paper (different colors can be used for a vibrant effect). • Tools: Scissors, stapler, Fevicol (or any strong paper glue). • Electricals: String light (Ladiya)-2 meters, wire, and a plug. • Templates: Printouts of Appendix 1 (The Unit Module) (Pg.no.6) and Appendix 2 (The Assembly Net) (Pg. no. 7). 3. Project Procedure (Step-by-Step) Phase I: Preparation of Units 1. Printing: Take 8 printouts of the template provided in Appendix 1. 2. Modifying: As per the instructions, remove the square sections from two of the cutouts to allow for light ventilation and design variation. 3. Cutting: Carefully cut out the outer boundary of the shapes. Important: Do not cut off the flaps (the small tabs on the edges). These are essential for joining the pieces together. 1. Detailing: Use a craft knife or scissors to cut out the inner geometric patterns (triangles/squares) to let the light shine through. Phase II: Assembly 1. Creating the Net: Layout your cut pieces on a flat surface to match the arrangement shown in Appendix 2. 2. Joining: Apply glue to the flaps and paste them to the corresponding edges of the adjacent pieces. Use a stapler for extra reinforcement if the pastel paper is heavy. 3. Forming the 3D Shape: Begin folding the "net" upwards to form the volume of the lamp. Phase III: Electrical Integration 1. Wiring: Before closing the final flap, insert the string lights (Ladiya) into the center of the structure. 2. Hanging Point: Instead of coming out of a flat face, thread the wire through one of the vertices (corners). This allows the lamp to hang diagonally, creating a more aesthetic, diamond-like appearance. 3. Final Seal: Paste the last flap shut once the light is securely positioned. 4. Observations & Learning Students should include a brief "Project Report" section in their VE Notebook answering: • Faces: How many square faces and triangular faces does a cuboctahedron have ? (Answer: 6 squares, 8 triangles). • Vertices and Edges: Count the total number of corners and lines on your completed lamp. • Light Physics: Observe how the size of the holes you cut affects the patterns of light cast on the walls. 5. Safety Instructions • Ensure all electrical connections (plug and wire) are handled with adult supervision. • Check that the bulb/LED string does not generate high heat, as this is a paper-based project. Use LED lights for safety. 6. Evaluation Criteria <table><tr><th>Criteria</th><th>Weightage</th></tr><tr><td>Precision of Cuts & Folds</td><td>30%</td></tr><tr><td>Structural Stability</td><td>20%</td></tr><tr><td>Creative Design (Inner cutouts)</td><td>20%</td></tr><tr><td>Functional Lighting & Wiring</td><td>20%</td></tr><tr><td>Timely Submission</td><td>10%</td></tr></table>	Criteria	Weightage	Precision of Cuts & Folds	30%	Structural Stability	20%	Creative Design (Inner cutouts)	20%	Functional Lighting & Wiring	20%	Timely Submission	10%
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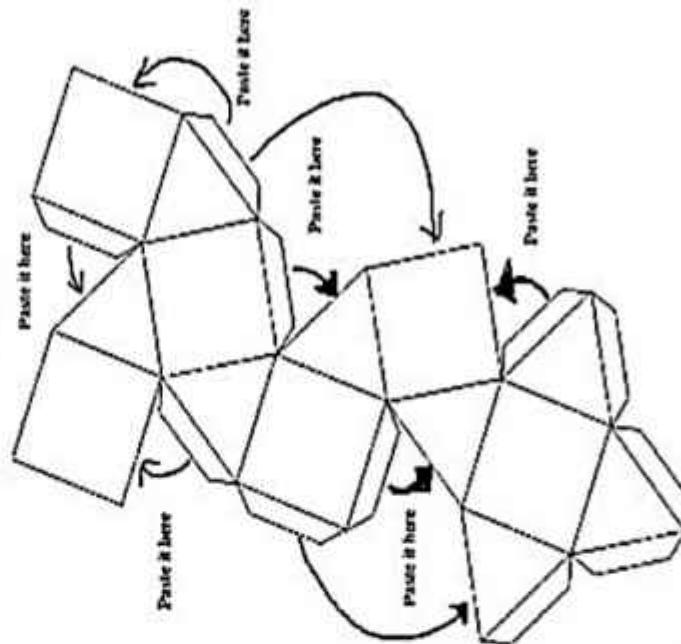
Note: Take photos of the process— from the initial flat net to the final illuminated lamp— and paste them into Your VE Notebook.

The whole process is given to your Kaushal Pragyata book. Go through the book if you need some help. The link is provided below:

[KaushalPragyata-VIII](#)—PgNo.5 to 7

KENDRIYA VIDYALAYA DELHI REGION 2022

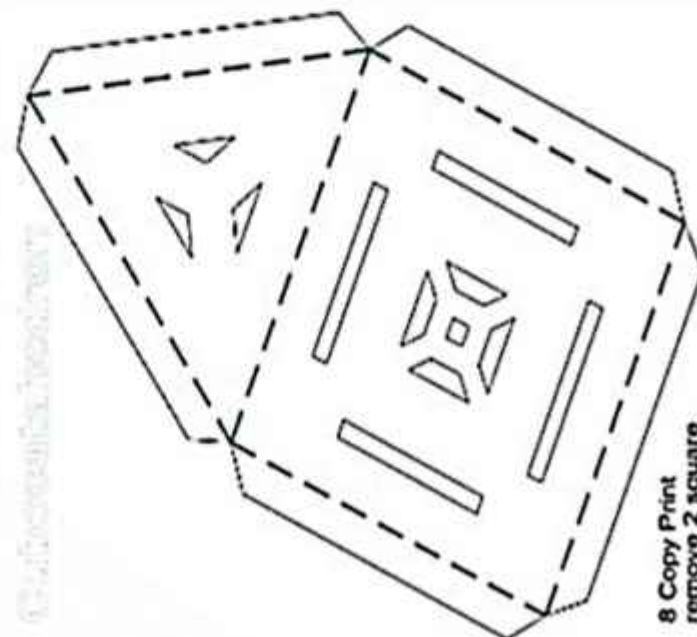
Appendix-2



Chamfered -Cubo Lamp

KENDRIYA VIDYALAYA DELHI REGION 2022

Appendix-1



09	YOGA	Perform: Surya Namaskar and paste pictures of these asanas in your Yoga notebook. Write the following questions and their answers in your Yoga notebook 8. What is Yoga? Answer: Yoga is an ancient Indian practice that helps in the development of body, mind, and soul. It includes asanas (postures), pranayama (breathing), and meditation to maintain overall health. What are the benefits of Yoga? Answer: Improves flexibility and strength - Enhances concentration and memory - Reduces stress and anxiety - Helps in maintaining good posture - Improves breathing and overall health What is Pranayama? Answer: Pranayama is the practice of controlled breathing techniques in yoga. It helps in calming the mind and improving lung capacity. Name any two breathing exercises. Answer: Anulom Vilom - Bhramari Pranayama 1. What is the importance of warm-up before yoga? Answer: Warm-up exercises prepare the body for yoga by: - Increasing blood circulation - Preventing injuries - Making muscles flexible 2. What is Tadasana? Explain briefly. Answer: Tadasana (Mountain Pose) is a basic standing posture. Steps: - Stand straight with feet together - Raise hands above the head - Stretch the body upwards Benefits: Improves posture and balance. 3. What is Vrikshasana? Answer: Vrikshasana (Tree Pose) is a balancing pose where one foot is placed on the opposite thigh. Benefits: Improves concentration and body balance. 4. What is the role of meditation in yoga? Answer: Meditation helps in: - Relaxing the mind - Reducing stress - Improving focus - Increasing emotional stability 5. Why is regular practice of yoga important? Answer: Regular yoga practice helps maintain physical fitness, mental peace, and emotional balance, making a person healthy and active. 6. What precautions should be taken while doing yoga? Answer: - Practice on an empty stomach - Wear comfortable clothes - Do yoga in a clean, ventilated place - Avoid overexertion - Follow proper guidance
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PM SHRI KENDRIYA VIDYALAYA KATHUA
SUMMER BREAK HOLIDAYS HOMEWORK(2026-27)
CLASS- IX-A



SL.NO	SUBJECT	DESCRIPTION
01	Hindi	1. अनुच्छेद लेखन की परिभाषा लिखकर अनुच्छेद लिखते समय ध्यान रखने योग्य बातें बताते हुए दिए गए विषयों पर 120 शब्दों में अनुच्छेद लिखिए । (क) समाचार पत्र एक : लाभ अनेक • जिज्ञासा पूर्ति का सस्ता एवं सुलभ साधन • रोजगार का साधन • समाचार पत्रों के प्रकार • जानकारी के साधन (ख) मानव जीवन पर विज्ञापनों का असर • विज्ञापन का अर्थ एवं प्रचार-प्रसार • विज्ञापनों की लुभावनी भाषा • विज्ञापन का प्रभाव • विज्ञापन के लाभ हानि 2. अपनी देखी सुनी किसी आपदा का वर्णन करते हुए उससे निपटने हुते अपनी तरफ से कुछ सुझाव दीजिए। 3. बाढ़ पीड़ित क्षेत्र में कौन-कौन सी बीमारियों के फैलने की आशंका रहती है ? लिखो 4. ई-मेल (ई-पत्र) की परिभाषा लिखकर दिए गए विषयों पर ई-मेल लिखिए । (क) ई-मेल लेखन का प्रारूप बनाइये । (ख) आपके शहर में सभी प्रकार के खाद्य पदार्थों में मिलावट का धंधा लगातार बढ़ता ही जा रहा है। अपने राज्य के खाद्य-मंत्री को dfpd@gov.in पर एक ईमेल लिखकर इस समस्या के प्रति उनका ध्यान आकृष्ट कीजिए। 5. सूचना लेखन की परिभाषा लिखकर दिए गए विषयों पर सूचना लिखिए । (क) आपके विद्यालय में वार्षिक उत्सव में नाटक मंचन हेतु इच्छुक छात्रों को जानकारी देने हेतु एक सूचना तैयार कीजिए । (ख) विद्यालय में योग की अभ्यास कक्षाएं चलने की सूचना देते हुए इच्छुक विद्यार्थियों द्वारा अपना नाम देने हेतु सूचना पट्ट के लिए एक सूचना लगभग 30 शब्दों में लिखिए । 6. अलंकार की परिभाषा लिखकर दिए गए अलंकारों की परिभाषा लिखते हुए पाँच-पाँच उदाहरण लिखिए। (अनुप्रास , यमक , श्लेष) 7. वाक्य भेद (अर्थ के आधार पर) परिभाषा तथा प्रमुख भेदों की परिभाषा दो-दो उदाहरणों सहित लिखो । 8. समास के प्रमुख भेदों की परिभाषा दो-दो उदाहरणों सहित लिखो । 9. किन्हीं पाँच उपसर्ग और प्रत्यय तीन-तीन नए शब्द बनाओ । 10. डॉक्टर और मरीज तथा सब्जी विक्रेता और महिलाओं के बीच हुई बातचीत को संवाद के रूप में लिखो । 11. कोई पाँच सुलेख लिखने लिखो । 12. चालाक लोमड़ी , लालची कुत्ता , प्यासा कौआ , पर लघु कथा लगभग 100 शब्दों में

		लिखो । 13 . ग्रीष्मकालीन अवकाश से पूर्व करवाया गया पाठ्यक्रम याद करो।
02	Maths	1) Solve the worksheets of extra questions of lesson 1 2) Complete all activities on your Activity file 3) Revise chapter 1
03	English	Reading Skill: 1. Read Prose 1. How I Taught My Grandmother to Read by Sudha Murty and write the questions and answers in your regular notebooks for homework given in your textbook under Critical Reflection activity: I. Extract based questions of extracts 1 and 2. II. Answer the Questions 1 to 5. III. Make Mind Map of this story. 2. Search the pdf document of any one Novel of your choice from the given below by Sudha Murty for long reading practice and write the review of the novel: "Grandma's Bag of stories" "The Day I Stopped Drinking Milk" 3. Choose and take A4 size printout of two questions of Reading Skill, unseen passages from the Sample Question Papers of English and solve them. Write the answers in your regular notebooks for homework. Fix the prints of questions in the notebooks. Creative Writing Skill: Write your answers for following questions in your regular notebooks for homework: 1. Write a letter to the Editor of a local daily drawing attention to the improper disposal of garbage in your locality. Explain its impact on health and environment, and suggest practical solutions. 2. Write a letter to the Editor of a newspaper expressing concern about the misuse of social media by teenagers. Point out the harmful effects and suggest ways to promote responsible use. 3. Make a poster on the topic on A4 size plain paper. Include verbal and visual information in your poster: "Education for All" Art Integrated Project: Theme- "Foods and Dishes of Tamil Nadu" Project Instructions ▣ Students must prepare the project on A4 size file papers, using their own neat and legible handwriting. ▣ Work should be colourful and creative, with pictures pasted or drawn on plain white sheets. ▣ To make the project more vibrant and effective, students are encouraged to seek guidance and suggestions from their Social Science and Art Education teachers. Objectives: ▣ To connect English learning with the culinary heritage of Tamil Nadu. ▣ To encourage students to explore regional food culture through creative writing and art. ▣ To build awareness of diversity in food traditions while practicing English skills. Project Components: 1. Literary Connection (Textbook – Kaveri): •
04	Artificial Intelligence	Holidays Homework (To be done in Computer Notebook) 1. Teach 1 family member about the use of AI using examples from your home. Paste selfies with them and write a paragraph what they learned with their signature. 2. Choose any 2 Sustainable Development Goals. Write how AI can help achieve them. Write one slogan on each. 3. Read and write the chapter No. 3 of Part A ".Basic ICT skills" in your notebook

