

KENDRIYA VIDYALAYA KALIMPONG

SESSION (2026 –27)

CLASS : III ENGLISH HOLIDAY HOMEWORK

TEACHER : Mrs. DAWA DOLMA BHUTIA

Q1. Read the passage and answer the following questions.

Meena walked towards the stream near the bamboo bridge. She bent a little and put a paper boat in the water. It sailed down the stream swiftly. Meena was delighted. She went on putting several paper boats in the stream. As the boats floated down the stream, she saw a naughty boy pushing the boats into the water.

(a) What is the name of the girl in the passage?

(b) What was Meena playing with?

(c) What sailed down the stream swiftly?

(d) Who was delighted?

(e) What was the naughty boy doing?

Q2. Prepare a paper boat and bring.

CLASS : III TWAU HOLIDAY HOMEWORK

TEACHER : Mrs. Pranita Chettri

1. Write 6–8 sentences on “**Why plants and animals need each other.**”

2. Read given map and answer the following question.

Reading a Map

KEY

- Camping Trailer
- Tent
- Cabin
- Campfire
- Rowboat
- Land
- Water

1. Label **N**, **S**, **E**, and **W** on the compass rose.
2. Color the land **green** and the water **blue**.

Write **north**, **south**, **east**, or **west** to complete each sentence.

3. The rowboats are _____ of the campfire.
4. The camping trailers are _____ of the tents.
5. The cabins are _____ of the tents.
6. The campfire is _____ of the camping trailers.
7. The island is _____ of the cabins.

कक्षा: 3

विषय: हिंदी

पठन

कल सुबह जलपान करके हम सब लोग जयपुर की सैर के लिए निकले। सबसे पहले हमने हवामहल देखा। हवामहल के पास ही जंतर-मंतर है। इस वेधशाला का निर्माण राजा सवाई जयसिंह ने किया था। इसके बाद हम रामनिवास बाग गए। यहाँ एक अच्छा कला-संग्रहालय है। यह दर्शनीय है। संग्रहालय में जयपुर के राजा-महाराजाओं के कपड़े, अस्त्र-शस्त्र और उनके चित्र रखे हुए हैं। जयपुर से लगभग चौदह किलोमीटर की दूरी पर आमेर का दुर्ग है। यह बहुत पुराना और बड़ा है। आमेर में शीशमहल देखने योग्य है। शीशमहल के पास ही शिलादेवी का मंदिर है। मंदिर में दर्शन करने के बाद हम नगर वापस आए। रात को हमने राजस्थान के लोकनृत्य देखे। फिर राजस्थान का विशेष व्यंजन दाल-बाटी चूरमा खाया। आज दोपहर पचात हम झीलों के नगर उदयपुर जाएँगे

निम्न प्रश्नों के उत्तर दीजिए-

1. गद्यांश में लेखक कौन से शहर में घूमने गया
2. हवा महल का निर्माण किसने कराया था?
3. गद्यांश में लेखक शहर में कहां-कहां घूमने गया किन्हीं चार जगह के नाम बताओ
4. अपने प्रिय खेल के बारे में 10 वाक्य लिखो ?
5. बीरबल क्यों प्रसिद्ध थे ?

अकबर बीरबल का चित्र बनाओ

KENDRIYA VIDYALAYA KALIMPONG

SESSION (2026 –27)

CLASS : IV ENGLISH HOLIDAY HOMEWORK

TEACHER: Mrs. DAWA DOLMA BHUTIA

Q1. Write ten nouns.

Q 2.Prepare a paper butterfly and bring.

Q3.Read the passage and answer the following questions.

In a lush forest lived an old stag who was known for his kindness. Each day, he warmly greeted his fellow animals and birds. Though the forest offered plenty of food, the stag preferred staying on a small hillock with tender grass.

The hillock was covered in soft, green grass, which the old stag enjoyed. Every day, he would come down to meet his friends, and all the animals and birds loved him. One day, the stag fell ill. The old stag could not go down the hillock to greet his friends. His friends too were worried.

(a) Name the lesson.

(b) Why was the old stag popular?

(c) Why does the old stag preferred staying on a small hillock?

(d) Why do the other animals love the old stag ?

e) Why did the old stag not go down the hillock to meet his friends?

CLASS : IV TWAU HOLIDAY HOMEWORK

TEACHER: Mrs. Pranita Chettri

1. Write a short paragraph on **“Why Trees are Our Best Friends”**.

2. Write 5 good food habits you follow at home to stay healthy.

3. Write **any 5 good habits** we should follow to protect nature.

Class 4 Mathematics - Holiday Homework

Solve the following questions neatly in your notebook. Show all steps clearly.