		4. Draw dream gadget from your imagination. Write the Name of that gadget also write one paragraph on that gadget. 5. Revise all the chapters and complete your pending work.						
05	Science	1.To prepare a model to demonstrate movement of particles in solid , liquids and gases. 2. Natural resource study- Identify resources used at home. a) Renewable resources. b) Non renewable resources. 3. Graph activity- Plot a distance-time graph Analyse:- a) Uniform motion. b) Non uniform motion. 4. Motion observation project. – Observe moment of any object (cycle/car/person) Record- a) distance covered. b) time taken c) Calculate speed 5. Diagram practice- Draw well labelled diagram of Plant cell and Animal cell. 6. Make a poster on Save environment. 7. Perform simple activity. Observe. a) Melting of ice. b) Evaporation of water. Write observation and conclusion. 8. Climate observation- Record weather for 10 days. Analyse pattern and write conclusion. 9. Project idea for benefit of society on the topic a) energy b) water management c) agriculture d) environmental solution e) Transport and communication. 10. Prepare a science portfolio.						
06	Social Science	PART A: CHAPTER 1: Natural Resources and Their Use Task 1: Concept Notes Write short notes on: * Types of resources * Renewable vs Non-renewable * Sustainable development Task 2: Observe your home and write: * 5 resources used daily * How to conserve them CHAPTER 2: Reshaping India's Political Map Task 1: Timeline Prepare a timeline of: * Major events after independence * Formation of states Task 2: Map Work Mark on India map: * States formed after 1947 * Capitals CHAPTER 3: The Rise of the Marathas Task 1: Character Sketch Write about: * Shivaji Maharaj (5–6 points) Task 2: Flowchart * Rise → Expansion → Administration CHAPTER 4: The Colonial Era in India Task 1: Cause-Effect Table <table><tr><td>Cause</td><td>Effect</td></tr><tr><td>-----</td><td>-----</td></tr><tr><td>British policies</td><td>Impact on Indians</td></tr></table> Task 2: Write:	Cause	Effect	-----	-----	British policies	Impact on Indians
Cause	Effect							
-----	-----							
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- * 3 economic impacts
- * 3 social impact

GEOGRAPHY: People and Environment

Task1:

Paste/draw:

- * Human activities (farming, transport)
- * Natural environment

2. Write 2–3 lines:

How humans depend on environment

CHAPTER 5: Universal Franchise & Electoral System

Task 1:

Explain:

- * Universal Adult Franchise
- * Importance of voting

Task 2:

Interview 2 adults:

- * Do they vote? Why?

CHAPTER 6: Parliamentary System

Task 1

Draw: * Structure of Parliament

- * Legislature
- * Executive

Task 2:

Write difference:

- * Lok Sabha vs Rajya Sabha

CHAPTER 7: Factors of Production

Task 1:

Explain:

- * Land
- * Labour
- * Capital
- * Entrepreneurship

Task 2:

Give real-life examples from your area

PART B: PROJECT WORK (ANY ONE)

Option 1: Sustainable Development

- * Meaning
- * Types of resources
- * Conservation methods
- * Local examples

Option 2: Democracy in India

- * Elections
- * Role of citizens
- * Importance of voting

Option 3: Economic Activities Around You

Include:

- * Primary, secondary, tertiary activities
- * Examples from your locality

PART C:

Do ANY ONE:

- * Poster: "Save Resources Save Future"
- * Timeline: Indian History (1857–1947)

PART ID: MAP WORK

- * India: States & Capitals
- * Rivers: Ganga, Yamuna, Brahmaputra
- * Mountains: Himalayas

- o Students write a short **paragraph in English** linking a lesson's theme (nature, culture, values) with Tamil Nadu's food traditions (e.g., rice cultivation along the Kaveri River).

2. Art Integration:

- o Draw or paste colourful pictures of **traditional Tamil dishes** (idli, dosa, sambar, pongal, filter coffee).
- o Create a **poster/collage** titled "Taste of Tamil Nadu".

3. Creative Writing:

		- o Compose a recipe card in English for a Tamil dish, highlighting ingredients and preparation steps. - o Write a short poem or descriptive passage about food as a symbol of culture and togetherness. 4. Research & Presentation: - o Prepare a brief report (200–250 words) on Tamil Nadu's food habits, festivals, and dishes. - o Present orally in class, using English expressions of taste, smell, and texture. Assessment Criteria: ☑ Creativity in artwork and presentation ☑ Accuracy and effort in research ☑ Clarity of English writing ☑ Neatness and colourful presentation on A4 sheets ☑ Timelines ☑ Content
07	Yoga	Perform : Surya Namaskar and paste pictures of these asanas in your Yoga notebook. Write the following questions and their answers in your Yoga notebook 1. What is Yoga? Answer: Yoga is an ancient Indian practice that helps in the development of body, mind, and soul. It includes asanas (postures), pranayama (breathing), and meditation to maintain overall health. 2. What are the benefits of Yoga? Answer: • Improves flexibility and strength • Enhances concentration and memory • Reduces stress and anxiety • Helps in maintaining good posture • Improves breathing and overall health 3. What is Pranayama? Answer: Pranayama is the practice of controlled breathing techniques in yoga. It helps in calming the mind and improving lung capacity. 4. Name any two breathing exercises. Answer: • Anulom Vilom • Bhramari Pranayama 5. What is the importance of warm-up before yoga? Answer: Warm-up exercises prepare the body for yoga by: • Increasing blood circulation • Preventing injuries • Making muscles flexible 6. What is Tadasana? Explain briefly. Answer: Tadasana (Mountain Pose) is a basic standing posture. Steps: • Stand straight with feet together • Raise hands above the head • Stretch the body upwards Benefits: Improves posture and balance. 7. What is Vrikshasana? Answer: Vrikshasana (Tree Pose) is a balancing pose where one foot is placed on the opposite thigh. Benefits: Improves concentration and body balance. 8. What is the role of meditation in yoga? Answer: Meditation helps in: • Relaxing the mind • Improving focus

- Reducing stress
- Increasing emotional stability

9. Why is regular practice of yoga important?

Answer: Regular yoga practice helps maintain physical fitness, mental peace, and emotional balance, making a person healthy and active.

10. What precautions should be taken while doing yoga?

Answer:

- Practice on an empty stomach
- Wear comfortable clothes
- Do yoga in a clean, ventilated place
- Avoid overexertion
- Follow proper guidance

Definition of Pranayama

“तस्मिन् सतिश्वासप्रश्वासयोर्गतिविच्छेदः प्राणायामः”

This comes from the Yoga Sutras of Patanjali.

Meaning: Pranayama is the regulation or control of inhalation and exhalation of breath.

✓ □ Simple Definition (English):

Pranayama is the practice of controlling the breath to enhance physical, mental, and spiritual well-being. ✓ □ Word Meaning:

- Prana = Life force or vital energy
- Ayama = Expansion or control

So, Pranayama means expansion and control of life energy through breathing.

Main Components of Pranayama

1. Puraka (Inhalation) – Breathing in
2. Kumbhaka (Retention) – Holding the breath
3. Rechaka (Exhalation) – Breathing out

Types of Pranayama

1. Anulom Vilom (Alternate Nostril Breathing)

Method:

- Close the right nostril and inhale through the left
- Close the left nostril and exhale through the right
- Repeat in reverse order

Benefits:

- Calms the mind
- Reduces stress
- Improves lung function

2. Kapalbhati

Method:

- Forcefully exhale air
- Inhalation happens automatically

Benefits:

- Improves digestion
- Helps reduce belly fat
- Detoxifies the body

3. Bhastrika

Method:

- Rapid inhalation and exhalation
- Like the movement of a bellows

Benefits:

- Increases energy
- Strengthens lungs
- Improves oxygen supply

4. Bhramari (Humming Bee Breath)

Method:

- Inhale deeply
- Exhale while making a humming sound

Benefits:

- Reduces anger and anxiety
- Improves sleep
- Brings mental peace

5. ❄️Sheetali

Method:

- Inhale through a rolled tongue
- Exhale through the nose

Benefits:

- Cools the body
- Controls blood pressure
- Reduces thirst and heat

6. 🌬️Ujjayi

Method:

- Slightly constrict the throat while breathing
- Produces a soft sound

Benefits:

- Helps in meditation
- Improves concentration
- Supports thyroid function

7. Surya Bhedana

Method:

- Inhale through the right nostril
- Exhale through the left

Benefits:

- Increases body heat
- Boosts energy

8. Chandra Bhedana

Method:

- Inhale through the left nostril
- Exhale through the right

Benefits:

- Cools the body
- Calms the mind



PM SHRI KENDRIYA VIDYALAYA KATHUA
SUMMER BREAK HOLIDAYS HOMEWORK(2026-27)
CLASS- IX-B



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How humans depend on environment
CHAPTER 5: Universal Franchise & Electoral System

Task 1:

Explain:

- * Universal Adult Franchise

- * Importance of voting

Task 2:

Interview 2 adults:

- * Do they vote? Why?

CHAPTER 6: Parliamentary System

Task 1

Draw: * Structure of Parliament

- * Legislature

- * Executive

Task 2:

Write difference:

- * Lok Sabha vs Rajya Sabha

CHAPTER 7: Factors of Production

Task 1:

Explain:

- * Land

- * Labour

- * Capital

- * Entrepreneurship

Task 2:

Give real-life examples from your area

PART B: PROJECT WORK (ANY ONE)

Option 1: Sustainable Development

- * Meaning

- * Types of resources

- * Conservation methods

- * Local examples

Option 2: Democracy in India

- * Elections

- * Role of citizens

- * Importance of voting

Option 3: Economic Activities Around You

Include:

- * Primary, secondary, tertiary activities

- * Examples from your locality

PART C:

Do ANY ONE:

- * Poster: "Save Resources Save Future"

- * Timeline: Indian History (1857–1947)

PART D: MAP WORK

- * India: States & Capitals

- * Rivers: Ganga, Yamuna, Brahmaputra

- * Mountains: Himalayas

- o Students write a short **paragraph in English** linking a lesson's theme (nature, culture, values) with Tamil Nadu's food traditions (e.g., rice cultivation along the Kaveri River).

2. **Art Integration:**

- o Draw or paste colourful pictures of **traditional Tamil dishes** (idli, dosa, sambar, pongal, filter coffee).

- o Create a **poster/collage** titled "Taste of Tamil Nadu".

3. **Creative Writing:**

- o Compose a **recipe card in English** for a Tamil dish, highlighting ingredients and preparation steps.

- o Write a **short poem or descriptive passage** about food as a symbol of culture and togetherness.

4. **Research & Presentation:**

- o Prepare a **brief report (200–250 words)** on Tamil Nadu's food habits, festivals, and dishes.

- o Present orally in class, using English expressions of taste, smell, and texture.

Assessment Criteria:

- ☑ Creativity in artwork and presentation
- ☑ Accuracy and effort in research
- ☑ Clarity of English writing
- ☑ Neatness and colourful presentation on A4 sheets
- ☑ Timelines
- ☑ Content

****Perform :**

Surya Namaskar and paste pictures of these asanas in your Yoga notebook.

Write the following questions and their answers in your Yoga notebook

1. What is Yoga?

Answer: Yoga is an ancient Indian practice that helps in the development of body, mind, and soul. It includes asanas (postures), pranayama (breathing), and meditation to maintain overall health.

2. What are the benefits of Yoga?

Answer:

- Improves flexibility and strength
- Enhances concentration and memory
- Reduces stress and anxiety
- Helps in maintaining good posture
- Improves breathing and overall health

3. What is Pranayama?

Answer: Pranayama is the practice of controlled breathing techniques in yoga. It helps in calming the mind and improving lung capacity.

4. Name any two breathing exercises.

Answer:

- Anulom Vilom
- Bhramari Pranayama

5. What is the importance of warm-up before yoga?

Answer: Warm-up exercises prepare the body for yoga by:

- Increasing blood circulation
- Preventing injuries
- Making muscles flexible

6. What is Tadasana? Explain briefly.

Answer: Tadasana (Mountain Pose) is a basic standing posture. Steps:

- Stand straight with feet together
- Raise hands above the head
- Stretch the body upwards

Benefits: Improves posture and balance.

7. What is Vrikshasana?

Answer: Vrikshasana (Tree Pose) is a balancing pose where one foot is placed on the opposite thigh. Benefits: Improves concentration and body balance.

8. What is the role of meditation in yoga?

Answer: Meditation helps in:

- Relaxing the mind
- Improving focus
- Reducing stress
- Increasing emotional stability

9. Why is regular practice of yoga important?

Answer: Regular yoga practice helps maintain physical fitness, mental peace, and emotional balance, making a person healthy and active.

10. What precautions should be taken while doing yoga?

Answer:

- Practice on an empty stomach
- Wear comfortable clothes
- Do yoga in a clean, ventilated place
- Avoid overexertion
- Follow proper guidance

Definition of Pranayama

"तस्मिन् सतिश्वासप्रश्वासयोर्गतिविच्छेदः प्राणायामः"

This comes from the Yoga Sutras of Patanjali.

Meaning: Pranayama is the regulation or control of inhalation and exhalation of breath.

✓ □ Simple Definition (English):

Pranayama is the practice of controlling the breath to enhance physical, mental, and spiritual well-being. ✓ □ Word Meaning:

- Prana = Life force or vital energy
- Ayama = Expansion or control

So, Pranayama means expansion and control of life energy through breathing.

Main Components of Pranayama

1. Puraka (Inhalation) – Breathing in
2. Kumbhaka (Retention) – Holding the breath
3. Rechaka (Exhalation) – Breathing out

Types of Pranayama

1. Anulom Vilom (Alternate Nostril Breathing)

Method:

- Close the right nostril and inhale through the left
- Close the left nostril and exhale through the right
- Repeat in reverse order

Benefits:

- Calms the mind
- Reduces stress
- Improves lung function

2. Kapalbhata

Method:

- Forcefully exhale air
- Inhalation happens automatically

Benefits:

- Improves digestion
- Helps reduce belly fat
- Detoxifies the body

3. Bhastrika

Method:

- Rapid inhalation and exhalation
- Like the movement of a bellows

Benefits:

- Increases energy
- Strengthens lungs
- Improves oxygen supply

4. Bhramari (Humming Bee Breath)

Method:

- Inhale deeply
- Exhale while making a humming sound

Benefits:

- Reduces anger and anxiety
- Improves sleep
- Brings mental peace

5. ❄️Sheetali

Method:

- Inhale through a rolled tongue
- Exhale through the nose

Benefits:

- Cools the body
- Controls blood pressure
- Reduces thirst and heat

6. 🌬️Ujjayi

Method:

- Slightly constrict the throat while breathing
- Produces a soft sound

Benefits:

- Helps in meditation
- Improves concentration
- Supports thyroid function

7. ☀️Surya Bhedana

Method:

- Inhale through the right nostril
- Exhale through the left

Benefits:

- Increases body heat
- Boosts energy

8. 🌙Chandra Bhedana

Method:

- Inhale through the left nostril
- Exhale through the right

Benefits:

- Cools the body
- Calms the mind



PM SHRI KENDRIYA VIDYALAYA KATHUA
SUMMER BREAK HOLIDAYS HOMEWORK(2026-27)
CLASS- X-A



SL.NO	SUBJECT	DESCRIPTION
01	Hindi	1. संज्ञा , सर्वनाम , विशेषण , क्रिया , क्रिया विशेषण इत्यादि शब्द भेद की परिभाषा, इनके उप भेद तथा प्रत्येक के पांच- पांच उदाहरण अपनी हिंदी की उत्तर पुस्तिक में लिखें। 2. नीचे लिखें सभी विषयों पर 120 शब्दों में अनुच्छेद लिखें: क) सोशल मीडिया: जागरूकता आवश्यक ख) भू मंडलीय तापन) ग्लोबल वार्मिंग(कारण और निवारण ग) योग और छात्र जीवन घ) साइबर युग , साइबर ठगी: सावधानियां और सुरक्षा उपाय 3. विद्यालय में करवाया गया सारा पाठ्यक्रम याद करें। 4. परियोजना कार्य: विद्यालय में आप पहली बार अंतर राज्यीय हिंदी दिवस प्रतियोगिता का आयोजन करना चाहते हैं। इस संबंध में लगभग 80 शब्दों में प्राचार्य को ई-मेल लिखिए। सभी विद्यार्थी उक्त विषय पर ईमेल टंकण कर deep13.kvs@gmail.com पर प्रेषित करेंगे तथा उसका प्रिंट ग्रीष्मकालीन अवकाश के पश्चात शिक्षक को जमा करवाएंगे।
02	Maths	1) Solve the worksheets of extra questions of lesson 1,2 & 3 2) Complete all activities on your Activity file 3) Revise chapter 1,2 & 3
03	English	(Language and Literature Subject Code -184) 1. Reading Skill: Choose and take A4 size printout of six questions of Reading Skill, unseen passages from the Previous Five Years CBSE Board Question Papers of English and solve them. Write the answers in your regular notebooks for homework. Fix the prints of questions in the notebooks. 2. Creative Writing Skill: a.) Formal Letter Writing: Choose and take A4 size printout of four questions of creative writing skill, formal letters from the Previous Five Years CBSE Board Question Papers of English and solve them. Write the answers in your regular notebooks for homework. Fix the prints of questions in the notebooks. b.) Analytical Paragraph Writing: Choose and take A4 size printout of four questions of creative writing skill, analytical paragraph writing from the Previous Five Years CBSE Board Question Papers of English and solve them. Write the answers in your regular notebooks for homework. Fix the prints of questions in the notebooks 3. ART INTEGRATED PROJECT: How do the historical and tourist places of Tamil Nadu reflect its rich cultural heritage, and how can we creatively present their significance through art and descriptive writing?" Theme: Exploring the Cultural Heritage of Tamil Nadu Learning Outcome: Students will: Improve descriptive writing skills Develop research abilities Understand India's cultural diversity Express learning through art Assessment Criteria: Content quality and accuracy

Creativity and presentation
Language and expression
Effort and neatness
Integration of art and photos

Project Instructions

- Students must prepare the project on **A4 size file papers**, using their **own neat and legible handwriting**.
- Work should be **colourful and creative**, with pictures **pasted or drawn on plain white sheets**.
- To make the project more vibrant and effective, students are encouraged to seek **guidance and suggestions** from their **Social Science and Art Education** teachers.

Suggested Places:

Brihadeeswarar Temple, Meenakshi Amman Temple, Mahabalipuram Shore Temple, Ooty, Kodaikanal, Rameswaram

Project Duration: 40 Days (Summer Vacation)

Step-by-Step Instructions:

Step 1: Selection of Place (Day 1–3)

Choose 2–3 historical or tourist places from Tamil Nadu.

Do basic research about their importance.

Step 2: Research Work (Day 4–15)

Collect information from books, internet, or travel articles under the following headings:

Location and geographical features

Historical background

Cultural significance

Architecture or natural beauty

Interesting facts

Step 3: Writing Section (Day 16–25)

Prepare your English write-up:

Write 120-150 words per place

Use descriptive language (focus on imagery and details)

Include:

Introduction

Main description

Personal reflection (why you found it interesting)

Step 4: Art Integration (Day 26–32)

Draw or sketch any one of the selected places OR

Create a creative border/design inspired by Tamil art forms (like kolam patterns)

You may also include:

Hand-drawn illustrations

Decorative headings

Step 5: Photo Collection (Day 33–36)

Paste or print 2–3 photographs of each place

Each photo must have a caption (1–2 lines)

Step 6: Project Compilation (Day 37–39)

Arrange your Project neatly:

1. Cover Page

2. Acknowledgement

3. Index

4. Introduction to Tamil Nadu

5. Individual Place Descriptions

6. Art Work Section

7. Conclusion

Step 7: Final Review (Day 40)

Check for spelling and grammar

Ensure neatness and proper labeling

Submit as per school guidelines

04	Artificial Intelligence	Holidays Homework (To be done in Computer Notebook) 1. Teach 1 family member about the use of AI using examples from your home. Paste selfies with them and write a paragraph what they learned with their signature. 2. Choose any 2 Sustainable Development Goals. Write how AI can help achieve them. Write one slogan on each. 3. Read and write the chapter No. 3 of Part A “.Basic ICT skills” in your notebook 4. Draw dream gadget from your imagination. Write the Name of that gadget also write one paragraph on that gadget. 5. Revise all the chapters and complete your pending work.
05	Science	1. Diagram activity Draw well labelled diagram of digestive system, respiratory system, circulatory system, excretory system . 2. Make a poster on Save environment. 3. Write 10 chemical reactions and balance it using proper steps. 4. Project idea for benefit of society with working model a) energy b) water management c) agriculture d) environmental solution e) Transport and communication. 5. Prepare a science Portfolio.
06	Social Science	RESOURCES AND DEVELOPMENT 1 MARK (MCQs) 1 Which is a renewable resource? (a) Coal (b) Petroleum (c) Solar energy (d) Natural gas 2 Black soil is ideal for: (a) Rice (b) Cotton (c) Tea (d) Wheat 3 Land degradation is caused by: (a) Afforestation (b) Overgrazing (c) Crop rotation (d) Drip irrigation 2 MARKS 1 What is resource planning? 2 Give two causes of soil erosion. 3 Mention two features of alluvial soil. 3 MARKS 1 Explain types of resources. 2 Describe land degradation and its causes. 3 Explain soil conservation methods. 4 Why is resource planning important in India? 4 MARKS (CASE STUDY) Source: Overgrazing, deforestation and mining degrade land. Answer: define land degradation, causes, solutions, importance. 5 MARKS 1 Explain steps in resource planning. 2 Describe types of soils. 3 Explain soil erosion and conservation. 4 Importance of sustainable development. POWER SHARING 1 MARK (MCQs) 1 Power sharing is essential in: (a) Dictatorship (b) Democracy (c) Monarchy (d) Colony 2 Majoritarianism means: (a) Minority rule (b) Majority rule (c) Equal rule (d) No rule 3 Belgium is known for: (a) Conflict (b) Power sharing (c) War (d) Dictatorship 2 MARKS 1 Give two prudential reasons for power sharing.

2 What is horizontal power sharing?

3 What is vertical power sharing?

3 MARKS

1 Explain forms of power sharing.

2 Compare Belgium and Sri Lanka.

3 Why is power sharing important?

4 How does democracy ensure power sharing?

4 MARKS (CASE STUDY)

Source: One community dominates others. Answer system, problems, solution, importance.

5 MARKS

1 Explain Belgium model.

2 Explain Sri Lanka conflict.

3 Power sharing as spirit of democracy.

4 Compare prudential and moral reasons

FEDERALISM

1 MARK (MCQs)

1 India is a: (a) Unitary (b) Federal (c) Monarchy (d) Dictatorship

2 State List includes: (a) Defence (b) Police (c) Currency (d) Railways

3 Third tier is: (a) Parliament (b) Judiciary (c) Local govt (d) President

2 MARKS

1 Give two features of federalism.

2 What is Concurrent List?

3 What is Panchayati Raj?

3 MARKS

1 Explain features of federalism.

2 Explain three-tier system.

3 What is decentralization?

4 How are disputes resolved?

4 MARKS (CASE STUDY)

Source: Power divided between centre and states. Identify system, features, advantages, example.

5 MARKS

1 Explain federalism in India.

2 Explain division of powers.

3 Explain decentralization.

4 Success of federalism.

NATIONALISM IN EUROPE

1 MARK (MCQs)

1 French Revolution began in: (a) 1789 (b) 1815 (c) 1848 (d) 1871

2 Napoleon was: (a) King (b) Emperor (c) PM (d) General

3 Bismarck unified: (a) Italy (b) Germany (c) France (d) Britain

2 MARKS

1 What is nationalism?

2 What was liberalism?

3 What is Romanticism?

3 MARKS

1 Role of Napoleon.

2 Role of Mazzini.

3 Role of culture in nationalism.

4 Explain nation-state.

4 MARKS (CASE STUDY)

Source: Common culture creates identity. Define nationalism, role of culture, importance, example.

5 MARKS

1 Explain French role of French revolutionaries in feeling of collective belongingness.

		2 Explain unification of Germany. 3. Unification of Britain and Italy 4. Role of women in nationalism in Europe DEVELOPMENT 1 MARK (MCQs) 1 Per capita income means: (a) Total income (b) Income per person (c) Govt income (d) Tax 2 HDI includes: (a) Income (b) Health (c) Education (d) All 3 Public facility example: (a) Car (b) School (c) Mobile (d) Clothes 2 MARKS 1 What are development goals? 2 What are non-income indicators? 3 What is sustainability? 3 MARKS 1 Why do people have different goals? 2 Explain HDI components. 3 Why is income not enough? 4 Importance of health and education. 4 MARKS (CASE STUDY) Source: Same income, different living conditions. Who is more developed, why, indicators, conclusion. 5 MARKS 1 Explain indicators of development. 2 Compare developed and developing countries. 3 Explain sustainable development. 4. Role of Public facilities.
07	Yoga	**Perform : Surya Namaskar and paste pictures of these asanas in your Yoga notebook. Write the following questions and their answers in your Yoga notebook 1. What is Yoga? Answer: Yoga is an ancient Indian practice that helps in the development of body, mind, and soul. It includes asanas (postures), pranayama (breathing), and meditation to maintain overall health. 2. What are the benefits of Yoga? Answer: • Improves flexibility and strength • Enhances concentration and memory • Reduces stress and anxiety • Helps in maintaining good posture • Improves breathing and overall health 3. What is Pranayama? Answer: Pranayama is the practice of controlled breathing techniques in yoga. It helps in calming the mind and improving lung capacity. 4. Name any two breathing exercises. Answer: • Anulom Vilom • Bhramari Pranayama 5. What is the importance of warm-up before yoga? Answer: Warm-up exercises prepare the body for yoga by: • Increasing blood circulation • Preventing injuries • Making muscles flexible

6. What is Tadasana? Explain briefly.

Answer: Tadasana (Mountain Pose) is a basic standing posture. Steps:

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Answer: Regular yoga practice helps maintain physical fitness, mental peace, and emotional balance, making a person healthy and active.

10. What precautions should be taken while doing yoga?

Answer:

- Practice on an empty stomach
- Wear comfortable clothes
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Definition of Pranayama

"तस्मिन् सतिश्वासप्रश्वासयोर्गतिविच्छेदः प्राणायामः"

This comes from the Yoga Sutras of Patanjali.

Meaning: Pranayama is the regulation or control of inhalation and exhalation of breath.

✓ ☐ Simple Definition (English):

Pranayama is the practice of controlling the breath to enhance physical, mental, and spiritual well-being. ✓ ☐ Word Meaning:

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So, Pranayama means expansion and control of life energy through breathing.

Main Components of Pranayama

1. Puraka (Inhalation) – Breathing in
2. Kumbhaka (Retention) – Holding the breath
3. Rechaka (Exhalation) – Breathing out

Types of Pranayama

1. Anulom Vilom (Alternate Nostril Breathing)

Method:

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2. Kapalbhati

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- Forcefully exhale air
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- Inhale through a rolled tongue
- Exhale through the nose

Benefits:

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- Controls blood pressure
- Reduces thirst and heat

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Method:

- Slightly constrict the throat while breathing
- Produces a soft sound

Benefits:

- Helps in meditation
- Improves concentration
- Supports thyroid function

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Method:

- Inhale through the right nostril
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- Inhale through the left nostril
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PM SHRI KENDRIYA VIDYALAYA KATHUA

SUMMER BREAK HOLIDAYS HOMEWORK(2026-27)

CLASS- X-B



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Project Duration: 40 Days (Summer Vacation)

Step-by-Step Instructions:

Step 1: Selection of Place (Day 1–3)

Choose 2–3 historical or tourist places from Tamil Nadu.