1. A shopkeeper had 864 pencils. He sold 375 pencils. How many pencils are left with him?

2. Multiply: (a) 247×5 (b) 326×8

3. The cost of one chair is ₹725. Find the total cost of 18 such chairs.

4. Write all ODD and EVEN numbers between 1 and 50.

CLASS : IV HINDI HOLIDAY HOMEWORK

केंद्रीय विद्यालय, कालिम्पोंग

कक्षा 4 – हिंदी शरदकालीन अवकाश गृह कार्य

•

1. पाँच पेज सुलेख लिखो तथा दो कविताएँ लिखो।
2. अपनी पसंद से 10 शब्द लिखकर उनका विलोम शब्द लिखें।
3. बकरी, लकड़ी, लड़की, पुस्तक, केला, मकान, औरत, गेंद, शहर, कलम और पेंसिल शब्दों के बहुवचन शब्द लिखें।
4. विशेषता बताने वाले शब्दों का उपयोग करते हुए 10 वाक्य लिखो।
5. निम्न शब्दों का उपयोग करते हुए वाक्य बनाओ:
नीम -
राजा -
अचानक -
घोंघा -
6. पाठ एक – 'नीम' तथा पाठ दो – 'आसमान गिरा' के प्रश्नोत्तर याद करो।
7. 10 स्त्रीलिंग तथा पुल्लिंग शब्द लिखो।
8. परियोजना कार्य(Project):
- चिड़िया के घोंसले का मॉडल बनाओ तथा A4 शीट पर घोंघे का चित्र बनाकर उसके बारे में पाँच वाक्य लिखो।

KENDRIYA VIDYALAYA KALIMPONG SESSION (2026 –27)

CLASS : V ENGLISH HOLIDAY HOMEWORK

TEACHER : Mrs. DAWA DOLMA BHUTIA

Q1. Prepare one paper butterfly each and bring .

Q2. Write 10 adjectives on an A4 size paper.

Q2. Read the passage and answer the following questions. In a quiet village, a rich merchant kept a bright and talkative parrot in a cage of gold. The parrot had a sharp mind and often entertained the merchant with stories and songs. However, deep inside, the bird longed for the open skies and green trees. One day, the merchant decided to travel far away for business. He thought he would do something to please his pet. He walked up to the cage and said, “My beloved parrot, I am about to travel to a far-off land. What can I bring for you from there?”

- a) Name the lesson.
- b) Why did the merchant keep the parrot in a cage of gold?
- c) What made the parrot a favourite pet of the merchant?
- d) Who had a sharp mind to tell stories and sing songs?
- e) Who decided to travel far away for business ?

CLASS : V TWAU HOLIDAY HOMEWORK

TEACHER : Mrs. Pranita Chettri

- 1. Write a short paragraph (8–10 sentences) on “**My Role in Keeping My City Clean**”.
- 2. Prepare a table of **5 natural resources** and their **uses in daily life**.
- 3. Paste/draw pictures of **5 animals and their habitats** (forest, desert, water, etc.).

Class 5 Mathematics - Holiday Homework

Solve the following questions neatly in your notebook. Show all steps clearly.

- 1. A school library has 4,258 books. Out of these, 1,763 books are story books. How many books are not story books?
- 2. Multiply: (a) 468×27 (b) 523×34
- 3. A water tank can hold 2,450 liters of water. If 1,375 liters of water is already filled, how much more water can be filled in the tank?
- 4. Write all palindromes between 100 and 200.

CLASS : V HINDI HOLIDAY HOMEWORK

केंद्रीय विद्यालय, कालिम्पोंग

कक्षा- 5 "अ" विषय - हिंदी

शरद कालीन अवकाश गृह कार्य

- 1) अरुणाचल प्रदेश की तीन पड़ोसी राज्यों के नाम लिखें।
- 2) अरुणाचल प्रदेश के लोगों द्वारा पहने जाने वाले वस्त्रों के चित्र एकत्र कर चिपकाएं। उनके नाम भी लिखें।
- 3) दुर्गा पूजा के बारे में एक अनुच्छेद लिखें और बताएं कि दुर्गा पूजा क्यों मनाया जाता है?
- 4) दुर्गा पूजा की तस्वीर एकत्र कर चिपकाएं।
- 5) यातायात के नियम संबंधी विभिन्न संकेतों का चित्र एकत्र करें या बनाएं और अपने नोटबुक में चिपकाएं।
- 6) एशिया महादेश के पांच प्रमुख देशों के नाम और उनकी राजधानियों के नाम लिखें।
- 7) विश्व के राजनीतिक मानचित्र में उन देशों को विभिन्न रंगों से दिखाएं।
- 8) 10 संज्ञा शब्द, 10 सर्वनाम शब्द, 10 क्रिया शब्द और 10 विशेषण शब्दों की सूची बनाएं।