Do basic research about their importance.

Step 2: Research Work (Day 4–15)

Collect information from books, internet, or travel articles under the following headings:

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Cultural significance

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Interesting facts

Step 3: Writing Section (Day 16–25)

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Write 120–150 words per place

Use descriptive language (focus on imagery and details)

Include:

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Main description

Personal reflection (why you found it interesting)

Step 4: Art Integration (Day 26–32)

Draw or sketch any one of the selected places OR

Create a creative border/design inspired by Tamil art forms (like kolam patterns)

You may also include:

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Decorative headings

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Paste or print 2–3 photographs of each place

Each photo must have a caption (1–2 lines)

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1. Cover Page

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4. Introduction to Tamil Nadu

5. Individual Place Descriptions

6. Art Work Section

7. Conclusion

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04	Artificial Intelligence	Holidays Homework (To be done in Computer Notebook) 1. Teach 1 family member about the use of AI using examples from your home. Paste selfies with them and write a paragraph what they learned with their signature. 2. Choose any 2 Sustainable Development Goals. Write how AI can help achieve them. Write one slogan on each. 3. Read and write the chapter No. 3 of Part A “.Basic ICT skills” in your notebook 4. Draw dream gadget from your imagination. Write the Name of that gadget also write one paragraph on that gadget. 5. Revise all the chapters and complete your pending work.
05	Science	1. Diagram activity Draw well labelled diagram of digestive system, respiratory system, circulatory system, excretory system . 2. Make a poster on Save environment. 3. Write 10 chemical reactions and balance it using proper steps. 4. Project idea for benefit of society with working model a) energy b) water management c) agriculture d) environmental solution e) Transport and communication. 5. Prepare a science Portfolio.
06	Social Science	RESOURCES AND DEVELOPMENT 1 MARK (MCQs) 1 Which is a renewable resource? (a) Coal (b) Petroleum (c) Solar energy (d) Natural gas 2 Black soil is ideal for: (a) Rice (b) Cotton (c) Tea (d) Wheat 3 Land degradation is caused by: (a) Afforestation (b) Overgrazing (c) Crop rotation (d) Drip irrigation 2 MARKS 1 What is resource planning? 2 Give two causes of soil erosion. 3 Mention two features of alluvial soil. 3 MARKS 1 Explain types of resources. 2 Describe land degradation and its causes. 3 Explain soil conservation methods. 4 Why is resource planning important in India? 4 MARKS (CASE STUDY) Source: Overgrazing, deforestation and mining degrade land. Answer: define land degradation, causes, solutions, importance. 5 MARKS 1 Explain steps in resource planning. 2 Describe types of soils. 3 Explain soil erosion and conservation. 4 Importance of sustainable development. POWER SHARING 1 MARK (MCQs) 1 Power sharing is essential in: (a) Dictatorship (b) Democracy (c) Monarchy (d) Colony 2 Majoritarianism means: (a) Minority rule (b) Majority rule (c) Equal rule (d) No rule 3 Belgium is known for: (a) Conflict (b) Power sharing (c) War (d) Dictatorship 2 MARKS 1 Give two prudential reasons for power sharing. 2 What is horizontal power sharing? 3 What is vertical power sharing? 3 MARKS

1 Explain forms of power sharing.
2 Compare Belgium and Sri Lanka.
3 Why is power sharing important?
4 How does democracy ensure power sharing?
4 MARKS (CASE STUDY)
Source: One community dominates others. Answer system, problems, solution, importance.
5 MARKS
1 Explain Belgium model.
2 Explain Sri Lanka conflict.
3 Power sharing as spirit of democracy.
4 Compare prudential and moral reasons

FEDERALISM
1 MARK (MCQs)
1 India is a: (a) Unitary (b) Federal (c) Monarchy (d) Dictatorship
2 State List includes: (a) Defence (b) Police (c) Currency (d) Railways
3 Third tier is: (a) Parliament (b) Judiciary (c) Local govt (d) President
2 MARKS
1 Give two features of federalism.
2 What is Concurrent List?
3 What is Panchayati Raj?
3 MARKS
1 Explain features of federalism.
2 Explain three-tier system.
3 What is decentralization?
4 How are disputes resolved?
4 MARKS (CASE STUDY)
Source: Power divided between centre and states. Identify system, features, advantages, example.
5 MARKS
1 Explain federalism in India.
2 Explain division of powers.
3 Explain decentralization.
4 Success of federalism.

NATIONALISM IN EUROPE
1 MARK (MCQs)
1 French Revolution began in: (a) 1789 (b) 1815 (c) 1848 (d) 1871
2 Napoleon was: (a) King (b) Emperor (c) PM (d) General
3 Bismarck unified: (a) Italy (b) Germany (c) France (d) Britain
2 MARKS
1 What is nationalism?
2 What was liberalism?
3 What is Romanticism?
3 MARKS
1 Role of Napoleon.
2 Role of Mazzini.
3 Role of culture in nationalism.
4 Explain nation-state.
4 MARKS (CASE STUDY)
Source: Common culture creates identity. Define nationalism, role of culture, importance, example.
5 MARKS
1 Explain French role of French revolutionaries in feeling of collective belongingness.
2 Explain unification of Germany.
3. Unification of Britain and Italy
4. Role of women in nationalism in Europe

		DEVELOPMENT 1 MARK (MCQs) 1 Per capita income means: (a) Total income (b) Income per person (c) Govt income (d) Tax 2 HDI includes: (a) Income (b) Health (c) Education (d) All 3 Public facility example: (a) Car (b) School (c) Mobile (d) Clothes 2 MARKS 1 What are development goals? 2 What are non-income indicators? 3 What is sustainability? 3 MARKS 1 Why do people have different goals? 2 Explain HDI components. 3 Why is income not enough? 4 Importance of health and education. 4 MARKS (CASE STUDY) Source: Same income, different living conditions. Who is more developed, why, indicators, conclusion. 5 MARKS 1 Explain indicators of development. 2 Compare developed and developing countries. 3 Explain sustainable development. 4. Role of Public facilities.
07	Yoga	**Perform : Surya Namaskar and paste pictures of these asanas in your Yoga notebook. Write the following questions and their answers in your Yoga notebook 1. What is Yoga? Answer: Yoga is an ancient Indian practice that helps in the development of body, mind, and soul. It includes asanas (postures), pranayama (breathing), and meditation to maintain overall health. 2. What are the benefits of Yoga? Answer: • Improves flexibility and strength • Enhances concentration and memory • Reduces stress and anxiety • Helps in maintaining good posture • Improves breathing and overall health 3. What is Pranayama? Answer: Pranayama is the practice of controlled breathing techniques in yoga. It helps in calming the mind and improving lung capacity. 4. Name any two breathing exercises. Answer: • Anulom Vilom • Bhramari Pranayama 5. What is the importance of warm-up before yoga? Answer: Warm-up exercises prepare the body for yoga by: • Increasing blood circulation • Preventing injuries • Making muscles flexible 6. What is Tadasana? Explain briefly. Answer: Tadasana (Mountain Pose) is a basic standing posture. Steps: • Stand straight with feet together

- Raise hands above the head
- Stretch the body upwards

Benefits: Improves posture and balance.

7. What is Vrikshasana?

Answer: Vrikshasana (Tree Pose) is a balancing pose where one foot is placed on the opposite thigh. Benefits: Improves concentration and body balance.

8. What is the role of meditation in yoga?

Answer: Meditation helps in:

- Relaxing the mind
- Improving focus
- Reducing stress
- Increasing emotional stability

9. Why is regular practice of yoga important?

Answer: Regular yoga practice helps maintain physical fitness, mental peace, and emotional balance, making a person healthy and active.

10. What precautions should be taken while doing yoga?

Answer:

- Practice on an empty stomach
- Wear comfortable clothes
- Do yoga in a clean, ventilated place
- Avoid overexertion
- Follow proper guidance

Definition of Pranayama

"तस्मिन् सतिश्वासप्रश्वासयोर्गतिविच्छेदः प्राणायामः"

This comes from the Yoga Sutras of Patanjali.

Meaning: Pranayama is the regulation or control of inhalation and exhalation of breath.

✓ □ Simple Definition (English):

Pranayama is the practice of controlling the breath to enhance physical, mental, and spiritual well-being. ✓ □ Word Meaning:

- Prana = Life force or vital energy
- Ayama = Expansion or control

So, Pranayama means expansion and control of life energy through breathing.

Main Components of Pranayama

1. Puraka (Inhalation) – Breathing in
2. Kumbhaka (Retention) – Holding the breath
3. Rechaka (Exhalation) – Breathing out

Types of Pranayama

1. Anulom Vilom (Alternate Nostril Breathing)

Method:

- Close the right nostril and inhale through the left
- Close the left nostril and exhale through the right
- Repeat in reverse order

Benefits:

- Calms the mind
- Reduces stress
- Improves lung function

2. Kapalbhati

Method:

- Forcefully exhale air
- Inhalation happens automatically

Benefits:

- Improves digestion
- Helps reduce belly fat

- Detoxifies the body

3. Bhastrika

Method:

- Rapid inhalation and exhalation
- Like the movement of a bellows

Benefits:

- Increases energy
- Strengthens lungs
- Improves oxygen supply

4. Bhramari (Humming Bee Breath)

Method:

- Inhale deeply
- Exhale while making a humming sound

Benefits:

- Reduces anger and anxiety
- Improves sleep
- Brings mental peace

5. ❄️Sheetali

Method:

- Inhale through a rolled tongue
- Exhale through the nose

Benefits:

- Cools the body
- Controls blood pressure
- Reduces thirst and heat

6. 🌬️Ujjayi

Method:

- Slightly constrict the throat while breathing
- Produces a soft sound

Benefits:

- Helps in meditation
- Improves concentration
- Supports thyroid function

7. Surya Bhedana

Method:

- Inhale through the right nostril
- Exhale through the left

Benefits:

- Increases body heat
- Boosts energy

8. Chandra Bhedana

Method:

- Inhale through the left nostril
- Exhale through the right

Benefits:

- Cools the body
- Calms the mind



PM SHRI KENDRIYA VIDYALAYA KATHUA
SUMMER BREAK HOLIDAY HOMEWORK 2026-27
CLASS -> XII-A



ENGLISH CORE

A) Work to be done in English Notebook:

1. Read English Newspaper daily.* Either The Hindu or Indian Express. *Write only two words with their meanings daily in your English notebook.* Write date-wise.
2. Write *short notes in 60 to 80 words* on each of the following in your English notebook with reference to the chapters mentioned:
 - a) Linguistic chauvinism (The last Lesson),
 - b) A daughter's thoughts about her ageing parents (My Mother at Sixty Six)
 - c) The impact of child labour on children & society (Lost Spring),
 - d) the tendency to escape from the anxiety of modern life (The Third Level)
3. Solve the *Reading Comprehension Passages* to be sent in English Group in the third week of May. Write answers in your English Notebook
4. Write a notice to invite class XI students to a special assembly to facilitate the sports stars of your school with badges of honour. Renowned cricketer Sahil Singla would be the Chief Guest at the occasion. Share necessary details about the event. You are Rohini/Rohan, President of the Student Council of Bal Mahal School, Roshni Nagar.
5. You are Ram/Rajani, living at 1, Rana Pratap Marg, New Delhi. Read the advertisement given below and apply for the job that suits you giving your bio-data separately.

Sun University requires Lecturers in English and Demonstrators in Physics, Chemistry and Botany for their new Campus at Panipat. Candidates with a minimum of 5 year experience alone can apply. Excellent command of English is a must. Excellent package and compensation for experienced persons. Those interested may e-mail to sununiversityjobs@gmail.com or mail their response to: Box no 123, 'The Harbinger', New Delhi

4. *Read any one of the following books & write its book review in about 80 words*:

- Animal Farm by George Orwell,
- The Catcher in the Rye by J. D. Salinger,
- Holes by Louis Sachar, To Kill a Mockingbird by Harper Lee,
- The Book Thief by Markus Zusak, 1984 by George Orwell,
- Feluda Series by Satyajit Ray,
- The Perks of Being a Wallflower by Stephen Chbosky,
- The Giver by Lois Lowry, A Wrinkle in Time by Madeleine L'Engle,
- Little Women by Louisa May Alcott,
- A Wizard of Earthsea by Ursula K. Le Guin
- , Persepolis by Marjane Satrapi,
- Me and Earl and the Dying Girl by Jesse Andrews,
- Anne of Green Gables by L M Montgomery.

5. Watch *any one of the following movies & write a movie review in 80 words* in Your English Notebook:

- Good Will Hunting (1997),
- Dead Poets Society (1989),
- Back to the Future (1985),
- Whiplash (2014),
- Ferris Bueller's Day Off (1986),
- Life of Pi (2012),

- Stand by Me (1986), Life is Beautiful (1997),
- The Boy in the Striped Pyjamas (2008),
- A Beautiful Mind (2001), Into the Wild (2007),
- E.T. the Extra Terrestrial (1982),
- The Karate Kid (1984), Inside Out (2015),
- Spirited Away (2001),
- The Princess Bride (1987),
- Paddington (2015), The Pursuit of Happyness (2006),
- Whale Rider (2002), Up (2009).

7. Study the following topics for the *Monthly Test to be held in the last week of June*:

• The Last Lesson,	• Lost Spring,
• The Third Level,	• The Tiger King,
• My Mother at Sixty-six,	• Notice Writing,
• Job Application	•

8. Read all the chapters & poems in your syllabus at least once. From NCERT textbooks. Complete texts.

9. *Stay away from screens & social media* as much as possible. Observe No Screen & No Social Media days every week during weekends.