KENDRIYA VIDYALAYA KALIMPONG

AUTUMN BREAK HOMEWORK

CLASS: VI

SUB: SOCIAL SCIENCE

Answer the following questions:

1. Why did pilgrims, scholars, and traders undertake long and hazardous journeys from China, Persia, and Greece to India in ancient times? Discuss at least four distinct motivations.
2. Imagine you were a scholar born 2,000 years ago traveling across the Indian Subcontinent. What name would you give to this land, and what geographical or cultural features would inspire your choice?
3. Quote and explain the geographical definition of 'Bharata' provided in the ancient text Vishnu Purana.

Map Work:

On an outline physical map of the Indian Subcontinent, neatly mark, label, and shade the following key geographical features, ancient regions, and rivers mentioned in this chapter.

1. Major Rivers (Blue Lines)	River Indus (Sindhu), River Jhelum, River Chenab, River Ravi, River Sutlej, River Sarasvati, River Ganga, River Yamuna, River Brahmaputra, River Narmada, River Godavari, River Kaveri
2. Natural Boundaries & Water Bodies (Shade/Label)	Himalayas (North), Hindu Kush Mountains (North-West), Arabian Sea (West), Bay of Bengal (East), Indian Ocean (South)
3. Key Historical Points	Cape Kumari (Kanyakumari), Sapta Sindhava Region (North-West Land of Seven Rivers)

Sanjay Karmakar, PGT Geography

Kendriya Vidyalaya KALIMPONG

AUTUMN BREAK HOMEWORK

Department of Physical & Health Education

CLASS ASSIGNMENTS

Classes VI to VIII

Prepare a chart project on chart paper of your favourite Game.

Classes IX & X

Complete a stick file which contains a minimum of 10 pages on your favourite Game or Yoga. The file must contain a Certificate, Index, and photographs of related Games or Yoga.

Classes XI & XII

Complete all units in your notebook neat and clean, and complete your practical file.

Daily Activity Mandate

Perform 40 minutes of exercise and yoga daily to maintain good health.

केंद्रीय विद्यालय कालिम्पोन्ग
शरदकालीन अवकाश परियोजना कार्य
(दिनांक 15.10.2026 से 24.10.2026 तक)
विषय - हिन्दी सत्र- 2026-27

सामान्य निर्देश:-

1. परियोजना कार्य अपने हिन्दी विषय की (कापी) अभ्यास पुस्तिका में करें।
2. परियोजना कार्य सही और व्यवस्थित रूप से करें।
3. अवकाश के पश्चात् अपने विषयाध्यापक को जांच हेतु परियोजना कार्य जमा करें।
4. परियोजना कार्य आपकी आगामी परीक्षा के लिए अत्यंत उपयोगी साबित होगा अतः ध्यान देकर कार्य करें।

कक्षा -6

1. अपनी पाठ्यपुस्तक से मैया मैं नहीं माखन खायो(सूरदास) पद याद करो।
2. परीक्षा कहानी को पढ़े और उसके उद्देश्य को 10 पंक्तियों में लिखो।
3. एक बीज को बोने के बाद उसका पौधा बनकर तैयार होने में किन किन चीजों की आवश्यकता होती है प्रक्रिया को विवरण सहित 15 पंक्तियों में लिखें।
4. कोई एक यात्रा वृत्तान्त को अपने शब्दों में लिखें जिसमें कम से कम 100 शब्द हों।

KENDRIYA VIDYALAYA KALIMPONG

AUTUMN BREAK HOLIDAY HOMEWORK

Class 6 Science Practice Test

Chapters: Temperature and Its Measurement & Methods of Separation in Everyday Life

Source: NCERT Class 6 Science

Total Marks: 19 Marks | **Time Allowed:** 45 Minutes

SECTION A: Multiple Choice Questions (1 Mark Each)

Q1. The normal temperature of a healthy human body measured on the Celsius scale is:

- (a) 35°C
- (b) 37°C
- (c) 98.6°C
- (d) 42°C

Q2. Which method is used to separate grain seeds from harvested stalks?

- (a) Winnowing
- (b) Handpicking
- (c) Threshing
- (d) Sieving

Q3. Why does a clinical thermometer have a constriction or kink near its bulb?