10. Take care of your health. Jog, run, play daily.

11. Spend *quality time with your family.*

12. *Learn to cook any five recipes.* Try to cook once a week, at least.

13. Keep your surroundings *clean & well organised.*

14. *Plan your holidays. Plan your days.* Follow the plans rigorously.

15. What is *fake news?* Find about it. *Learn how to identify fake news.*

PHYSICS

1. Practice previous years' questions from Chapter 1 and Chapter 2.
2. Solve and review the NCERT Exemplar questions of Chapter 1 and Chapter 2.
3. Attempt Assertion-Reasoning questions from Chapter 1 and Chapter 2.
4. Solve Case-based questions related to Chapter 1 and Chapter 2.
5. Ensure all answers are written neatly in the notebook with proper steps and explanations

INFORMATION PRACTICES

- Q1. Create a panda's series from a dictionary of values and and array.
- Q2. Given a Series, print all the elements that are above the 75th percentile.
- Q3. Create DataFrame quarterly sales where each row contains the item category, itemname and expenditure. Group the rows by the category and print the totalexpenditure per category.
- Q4. Create a data frame for examination result and display row labels, column labels datatypes of each column and the dimensions
- Q5. Filter out rows based on different criteria such as duplicate rows.
- Q6. Importing and exporting data between pandas and CSV file.
- Q7. Given the school result data, analyses the performance of the students on different parameters, e.g subject wise or class wise.
- Q8. Students is required to prepare an Investigatory Project Report as per Central Board of Secondary Education guidelines. The aim of the class project is to create tangible and useful IT application. The learner may identify a real-world problem by exploring the environment. e.g. Students can visit shops/business places, communities or other organizations in their localities and enquire about the functioning of the organization, and how data are generated, stored, and managed. The learner can take data stored in csv or database file and analyze using Python libraries and generate appropriate charts to visualize. Learners can use Python libraries of their choice to develop software for their school or any other social good.
- Learners should be sensitized to avoid plagiarism and violation of copyright issues while working on projects. Teachers should take necessary measures for this. Any resources (data, image etc.) used in the project must be suitably referenced.

BIOLOGY

1) Investigatory Project-

- Drug Addiction
- Immunity
- Blood Grouping
- Genetic Disorder
- Biodiversity
- AIDS
- Cancer
- Human Genome Project
- PCR

2) Complete all NCERT questions from the following chapters:

- Human Reproduction
- Reproductive Health
- Principles of Inheritance

3) Revise all chapters of ncert thoroughly and solve previous year questions.

CHEMISTRY

1. Prepare formula sheet of Chapters Solution, Electrochemistry and chemical Kinetics . Learn it and paste it in your notebook.
2. Learn all the name reactions , write them on a paper and paste it in your notebook.
3. Revise all the NCERT questions of Chapter 1,2 and 3
4. Solve following Questions in your notebook.
 1. State Henry's law correlating the pressure of a gas and its solubility in a solvent and mention two applications for the law.
 2. A solution containing 1.9g per 100mL of KCl ($M = 74.5 \text{ g mol}^{-1}$) is isotonic with a solution containing 3g per 100mL of urea ($M = 60 \text{ g mol}^{-1}$). Calculate the degree of dissociation of KCl solution. Assume that both the solutions have same temperature.
 3. Calculate the freezing point of solution when 2 g of Na_2SO_4 ($M = 142 \text{ g mol}^{-1}$) was dissolved in 50 g of water, assuming Na_2SO_4 undergoes complete ionisation. (K for water = $1.86 \text{ K kg mol}^{-1}$)
 4. Give reason: 1. Measurement of osmotic pressure method is preferred for the determination of molar masses of macromolecules such as proteins and polymers. 2. Aquatic animals are more comfortable in cold water than in warm water. 3. Elevation of boiling point of 1 M KCl solution is nearly double than that of 1 M sugar solution.
 5. A 4% solution(w/ w) of sucrose ($M = 342 \text{ g mol}^{-1}$) in water has a freezing point of 271.15K. Calculate the freezing point of 5% glucose ($M = 180 \text{ g mol}^{-1}$) in water. (Given: Freezing point of pure water = 273.15 K)
 6. A solution prepared by dissolving 8.95mg of a gene fragment in 35.0mL. of water has an osmotic pressure of 0.335 torr at 25°C. Assuming that the gene fragment is a nonelectrolyte, calculate its molar mass.
 7. State Raoult's law for a solution containing non-volatile solute. What type of deviation from Raoult's law is shown by a solution of chloroform and acetone and why?
 8. Calculate the emf of the following cell at 298 K: $\text{Fe(s)}|\text{Fe (0.001M)}||\text{H (1M)}|\text{H (g)(1bar),Pt (s)}$ (Given $E^\circ = +0.44 \text{ V}$)
 9. State Kohlrausch's law. Calculate the molar conductance of $\text{Sr}(\text{NO}_3)_2$. The molar ionic conductance of Sr^{2+} and NO_3^- ions are $119 \text{ Scm}^2 \text{ mol}^{-1}$ and $72 \text{ Scm}^2 \text{ mol}^{-1}$ respectively.
 10. A copper-silver cell is set up. The copper ion concentration in it is 0.10 M. The concentration of silver ion is not known. The cell potential measured 0.422 V. Determine the concentration of silver ion in the cell.
Given: $E^\circ \text{Ag}^+/\text{Ag} = +0.80 \text{ V}$, $E^\circ \text{Cu}^{2+}/\text{Cu} = +0.34 \text{ V}$.
 11. When a certain conductivity cell was filled with 0.05M KCl solution, it has a resistance of 100 ohm at 25°C. When the same cell was filled with 0.02M AgNO_3 solution, the resistance was 90 ohm. Calculate the conductivity and molar conductivity of AgNO_3 solution. (Given : Conductivity of 0.05M KCl solution = $1.35 \times 10^{-2} \text{ ohm cm}^{-1}$)
 12. i) State two advantages of $\text{H}_2 - \text{O}_2$ fuel cell over ordinary cell.

- ii). Silver is electrodeposited on a metallic vessel of total surface area 900 cm² by passing a current of 0.5 amp for two hours. Calculate the thickness of silver deposited. [Given: Density of silver = 10.5g/ cm³ Atomic mass of silver = 108 amu, F = 96,500C mol⁻¹].
13. Calculate ΔG° and $\log K_c$ for the following reaction at 298 K : $2\text{Cr}(s) + 3\text{Fe}^{2+}(aq) \rightarrow 2\text{Cr}^{3+}(aq) + 3\text{Fe}(s)$
Given : $E^\circ = 0.30 \text{ V}$ 2. Using the E° values of A and B, predict which is better for coating the surface of iron
[$E^\circ_{(\text{Fe} | \text{Fe})} = -0.44 \text{ V}$] to prevent corrosion and why? Given : $E^\circ_{(\text{A}^{2+} | \text{A})} = -2.37 \text{ V}$; $E^\circ_{(\text{B}^{2+} | \text{B})} = -0.14 \text{ V}$
14. In the given reaction $\text{A} + 3\text{B} \rightarrow 2\text{C}$, the rate of formation of C is $2.5 \times 10 \text{ mol L}^{-1} \text{ s}^{-1}$.
Calculate the: 1. Rate of reaction. 2. Rate of disappearance of B.
15. i) A reaction is second order in X and first order in Y. How is the rate affected when the concentrations of both X and Y are doubled?
ii) Write the units of 'k' for - 1. Zero order reaction. 2. First order reaction.
16. A first order reaction has a rate constant of 0.0051 min^{-1} . If we begin with 0.10 M concentration of the reactant, what concentration of reactant will remain in solution after 3 hours?
17. i) List the factors that determine the rate of a chemical reaction.
ii). The half-life for decay of radioactive C is 5730 years. An archaeological artefact containing wood had only 80% of the C activity as found in a living tree. Calculate the age of the artefact.

CASE BASED QUESTIONS

18. The following questions are case-based questions. Read the case carefully and answer the questions that follow. Batteries and fuel cells are very useful forms of galvanic cell. Any battery or cell that we use as a source of electrical energy is basically a galvanic cell. However, for a battery to be of practical use it should be reasonably light, compact and its voltage should not vary appreciably during its use. There are mainly two types of batteries primary batteries and secondary batteries. In the primary batteries, the reaction occurs only once and after use over a period of time the battery becomes dead and cannot be reused again, whereas the secondary batteries are rechargeable. Production of electricity by thermal plants is not a very efficient method and is a major source of pollution. To solve this problem, galvanic cells are designed in such a way that energy of combustion of fuels is directly converted into electrical energy, and these are known as fuel cells. One such fuel cell was used in the Apollo space programme. Answer the following questions:
- How do primary batteries differ from secondary batteries?
 - The cell potential of Mercury cell is 1.35V, and remains constant during its life. Give reason.
 - Write the reactions involved in the recharging of the lead storage battery OR
 - Write two advantages of fuel cells over other galvanic cells.
19. Observe the table in which azeotropic mixtures are given along with their boiling points of pure components and azeotropes and answer the questions that follow.

Some Azeotropic Mixtures					
A	B	Minimum Boiling Azeotropes	Boiling Points		
			A	B	Mixture Azeotropes
H ₂ O	C ₂ H ₅ OH	95.37%	373K	351.3K	351.15
H ₂ O	C ₃ H ₇ OH	71.69%	373K	370.19K	350.72
CH ₃ COCH ₃	CS ₂	67%	329.25K	319.25K	312.30
A	B	Maximum Boiling Azeotropes	A	B	Mixture Azeotropes
H ₂ O	HCl	20.3%	373K	188K	383K
H ₂ O	HNO ₃	68.0%	373K	359K	393.5K
H ₂ O	HClO ₄	71.6%	373K	383K	476K

- What type of deviation is shown by minimum boiling azeotropes? 1
 - Negative Deviation from Raoult's law
 - Positive deviation from Raoult's Law
 - No deviation
 - Both A & B
- Why does H₂O and HCl mixture form maximum boiling azeotropes? 1
- Give one example of ideal solution. What type of liquids form ideal solutions? 2

20. Aarav Sharma is very fond of a special drink made by his grand mother using different fruits available in their home town. It has an outstanding taste and also provides great health benefits of natural fruits. He thought to utilizing his grandmother recipe to create a new product in the beverage market that provide health benefits and also contain fizziness of various soft drinks available in the market. Based on your understanding of solutions chapter, help Aarav Sharma to accomplish his idea by answering following:

- a. CO_2 is Dissolved in Soft Drinks under :
- Low Pressure and High Temperature
 - High Pressure and Low Temperature
 - High Temperature only
 - Normal atmospheric conditions

1

b. What is the law stated in the chapter that can help Aarav to make his drink fizzy?

- Raoult's Law
- Boyle's Law
- Charles Law
- Henry Law

c. What precautions he should take while bottling so that his product does not lose fizz during storage and handling across long distances?

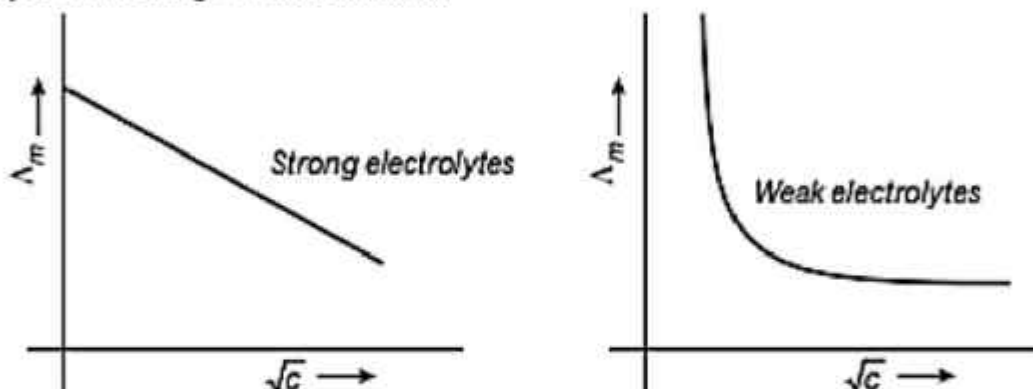
2

OR

d. The mole fraction of helium in a saturated solution at 20°C is 1.2×10^{-6}

6. Find the pressure of helium above the solution. Given Henry's constant at 20°C is 144.97 kbar

21. The conductivity or specific conductivity of an electrolytic solution varies with the concentration of the solutions of different electrolytes. For comparing the conductances of the solutions of different electrolytes, it is essential that the solutions should have equal volumes and they must contain definite amount of the electrolytes which give ions carrying the same total charge. The conducting power of an electrolytic solution can be expressed in terms of equivalent conductance and molar conductance. The equivalent conductance of a solution does not vary linearly with concentration and it is related with specific conductance. The effect of equivalent conductance can be studied by plotting values against the square root of the concentration. Following two figures show the behaviour of strong and weak electrolytes with change of concentration.



- What is meant by limiting molar conductivity?
- What is the effect of decreasing concentration on the molar conductivity of a weak electrolyte?
- Write the mathematical expression for Kohlrausch's law in terms of equivalent conductivities.

OR

Write the relationship between specific conductivity and equivalent conductivity?

In these questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices.

- Assertion and reason both are correct statements and reason is correct explanation for assertion.
- Assertion and reason both are correct statements but reason is not correct explanation for assertion.
- Assertion is correct statement but reason is wrong statement.
- Assertion is wrong statement but reason is correct statement.

22. **Assertion:** Molar conductivity of a weak electrolyte at infinite dilution cannot be determined experimentally.

Reason: Kohlrausch law helps to find the molar conductivity of a weak electrolyte at infinite dilution.