- (a) To increase the temperature range of the thermometer.
- (b) To prevent the mercury thread from falling on its own when removed from the mouth.
- (c) To make the liquid inside expand faster.
- (d) To measure the temperature of boiling liquids safely.

Q4. The process in which water vapor changes into liquid water droplets upon cooling is called:

- (a) Evaporation
- (b) Condensation
- (c) Decantation

(d) Sedimentation

SECTION B: Short Answer Questions I (2 Marks Each)

Q5. State two main differences between a clinical thermometer and a laboratory thermometer.

Q6. Define **winnowing**. On what physical property difference between components does this method work?

Q7. What is a **saturated solution**? How can you dissolve more solute in a saturated solution without adding more liquid solvent?

SECTION C: Short Answer Questions II (3 Marks Each)

Q8. Answer the following questions regarding temperature:

(a) What is temperature?

(b) What is the SI unit of temperature?

(c) Why should a clinical thermometer not be used to measure the temperature of boiling water?

Q9. Explain step-by-step how a mixture of sand and water can be separated using the processes of **sedimentation** and **decantation**.

Q10.

(a) Differentiate between **evaporation** and **condensation**.

(b) Briefly describe how common salt is obtained from seawater in coastal areas.

KENDRIYA VIDYALAYA KALIMPONG

Kendriya Vidyalaya Sangathan, Kolkata Region | Session 2026-27

AUTUMN BREAK HOLIDAY HOMEWORK - CLASS 6

Subject: Artificial Intelligence

Theme: Me and My Smart Machines

Name: _____

Class/Sec: _____

Roll No.: _____

General Instructions

- Do this homework in your **AI notebook / A4 sheets** (not on this page), unless a question says otherwise.
- Write neatly. Mention the question number before every answer.
- Do your own work. You may take help from books and family, but do **not** copy answers directly from AI chatbots or the internet.
- Submit on the **first day after the Autumn Break**, with a parent's signature on the last page.

Part A - Fill in the Blanks

- Q1. AI stands for _____ Intelligence.
- Q2. A machine that can move and do tasks automatically is called a _____.
- Q3. Machines learn from _____ (facts, numbers, pictures, words).
- Q4. Alexa and Google Assistant understand our _____ (speech / drawing).
- Q5. Humans have feelings and creativity, but machines can work without getting _____.

Part B - True or False

- Q6. Every machine around us uses AI.
- Q7. AI can help doctors, farmers and teachers.
- Q8. A calculator thinks and feels like a human being.
- Q9. Face unlock on a mobile phone uses AI.
- Q10. We should share our passwords with any app that asks for them.

Part C - Short Answer Questions

- Q11. In your own words, what is Artificial Intelligence? Give two examples.
- Q12. Write any three differences between human intelligence and machine intelligence.
- Q13. Name three ways AI can help us in daily life.
- Q14. Why should we use AI tools carefully and safely? Write two reasons.

Part D - Activities

Activity 1: AI Spotter (at home). Find 5 smart devices or apps used at your home or neighbourhood (e.g. phone, smart TV, YouTube suggestions, map app, ATM). Fill this table in your notebook:

S.No.	Device / App	What it does for us	Do you think it uses AI? Why?
1			
2			

S.No.	Device / App	What it does for us	Do you think it uses AI? Why?
3			
4			
5			

Activity 2: Human vs Machine. Make a two-column chart. In one column write 4 tasks that humans do better. In the other write 4 tasks that machines do better. Decorate it with pictures.

Activity 3: Poster. On an A4 sheet, make a colourful poster on "**My AI Helper of the Future**": draw an AI helper that could solve one problem in your town (for example, a helper for the hills during rain). Write 3 lines about what it does.

Part E - Brain Teaser

Unscramble these AI words and write what each one means in a few words:

(1) TAAD (2) OTBOR (3) GEMIA (4) HCESEP (5) ESNSOR

Parent's signature: _____ Teacher's remarks: _____

Enjoy the festivals, spend time with family, play outdoors, and keep asking questions. Happy Autumn Break!

Prepare **one working model** on any one topic from the prescribed syllabus.

Along with the working model, students must prepare a **project file** containing the following details:

1. **Cover Page** – Name of the school, student's name, class, section, roll number, and project title.
2. **Introduction** – A brief introduction to the selected topic.
3. **Aim/Objectives** – The purpose of making the model.
4. **Materials Required** – A list of materials used to make the model.
5. **Procedure** – Step-by-step explanation of how the model was made.
6. **Mathematical Concepts Used** – Explanation of the mathematical concepts demonstrated by the model.
7. **Working/Explanation of the Model** – How the model works, with suitable examples wherever required.
8. **Conclusion** – What the student learned from the project.
9. **Pictures** – Photographs of the model-making process and the completed model.