23. **Assertion:** Electrolysis of an aqueous solution of KI gives I at the anode but that of KF gives O at the anode not F. **Reason:** I ions have much higher oxidation potential than water while F ions have much lower oxidation potential than water.

24. **Assertion:** The conductivity depends on the charge and size of the ions in which they dissociate, the concentration of ions or ease with which the ions move under potential gradient.

Reason: The conductivity of solutions of different electrolytes in the same solvent and at a given temperature is same.

25. **Assertion:** If $\lambda^\infty_{\text{Na}^+}$ and $\lambda^\infty_{\text{Cl}^-}$ are molar limiting conductivities of the sodium and chloride ions respectively, then the limiting molar conductivity for sodium chloride is given by the equation,

Reason: This is according to Kohlrausch law of independent migration of ions.

26. **Assertion (A):** 0.1M solution of KCl has greater osmotic pressure than 0.1M solution of glucose at same temperature.

Reason (R): In solution, KCl dissociates to produce more number of particles.

27. **Assertion:** The boiling point of 200mL of 1M urea solution is less than that of 200mL of 2M glucose solution.

Reason: Elevation of boiling point is directly proportional to the number of species present in the solution.

28. **Assertion (A):** For complex reactions molecularity and order are not same.

Reason (R): Order of reaction may be zero.

29. **Assertion (A):** Hydrolysis of an ester follows first order kinetics.

Reason (R): Concentration of water remains nearly constant during the course of the reaction.

30. **Assertion:** Half-life period of a reaction of first order is independent of the initial concentration.

Reason: Half-life period for a first-order reaction $t_{1/2} = 2.303/K \log 2$.

ARTIFICIAL INTELLIGENCE

1. Students needs to do following for their final practical assessment:

Student capstone project development

- Students to form teams and work on developing an AI Based project
- Resources like the AI Project Guide and AI Project Log Book to be used

Students needs to create log book for the project created

Students need store record the video of their project for explanation of the project.

Each group needs to share the drive link with project, project log book and video on my personal wall by 15 June2026 for the feedback.

2. Read following units and create 20 MCQ for each topic in power point form for all the three units.

Unit 1: Communication Skills

Unit2:Self-management Skills

Unit 5: Green Skills.

INVESTIGATORY PROJECT

INVESTIGATORY PROJECT WORK for the session 2026-27

S.No.	PROJECT	ROLL NO.	D/O SUB
1	Study of the presence of oxalate ions in guava fruit at different stages of ripening	1	
		14	
		27	
2	Study of quantity of casein present in different samples of milk.	2	
		15	
		28	
3	Extraction of essential oils present in Saunf (aniseed), Ajwain (carum), Illaichi (cardamom)	3	
		16	
		29	
4	Study of the effect of Potassium Bisulphate as food preservative under various conditions (temperature, concentration, time, etc.)	4	
		17	
		30	
5	Study of common food adulterants in fat, oil, butter, sugar, turmeric powder, chilli powder and pepper	5	
		18	
		31	
6	Preparation of soybean milk and its comparison with the natural milk with respect to curd formation, effect of temperature, etc	6	
		19	
		32	
7	Study the digestion of starch by salivary amylase and effect of temperature and pH on it"	7	
		20	
		33	
8	Comparative study of the rate of fermentation of wheat flour, gram flour and	8	

	potato juice.	21	
		34	
9	Checking the bacterial contamination in drinking water by testing sulphide ion	9	
		22	
		35	
10	Investigation of the foaming capacity of different washing soaps and the effect of addition of Sodium carbonate on it	10	
		23	
		36	
11	Study the acidity of different samples of tea leaves.	11	
		24	
		37	
12	Study the effect of acids and bases on the tensile strength of fibers.	12	
		25	
13	Study of the methods of purification of water	13	
		26	

project could have the following outline:

1. PROJECT TITLE PAGE WITH SCHOOL LOGO	2. CERTIFICATE	3.
ACKNOWLEDGEMENT		
4. CONTENT	5. AIM	6. INTRODUCTION
7. THEORY	8. REQUIREMENTS	
9. CHEMICAL REACTIONS (If any)	10. PROCEDURE	11. PRECAUTIONS
12. OBSERVATIONS		
13. CALCULATIONS	14. RESULT	15. CONCLUSION
16. BIBLIOGRAPHY		

Dear Students,

Class XII is not just another academic year—it is an important milestone that shapes your future academic and career journey. These holidays are a valuable opportunity to recharge yourself while also taking meaningful steps toward your goals.

Remember: Board examination success is never built in the last month; it is built through consistent daily effort.

Use your holidays productively and intelligently.

Make Your Time Count

- Prepare a realistic daily schedule with fixed hours for study, revision, exercise, relaxation, and sleep.
- Dedicate at least 3–4 focused hours daily to revision and concept strengthening.
- Revise previously taught chapters and identify weak areas early.
- Practice numericals, derivations, reactions, and important diagrams regularly.
- Solve sample papers, competency-based questions, and previous years' questions.

Build Strong Study Habits

- Set small daily academic targets and complete them honestly.
- Maintain short notes, formula sheets, and reaction charts for quick revision.
- Avoid procrastination—small delays today often become major stress later.

Take Care of Your Health

A healthy mind performs best in a healthy body.

- Exercise, yoga, walking, or stretching for at least 30 minutes daily.
- Eat balanced meals and drink enough water.
- Sleep 7–8 hours regularly.
- Reduce unnecessary mobile usage and social media distractions.

Invest in Yourself

Along with academics:

- Read newspapers or educational articles regularly.
- Improve vocabulary and communication skills.
- Reflect on your career goals and future aspirations.

A Gentle Reminder

These holidays are not meant only for relaxation, but for self-discipline, growth, and preparation. Every chapter revised now, every concept understood now, and every question practiced now will reduce your exam stress later.

Your future is created by what you do consistently today.

Come back after the holidays more confident, organized, healthier, and academically stronger.

“Discipline during holidays is the foundation of success in board examinations.”

Study well, stay healthy, and make this break truly meaningful.

Subject: Mathematics (041)

Q No	QUESTIONS	Marks
RELATIONS AND FUNCTIONS		
SECTION-A (This section comprises of multiple-choice questions (MCQs) of 1 mark each)		
1	The function $f: R \rightarrow R$ defined by $f(x) = x - 4$ is (A) Bijective (B) Surjective but not Injective (C) Injective but not Surjective (D) Neither Surjective nor Injective	1
2	If $A = \{1,3,5,7\}$ and $B = \{1,2,3,4,5,6,7,8\}$, then the number of one-one functions from A into B is (A) 1340 (B) 1860 (C) 1430 (D) 1680	1
3	If A and B are two equivalence relations defined on set C , then (A) $A \cup B$ is an equivalence relation (B) $A \cap B$ is not an equivalence relation (C) $A \cap B$ is an equivalence relation (D) none of the above	1
4	Let $A = \{a, b, c\}$ then the number of reflexive relations on A is (A) 64 (B) 32 (C) 8 (D) 81	1
5	A relation R is defined on a set of human beings as $R = \{(x, y): x \text{ is } 5 \text{ cm shorter than } y\}$ then R is..... (A) Reflexive only (B) Reflexive and Transitive (C) Symmetric and Transitive (D) Neither reflexive nor symmetric nor transitive	1
6	A function $f: R \rightarrow R$ defined by $f(x) = x^2$ is (A) One- one (B) Onto (C) Bijective (D) Neither one-one nor onto	1
7	Which of the following is an example of a one-one and onto function? (A) $f: R \rightarrow R, f(x) = x^2$ (B) $f: R \rightarrow R, f(x) = x + 1$ (C) $f: Z \rightarrow Z, f(x) = 2x$ (D) None of these	1
8	In the set Z of all integers, which of the following relation R is a symmetric relation: (A) $xRy: \text{if } x \leq y$ (B) $xRy: \text{if 'x-y is an even positive integer'}$ (C) $xRy: \text{if } x = y$ (D) $xRy: \text{if } x \text{ is a factor of } y$	1
9	The number of relations on the set $A = \{1, 2, 3\}$ are (A) 9 (B) 2^3 (C) 3 (D) 2^9	1
<i>Questions below are Assertion and Reason based questions. Two statements are given, one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer from the codes (A), (B), (C) and (D) as given below.</i> A) Both Assertion (A) and Reason (R) are true and R is the correct explanation of the Assertion (A) B) Both Assertion (A) and Reason (R) are true and R is not the correct explanation of the Assertion (A) C) Assertion (A) is true, but (R) is false D) Assertion (A) is false, but (R) is true		
10	Assertion (A): The relation $f: \{1,2,3, 4\} \rightarrow \{x, y, z, p\}$ defined by $f = \{(1, x), (2, y), (3, z)\}$ is a bijective function. Reason (R): The function $f: \{1,2,3\} \rightarrow \{x, y, z, p\}$ such that $f = \{(1, x), (2, y), (3, z)\}$ is one-one.	1
11	Assertion(A) : The relation $R = \{(1, 2)\}$ on the set $A = \{1, 2, 3\}$ is transitive. Reasoning (R): A relation R on a non-empty set A is said to be transitive if $(a, b), (b, c) \in R \Rightarrow (a, c) \in R$, for all $a, b, c \in A$.	1

12	Assertion (A) : The relation R in a set $A = \{1, 2, 3, 4\}$ defined by $R = \{(x, y) : 3x - y = 0\}$ has the domain $= \{1, 2, 3, 4\}$ and range $= \{3, 6, 9, 12\}$ Reason (R): Domain & range of the relation (R) is respectively the set of all first & second entries of the distinct ordered pair of the relation.	1
13	Let $A = \{1, 2, 3, 4, 6\}$. If R is the relation on A defined by $\{(a, b) : a, b \in A, b \text{ is exactly divisible by } a\}$. Assertion (A): The relation R in Roster form is $\{(6, 3), (6, 2), (4, 2)\}$. Reason (R): The domain and range of R is $\{1, 2, 3, 4, 6\}$.	1
14	Assertion (A) : The Relation R defined on $A = \{a, b, c\}$ and given by $R = \{(a, a), (b, b), (c, c), (a, b), (b, a), (a, c), (c, a)\}$ is an equivalence relation. Reason (R) : A relation R is said to be equivalence relation if it is Reflexive, Symmetric and Transitive.	1
15	Assertion (A): The relation R on the set $N \times N$ defined by $(a, b)R(c, d) \Leftrightarrow a + d = b + c$, for all $(a, b), (c, d) \in N \times N$ is an equivalence relation. Reason (R): Any relation is an equivalence relation, if it is reflexive, symmetric and transitive	1
16	Assertion (A): The function $f : R \rightarrow R$, given by $f(x) = x^3$ is injective. Reason (R) : The function $f : X \rightarrow Y$ is injective, if $f(x) = f(y) \Rightarrow x = y$ for all $x, y \in X$	1
17	Assertion (A): The number of onto functions from a set P containing 5 elements to a set Q containing 2 elements is 30. Reason(R) : Number of onto functions from a set containing m elements to a set containing n elements is n^m .	1
18	Assertion (A): The $f : R \rightarrow R$ given by $f(x) = [x]$ is bijection. Reason (R) : A function is said to be bijection, if it is both one-one and onto.	1
19	Let W be the set of words in the English dictionary. A relation R is defined on W as $R = \{(x, y) \in W \times W \text{ such that } x \text{ and } y \text{ have at least one letter in common}\}$ Assertion (A): R is reflexive. Reason (R): R is symmetric.	1
20	Assertion (A): If R is the relation defined in set $\{1, 2, 3, 4, 5, 6\}$ as $R = \{(a, b) : b = a + 1\}$, then R is reflexive Reason (R) : No integer is equal to its successor	1
SECTION – B		
<i>This section comprises very short answers (VSA) type questions of 2 marks each.</i>		
21	Show that the relation R on $R \times R$ defined as $R = \{(a, b) : (a \leq b)\}$, is reflexive and transitive but not symmetric.	2
22	Let a relation R on the set N of natural numbers defined by $R = \{(x, y) : 3x^2 - 7xy + 4y^2 = 0, x, y \in N\}$. Check whether R is an equivalence relation or not?	2
23	Show that the relation S on the set of real numbers defined as $S = \{(a, b) : a \leq b^2, \text{ where } a, b \in R\}$ is neither reflexive nor symmetric.	2
SECTION-C		
<i>This section comprises Long answers (LA) type questions of 5 marks each</i>		
24	Let N be the set of natural numbers and R be the relation on $N \times N$ defined by $(a, b) R (c, d)$ iff $ad = bc$ for all $a, b, c, d \in N$. Show that R is an equivalence relation.	5
25	Show that the function $f : N \rightarrow N$ defined by $f(x) = x^2 + x + 1$ is one-one but not onto.	5

26	Let $f: R - \left\{-\frac{4}{3}\right\} \rightarrow R$ be a function defined as $f(x) = \frac{4x}{3x+4}$. Show that f is a one one function. Also check whether f is an onto function or not.	5
27	Let $A = \{1, 2, 3, 4, \dots, 9\}$ be the set and R be a relation on $A \times A$ defined by: (a, b) R (c, d) $\Leftrightarrow a + d = b + c$ for all (a, b), (c, d) $\in N \times N$. Show that R is an equivalence relation on $A \times A$. Also, find the equivalence class of (2, 6).	5
28	A function $f: [0, \infty) \rightarrow [-5, \infty)$ be defined by $f(x) = 3x^2 + 9x - 5$. Prove that the function is a one-one and on-to function.	5
29	Show that $f: R^+ \rightarrow [-9, \infty]$ defined by $f(x) = 5x^2 + 6x - 9$ is bijective function.	5
30	Show that the relation R on the set Z of all integers defined by (x, y) $\in R \Rightarrow (x - y)$ is divisible by 3 is an equivalence relation.	5

SECTION E

This section comprises of case-study/passage-based questions of 4 marks each with subparts.

31	Consider the mapping $f: A \rightarrow B$ is defined by $f(x) = \frac{x-1}{x-2}$ such that f is a bijection Based on the above information, solve the following questions: (i) Domain of f is: (A) $R - \{2\}$ (B) R (C) $R - \{1, 2\}$ (D) $R - \{0\}$ (ii) Range of f is: a. R (A) R (B) $R - \{1\}$ (C) $R - \{0\}$ (D) $R - \{1, 2\}$ (iii) If $g: R - \{2\} \rightarrow R - \{1\}$ is defined by $g(x) = 2f(x) - 1$, then $g(x)$ in terms of x is: (A) $\frac{x+2}{x}$ (B) $\frac{x+1}{x-2}$ (C) $\frac{x-2}{x}$ (D) $\frac{x}{x-2}$ (OR) The function g defined above, is: (A) one-one (B) many-one (C) into (D) None of these	1 1 2
32	Raja visited the Exhibition along with her family. The Exhibition had a huge swing, which attracted many children. Raja found that the swing traced the path of a Parabola as given by $y = x^2$.  Based on the above information, answer the following questions. (i) Let $f: N \rightarrow R$ be defined by $f(x) = x^2$. Find the Range of the function f ? (ii) Check the injectivity of the function $f: N \rightarrow N$ be defined by $f(x) = x^2$ (iii) Let $f: R \rightarrow R$ be defined by $f(x) = x^2$. Check if f is one-one or not. (OR) A. Let $f: R \rightarrow R$ be defined by $f(x) = x^2$. Check if f is onto or not	1 1 2
33	An organization conducted bike race under 2 different categories boys and girls. In all there were 250 participants. Among all of them finally three from category 1 and 2 from category 2 were selected for the final race. Ravi forms two sets B and G with these participants for his college projects. Let $B = \{b_1, b_2, b_3\}$, $G = \{g_1, g_2\}$ where B represents for the set of boys selected and G the set of all girls who were selected for the final race. Ravi decides to explore these two sets for various types of relations and functions. On the basis of the above information, answer the following questions: (i) Ravi wishes to form all the relations possible from B to G . How many such relations possible? (ii) Write smallest equivalence relation on G . (iii) (a) Ravi defines a relation from B to B as $R_1 = \{(b_1, b_2), (b_2, b_1)\}$. Write the minimum ordered pairs to be added to R_1 so that it becomes (A) reflexive but not symmetric, (B) reflexive and symmetric but not transitive. (OR) (b) If the track of the final race (for biker b_1) follows the curve $x^2 = 4y$, (where $0 \leq x \leq 20\sqrt{2}$ and $0 \leq y \leq 200$), then state whether the track represents one-one and onto or not, justify?	1 1 2

34	The students of Class 12 of a school planned to plant saplings along straight lines, parallel to each other to one side of the playground ensuring that they had enough play area. Let us assume that they planted one of the rows of the sapling along the line $y = 2x + 4$. Let L be the set of all lines which are parallel to each other in ground and R be a relation in L. Let the relations R_1 and R_2 are defined on L as follows. $R_1 = \{(L_1, L_2) : L_1 \parallel L_2, \text{ Where } L_1, L_2 \in L\}$ $R_2 = \{(L_1, L_2) : L_1 \perp L_2, \text{ Where } L_1, L_2 \in L\}$ Answer the following questions using the above information: (i) Verify whether R_1 satisfies reflexive, symmetric and transitive or not? (ii) Verify whether R_2 satisfies reflexive, symmetric and transitive or not?	2 2
35	A scout master wants to make different groups of students so that they can be given different tasks. Students started making groups with their friends, then the scout master interfere and told them to make groups as per a rule "a student will make group with roll number in such a way that the difference of roll number is divisible by 3.  (i) Write a relation R in set-builder form for the rule told by the scout master. (ii) Which roll number of students will be in the group of students with roll number 2, if there are 30 students in the class? (iii) Which roll number of students will be in the group of students with roll number 3, if there are 30 students in the class?	1 1 2
36	An organization conducted bike race under two different categories – Boys and Girls. There were 82 participants in all. Among all of them, finally two from Category 1 and three from Category 2 were selected for the final race. Ravi forms two sets B and G with these participants for his college project.  Let $B = \{b_1, b_2\}$ and $G = \{g_1, g_2, g_3\}$, where B represents the set of Boys and G represents set of Girls selected for the final race. Based on the above information answer the following questions. (i) How many relations are possible from B to G? (ii) Among all possible relations from B to G, how many functions can be formed from B to G? (iii) Let $R: B \rightarrow B$ be defined by $R = \{(x, y) / x \text{ and } y \text{ are students of same sex}\}$. Check whether R is equivalence relation or not. OR Let $f: G \rightarrow B$ be defined by $f = \{(g_1, b_1), (g_2, b_2), (g_3, b_1)\}$. Check whether f is bijective or not. Justify your answer.	1 1 2

37

A school is organizing a debate competition with participants as speakers $S = \{S_1, S_2, S_3, S_4\}$ and these are judged by judges $J = \{J_1, J_2, J_3\}$. Each speaker can be assigned one judge. Let R be a relation from set S to J defined as $R = \{(x, y) : \text{speaker } x \text{ is judged by judge } y, x \in S, y \in J\}$.



1

Based on the above, answer the following :

(i) How many relations are possible from S to J ?

1

(ii) A student identifies a function from S to J as $f = \{(S_1, J_1), \{(S_2, J_2), \{(S_3, J_2), \{(S_4, J_3)\}$. Check if it is bijective

(iii) How many one-one functions can be there from set S to set J ?

2

OR

Another student considers a relation $R_1 = \{(S_1, S_2), (S_2, S_4)\}$ in set S . Write minimum ordered pairs to be included in R_1 so that R_1 is reflexive but not symmetric.

38

An organization conducted bike race under 2 different categories-boys and girls. In all, there were 250 participants. Among all of them finally three from Category 1 and two from Category 2 were selected for the final race. Ravi forms two sets B and G with these participants for his college project.

Let $B = \{b_1, b_2, b_3\}$, $G = \{g_1, g_2\}$ where B represents the set of boys selected and G the set of girls who were selected for the final race.

Ravi decides to explore these sets for various types of relations and functions.

On the basis of the above information, answer the following questions:

(i) Ravi wishes to form all the relations possible from B to G . How many such relations are possible?

1

(ii) Write the smallest equivalence relation on G .

iii) (a) Ravi defines a relation from B to B as $R_1 = \{(b_1, b_2), (b_2, b_1)\}$. Write the minimum ordered pairs to be added in R_1 so that it becomes (A) reflexive but not symmetric, (B) reflexive and symmetric but not transitive.

1

OR

(iii) (b) If the track of the final race (for the biker b_1) follows the curve $x^2 = 4y$; (where $0 \leq x \leq 20\sqrt{2}$ & $0 \leq y < 200$), then state whether the track represents a one-one and onto function or not. (Justify).

2

39

Sherlin and Dhanju are playing Ludo at home during Covid-19. While rolling the dice, Sherlin's sister Raji observed and noted the possible outcomes of the throw every time belongs to set $\{1, 2, 3, 4, 5, 6\}$.

Let A be the set of players while B be the set of all possible outcomes.

$A = \{S, J\}$, $B = \{1, 2, 3, 4, 5, 6\}$.

Answer the following questions based on the given information:

(i) Raji wants to know the number of relations possible from A to B . Find the number of all possible relations.

(ii) Raji wants to know the number of functions from A to B . Find the number of all possible functions.

1

(iii) Let R be a relation on B defined by $R = \{(1, 2), (2, 2), (1, 3), (3, 4), (3, 1), (4, 3), (5, 5)\}$. Verify R is symmetric and transitive?

1

(OR)

Let $R: B \rightarrow B$ be defined by $R = \{(x, y) : y \text{ is divisible by } x\}$. Verify that whether R is symmetric and transitive.

2



40	An organization conducted bike race under two different categories – Boys and Girls. There were 28 participants in all. Among all of them, finally three from category 1 and two from category 2 were selected for the final race. Ravi forms two sets B and G with these participants for his college project. Let $B = \{b_1, b_2, b_3\}$ and $G = \{g_1, g_2\}$, where B represents the set of boys selected and g the set of girls selected for the final race. Based on the above information, answer the following questions. (i) How many relations are possible from B to G (ii) Among all the possible relations from B to G, how many functions can be formed from B to G? (iii) Let $R: B \rightarrow B$ be defined by $R = \{(x, y): x \text{ and } y \text{ are students of the same sex}\}$. Check if R is an equivalence relation. (OR) A function $f: B \rightarrow G$ be defined by $f = \{(b_1, g_1), (b_2, g_2), (b_3, g_1)\}$. Check if f is bijective. Justify your answer	 1 1 2
41	In class 6, the teacher conducted a survey on the fruits and vegetables the students like most. The class leader is asked to record the data. From the data it was found that the top most 3 fruits liked by most of them are Apple, Orange, Mango whereas the 3 vegetables most of them like are Tomatoes, Carrot, Cucumber. The teacher put it in 2 sets $F = \{\text{Apple, Orange, Mango}\}$ and $V = \{\text{Tomatoes, Carrot, Cucumber}\}$  (i) How many relations are possible from F to V? (ii) How many functions are possible from F to V? (iii) How many one to one functions are possible from F to V? OR How many bijections are possible from F to V?	1 1 2
42	An organisation conducted bike race under 2 different categories boys and girls. In all there were 250 participants. Among all of them finally three from category 1 and 2 from category 2 were selected for the final race. Ravi forms two sets B and G with these participants for his college projects. Let $B = \{b_1, b_2, b_3\}$, $G = \{g_1, g_2\}$ where B represents for the set of boys selected and G the set of all girls who were selected for the final race. Ravi decides to explore these two sets for various types of relations and functions. On the basis of the above information, answer the following questions: (i) Ravi wishes to form all the relations possible from B to G. How many such relations possible? (ii) Write smallest equivalence relation on G. (iii) (a) Ravi defines a relation from B to B as $R_1 = \{(b_1, b_2), (b_2, b_1)\}$. Write the minimum ordered pairs to be added to R_1 so that it becomes (A) reflexive but not symmetric, (B) reflexive and symmetric. OR (b) If the track of the final race (for biker b_1) follows the curve $x^2 = 4y$, (where $0 \leq x \leq 20\sqrt{2}$ and $0 \leq y \leq 200$), then state whether the track represents one-one and onto or not. Justify?	1 1 2
43	Students of Grade 12, planned to plant saplings along straight lines, parallel to each other to one side of the playground ensuring that they had enough play area. Let us assume that they planted one of the rows of the saplings along the line $y = x - 4$. Let L be the set of all lines which are parallel on the ground and R be a relation on L. Answer the following using the above information.	

(i). Let relation R be defined by $R = \{(L_1, L_2) : L_1 \parallel L_2 \text{ where } L_1, L_2 \in L\}$ then R is _____ relation.	
(ii). Let $R = \{(L_1, L_2) : L_1 \perp L_2 \text{ where } L_1, L_2 \in L\}$ which of the following is true? (A) R is Symmetric but neither reflexive nor transitive (B) R is Reflexive and transitive but not symmetric (C) R is Reflexive but neither symmetric nor transitive (D) R is an Equivalence relation	
(iii). The function $f: R \rightarrow R$ defined by $f(x) = x - 4$ is _____ (A). Bijective (B). Surjective but not injective (C). Injective but not Surjective (D). Neither Surjective nor Injective (OR)	
(iii). Let $f: R \rightarrow R$ be defined by $f(x) = x - 4$. Then the range of $f(x)$ is _____	

INVERSE TRIGONOMETRIC FUNCTIONS

SECTION-A		
<i>(This section comprises of multiple-choice questions (MCQs) of 1 mark each)</i>		
1	The domain of the function defined by $f(x) = \sin^{-1} x + \cos x$ is (A) $[-1, 1]$ (B) $[-1, \pi + 1]$ (C) $(-\infty, \infty)$ (D) ϕ	1
2	The value of $\cos^{-1}(-1) - \sin^{-1}(1)$ is (A) π (B) $\frac{\pi}{2}$ (C) $\frac{3\pi}{2}$ (D) $-\frac{3\pi}{2}$	1
3	The value of $\tan^{-1} \left[2 \sin \left(2 \cos^{-1} \frac{\sqrt{3}}{2} \right) \right]$ is (a) $\frac{\pi}{3}$ (b) $\frac{2\pi}{3}$ (c) $-\frac{\pi}{3}$ (d) $\frac{\pi}{6}$	1
4	The value of $\sin \left(\frac{\pi}{3} - \sin^{-1} \left(-\frac{1}{2} \right) \right)$ is (A) $\frac{1}{2}$ (B) $\frac{1}{3}$ (C) $\frac{1}{4}$ (D) 1	1
<i>Questions below are Assertion and Reason based questions. Two statements are given, one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer from the codes (A),(B),(C) and (D) as given below.</i> A) Both Assertion (A) and Reason (R) are true and R is the correct explanation of the Assertion (A) B) Both Assertion (A) and Reason (R) are true and R is not the correct explanation of the Assertion (A) C) Assertion (A) is true, but (R) is false D) Assertion (A) is false, but (R) is true		
5	Assertion (A) : The range of the function $f(x) = 2\sin^{-1}x + \frac{3\pi}{2}$, where $x \in [-1, 1]$, is $\left[\frac{\pi}{2}, \frac{5\pi}{2} \right]$ Reason (R) : The range of the principal value branch of $\sin^{-1}x$ is $[0, \pi]$.	1
6	Assertion (A) : The Principal value of the function $f(x) = \sin^{-1}(\sin \frac{2\pi}{3}) + \cos^{-1}(\cos \frac{2\pi}{3})$, where $x \in [-1, 1]$ is π Reason (R): The range of the principal value branch of $\cos^{-1}x$ is $[0, \pi]$ and $\sin^{-1}x$ is $[-\frac{\pi}{2}, \frac{\pi}{2}]$	1
SECTION - B		
<i>This section comprises very short answers (VSA) type questions of 2 marks each.</i>		
7	Find the principal value of $\left(\cos^{-1} \cos \frac{13\pi}{6} \right)$.	2
8	Find the value of $\tan^{-1}(\sqrt{3}) - \sec^{-1}(-2)$	2
9	Find the value of $\left[\sin^{-1} \sin \left(\frac{13\pi}{7} \right) \right]$	2

10	Simplify : $\tan^{-1} 1 + \cos^{-1}(-\frac{1}{2}) + \sin^{-1}(-\frac{1}{2})$	2
11	Find the principal value of $\cos^{-1}(1/2) - 2\sin^{-1}(-1/2)$.	2
12	If $\cos(\tan^{-1} x) = \sin(\cot^{-1}(\frac{3}{4}))$, then find the value of x.	2
13	Simplify: $\tan^{-1} \left[2 \cos \left\{ 2 \sin^{-1} \left(\frac{1}{2} \right) \right\} \right]$	2

SECTION-C

This section comprises Long answers (LA) type questions of 5 marks each

14	Solve for x, $\cos^{-1} x + \sin^{-1} \left(\frac{x}{2} \right) = \frac{\pi}{6}$.	3
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MATRICES

SECTION-A

(This section comprises of multiple-choice questions (MCQs) of 1 mark each)

1	If the matrix A is both symmetric and skew symmetric, then (A) A is a diagonal matrix (B) A is a zero matrix (C) A is a square matrix (D) None of these	1
2	Matrices A and B will be inverse of each other only if (A) $AB = BA$ (B) $AB = BA = 0$ (C) $AB = 0, BA = I$ (D) $AB = BA = I$	1
3	If $A = [a_{ij}]$ is an identity matrix, then which of the following is true? A. $a_{ij} = \{0, \text{if } i = j, 1, \text{if } i \neq j\}$ B. $a_{ij} = 1, \forall i, j$ C. $a_{ij} = 0, \forall i, j$ D. $a_{ij} = \{0, \text{if } i \neq j, 1, \text{if } i = j\}$	1
4	For any square matrix A, $(A - A^T)^T$ is always : A. An identity matrix B. A null matrix C. A skew symmetric matrix D. A symmetric matrix	1
5	If $P = \begin{bmatrix} 1 & 2 & 1 \\ 1 & 3 & 1 \end{bmatrix}$ and $Q = PP^T$, then the value of $ Q $ is (a) 2 (b) -2 (c) 1 (d) 0	1
6	If $A = \begin{bmatrix} \cos \theta & -\sin \theta \\ \sin \theta & \cos \theta \end{bmatrix}$ such that $A + A^T = I$ then find the value of θ a) $\frac{2}{\pi}$ b) $\frac{\pi}{3}$ c) $-\frac{2}{\pi}$ d) $-\frac{\pi}{3}$	1
7	If $\begin{bmatrix} x & 2 \\ 3 & x-1 \end{bmatrix}$ is a singular matrix, then the product of all possible values of x is: a) 6 b) 0 c) -6 d) 7	1
8	If a matrix has 24 elements, the number of possible orders it can have, is A) 13 B) 3 C) 5 D) 8	1
9	If $\begin{bmatrix} x+y & 2 \\ 5 & xy \end{bmatrix} = \begin{bmatrix} 6 & 2 \\ 5 & 8 \end{bmatrix}$, then the value of $(\frac{24}{x} + \frac{24}{y})$ is A) 7 B) 6 C) 8 D) 18	1
10	If $A = \begin{bmatrix} 3 & 4 \\ 5 & 2 \end{bmatrix}$ and $2A + B$ is null matrix, then B is equals to A) $\begin{bmatrix} 6 & 8 \\ 10 & 4 \end{bmatrix}$ B) $\begin{bmatrix} -6 & -8 \\ -10 & -4 \end{bmatrix}$ C) $\begin{bmatrix} 5 & 8 \\ 10 & 3 \end{bmatrix}$ D) $\begin{bmatrix} -5 & -8 \\ -10 & -3 \end{bmatrix}$	1
11	If $A = \begin{bmatrix} \sin \alpha & \cos \alpha \\ -\cos \alpha & \sin \alpha \end{bmatrix}$ then the value of the product AA^T is a) Null matrix b) I c) A^2 d) A	1
12	Let $A = \begin{bmatrix} 0 & 0 & -1 \\ 0 & -1 & 0 \\ -1 & 0 & 0 \end{bmatrix}$, then the only correct statement about the matrix A is a) A^{-1} does not exist. b) $A^2 = I$ c) A is a zero matrix d) $A = (-1)I$, where I is identity matrix	1

1. नीचे लिखें सभी विषयों पर 120 शब्दों में अनुच्छेद लिखें :

क) जंक फूड और युवा पीढ़ी

ख) समाचार पत्र के नियमित पठन का महत्व

ग) जीवन का कठिन दौर और मानसिक मजबूती

घ) साइबर युग , साइबर ठगी : सावधानियां और सुरक्षा उपाय

ङ) योग और छात्र जीवन

2. परियोजना कार्य: विद्यार्थी वार्षिक परीक्षा के आंतरिक मूल्यांकन हेतु निम्नलिखित परियोजना कार्य निम्नवत निर्देशानुसार करके लाएंगे:

क) कक्षा बारहवीं के सभी लड़के महादेवी वर्मा का जीवन परिचय लिखते हुए उनके संस्मरण सोना हिरणी और घीसा का सार लिखकर लाएंगे।

ख) सभी लड़कियां फणी श्वरनाथ रेणुका जीवन परिचय लिखते हुए उनके उपन्यास मैला आंचल का सार लिखकर लाएंगी।

3. विद्यालय में करवाया गया समस्त पाठ्यक्रम याद करके लाएंगे।



PM SHRI KENDRIYA VIDYALAYA KATHUA

SUMMER BREAK HOLIDAY HOMEWORK 2026-27

CLASS -> XII - B



ENGLISH CORE

A) Work to be done in English Notebook:

1. Read English Newspaper daily.* Either The Hindu or Indian Express. *Write only two words with their meanings daily in your English notebook.* Write date-wise.
2. Write a short notes in 60 to 80 words* on each of the following in your English notebook with reference to the chapters mentioned:
 - a) Linguistic chauvinism (The last Lesson),
 - b) A daughter's thoughts about her ageing parents (My Mother at Sixty Six)
 - c) The impact of child labour on children & society (Lost Spring),
 - d) the tendency to escape from the anxiety of modern life (The Third Level)
3. Solve the *Reading Comprehension Passages* to be sent in English Group in the third week of May. Write answers in your English Notebook
4. Write a notice to invite class XI students to a special assembly to facilitate the sports stars of your school with badges of honour. Renowned cricketer Sahil Singla would be the Chief Guest at the occasion. Share necessary details about the event. You are Rohini/Rohan, President of the Student Council of Bal Mahal School, Roshni Nagar.
5. You are Ram/Rajani, living at 1, Rana Pratap Marg, New Delhi. Read the advertisement given below and apply for the job that suits you giving your bio-data separately.

Sun University requires Lecturers in English and Demonstrators in Physics, Chemistry and Botany for their new Campus at Panipat. Candidates with a minimum of 5 year experience alone can apply. Excellent command of English is a must. Excellent package and compensation for experienced persons. Those interested may e-mail to sununiversityjobs@gmail.com or mail their response to: Box no 123, 'The Harbinger', New Delhi

4. Read any one of the following books & write its book review in about 80 words*:

- Animal Farm by George Orwell,
- The Catcher in the Rye by J. D. Salinger,
- Holes by Louis Sachar, To Kill a Mockingbird by Harper Lee,
- The Book Thief by Markus Zusak, 1984 by George Orwell,
- Feluda Series by Satyajit Ray,
- The Perks of Being a Wallflower by Stephen Chbosky,
- The Giver by Lois Lowry, A Wrinkle in Time by Madeleine L'
- Engle, Little Women by Louisa May Alcott,
- A Wizard of Earthsea by Ursula K. Le Guin
- Persepolis by Marjane Satrapi,
- Me and Earl and the Dying Girl by Jesse Andrews,
- Anne of Green Gables by L M Montgomery.

5. Watch *any one of the following movies & write a movie review in 80 words in Your English Notebook:

- Good Will Hunting (1997),
- Dead Poets Society (1989),
- Back to the Future (1985),
- Whiplash (2014),
- Ferris Bueller's Day Off (1986),
- Life of Pi (2012),
- Stand by Me (1986), Life is Beautiful (1997),
- The Boy in the Striped Pyjamas (2008),

- A Beautiful Mind (2001), Into the Wild (2007),
- E.T. the Extra Terrestrial (1982),
- The Karate Kid (1984), Inside Out (2015),
- Spirited Away (2001),
- The Princess Bride (1987),
- Paddington (2015), The Pursuit of Happyness (2006),
- Whale Rider (2002), Up (2009).

7. Study the following topics for the *Monthly Test to be held in the last week of June*:

• The Last Lesson,	• Lost Spring,
• The Third Level,	• The Tiger King,
• My Mother at Sixty-six,	• Notice Writing,
• Job Application	•

8. Read all the chapters & poems in your syllabus at least once. From NCERT textbooks. Complete texts.
9. Stay away from screens & social media as much as possible. Observe No Screen & No Social Media days every week during weekends.
10. Take care of your health. Jog, run, play daily.
11. Spend quality time with your family.
12. Learn to cook any five recipes. Try to cook once a week, at least.
13. Keep your surroundings clean & well organised.
14. Plan your holidays. Plan your days. Follow the plans rigorously.
15. What is fake news? Find about it. Learn how to identify fake news.

ECONOMICS

1. Meaning of Macroeconomics?
2. Difference between Microeconomics & Macroeconomics?
3. Important Concepts of Macroeconomics?
4. Explain the concept of flow and stock concept?
5. Closed and Open Economy?
6. Circular Flow of Income?
7. Explain and write the formulas of national income Aggregates ?
8. Calculation And Explain the variables of National Income (Accounting)?
9. Explain the concept of CC Economy and Money?
10. Functions of Money?
11. Explain the role of RBI in indian Economy?
12. Explain the concept of Quantitative and Qualitative measures of Central bank of india?
13. Collect the old forms of money i.e coins and paper notes

INFORMATION PRACTICES

- Q1. Create a panda's series from a dictionary of values and a ndarray.
- Q2. Given a Series, print all the elements that are above the 75th percentile.
- Q3. Create DataFrame quarterly sales where each row contains the item category, itemname and expenditure. Group the rows by the category and print the total expenditure per category.
- Q4. Create a data frame for examination result and display row labels, column labels datatypes of each column and the dimensions
- Q5. Filter out rows based on different criteria such as duplicate rows.
- Q6. Importing and exporting data between pandas and CSV file.
- Q7. Given the school result data, analyses the performance of the students on different parameters, e.g subject wise or class wise.
- Q8. Students is required to prepare an Investigatory Project Report as per Central Board of Secondary Education guidelines. The aim of the class project is to create tangible and useful IT application. The learner may identify a real-world problem by exploring the environment. e.g. Students can visit shops/business places, communities or other organizations in their localities and enquire

about the functioning of the organization, and how data are generated, stored, and managed. The learner can take data stored in csv or database file and analyze using Python libraries and generate appropriate charts to visualize. Learners can use Python libraries of their choice to develop software for their school or any other social good. Learners should be sensitized to avoid plagiarism and violation of copyright issues while working on projects. Teachers should take necessary measures for this. Any resources (data, image etc.) used in the project must be suitably referenced.

ACCOUNTANCY

Topics: Partnership Fundamentals to Admission of a Partner

1. Prepare 4–5 pages handwritten summary of each chapter
2. Practice proper formats of accounts.
3. 10 MCQs from each chapter
4. 20 Competency-based questions from each chapter
5. 20 Reason & Assertion questions from each chapter
6. 20 Practical/Numerical questions from each chapter (with proper working notes & formats)
Follow proper CBSE presentation (Proper working notes)
7. Write and complete all the assigned work neatly in your fair notebook with proper headings, formats, and presentation.
8. Make a Project file from any topic of your syllabus.

When you return to school, there will be a test on all the syllabus covered up to Admission of a Partner.

BUSINESS STUDIES

1. Coverage: Nature and Significance of Management to Planning
2. Prepare 4–5 pages notes per chapter (definitions, flowcharts, , features, importance, examples).
3. Do 5 Multiple Choice Questions
4. Solve 20 competency-based questions per chapter.
5. Attempt 20 Assertion–Reason questions per chapter.
6. Solve 10 case studies per chapter (CBSE pattern).
7. Attempt 15 short + 10 long answer questions per chapter
8. Make mind maps/flowcharts for revision.
9. Write all work neatly in your fair notebook as per CBSE board format.
10. Prepare a project file on any topic from your syllabus.

ARTIFICIAL INTELLIGENCE

3. Students need to do following for their final practical assessment:

Student capstone project development

- Students to form teams and work on developing an AI Based project
- Resources like the AI Project Guide and AI Project Log Book to be used

Students need to create log book for the project created

Students need store record the video of their project for explanation of the project.

Each group needs to share the drive link with project, project log book and video on my personal wall by 15 June 2026 for the feedback.

4. Read following units and create 20 MCQ for each topic in power point form for all the three units.

Unit 1: Communication Skills

Unit 2: Self-management Skills

Unit 5: Green Skills.

***Happy vacations
May you keep growing.
Best wishes.***