अवकाशकालीन गृहकार्य (2026-27)

केन्द्रीय विद्यालय कालिम्पोङ · विषय: नेपाली · कक्षा 6

विद्यार्थीको नाम: _____ कक्षा/खण्ड: _____ क्रमाङ्क: _____

सामान्य निर्देशन

- सबै काम छुट्टै नेपाली गृहकार्य कापी वा ए4 फाइलमा आफ्नै हस्ताक्षरमा गर्नुहोस्।
- सफा, सुन्दर र शुद्ध लेखन अपेक्षित छ। कुनै पनि काम इन्टरनेटबाट सिधै सारिनु हुँदैन।
- अभिभावकको हस्ताक्षर अनिवार्य छ। विद्यालय खुलेको पहिलो दिन कापी जम्मा गर्नुहोस्।

गृहकार्य कक्षा 6

1. निबन्ध लेखन (8-10 वाक्य)

"मेरो मनपर्ने चाड - दशैं" शीर्षकमा निबन्ध लेख्नुहोस्।

2. पत्र लेखन

दशैंको शुभकामना दिँदै आफ्नो साथीलाई अनौपचारिक पत्र लेख्नुहोस्।

3. व्याकरण अभ्यास

- कुनै पाँचओटा नामशब्द र पाँचओटा विशेषण छानेर प्रत्येकको वाक्यमा प्रयोग गर्नुहोस्।
- दश जोडी विपरीतार्थी शब्द लेख्नुहोस्।
- पाँचओटा पर्यायवाची शब्द लेख्नुहोस्।

4. पठन तथा सारांश

पाठ्यपुस्तकबाहेकको कुनै एउटा नेपाली बालकथा पढेर पाँच वाक्यमा सारांश लेख्नुहोस्। कथाबाट पाएको शिक्षा पनि लेख्नुहोस्।

5. सिर्जनात्मक कार्य

दशैंको टीका लगाउने दृश्य वा आफ्नो परिवारको चित्र बनाउनुहोस् र त्यसबारे पाँच वाक्य लेख्नुहोस्।

6. सुन्दर हस्तलेखन

आफूलाई मनपर्ने कुनै कविता वा अनुच्छेद सफा अक्षरमा एक पृष्ठ सारेर लेख्नुहोस्।

शुभ अवकाश! नियमित पठन र लेखनको बानी कायम राख्नुहोस्।

विषय शिक्षक: _____ अभिभावकको हस्ताक्षर: _____

केन्द्रीय विद्यालय कालिम्पोना

(शरदकालीन अवकाश गृहकार्य)

कक्षा- 6th 2026-27 विषय- संस्कृत

1. अस् धातु के लट्, लृट्, लङ्, लोट् और विधिलिङ् लकारों में रूप लिखिये:- याद भी कीजिये ।
2. तद् शब्द का रूप तीनों लिङ्गों में रूप लिखे और याद करें।
3. 10 शब्द पुल्लिङ्ग 10 शब्द स्त्रीलिङ्ग और 10 शब्द नपुंसकलिङ्ग के चित्र के सहित लिखो ।
4. बालक और बालिका शब्द के रूप लिखो और याद करो ।
5. संस्कृत प्रतिज्ञा लिखो और याद करो ।
- 6- पांच फलों, पांच पशुओं, और पांच रंगों के नाम चित्र सहित चार्ट पर लिखिए ॥

KENDRIYA VIDYALAYA KALIMPONG
AUTUMN BREAK HOLIDAY HOMEWORK
CLASS VII (2026-27)

Q1. The Day the Internet Disappeared

Imagine that the internet suddenly stops working across the world for three days.

Write a diary entry describing:

- Your first reaction.
- The difficulties faced by students, teachers and families.
- How people might communicate and entertain themselves.
- What you discover about life without the internet.

Q2. Imagine that a river flowing through your region can speak.

Write a first-person account of 150–180 words describing its journey, the beauty it witnesses, the pollution it suffers and its hopes for the future. End with a powerful message to human beings.

Q3. Your neighbourhood park is becoming dirty because people throw plastic wrappers and bottles everywhere.

Write a letter to the Municipal Commissioner describing the problem and suggesting practical measures to keep the park clean.

Q4. Interview an elderly person in your family or neighbourhood about changes they have noticed in the local environment over the years.

Write five questions and answers, followed by a 100-word report titled “*Our Environment: Then and Now.*”

Q5. Complete your learner’s diary

NOTE: The holiday homework is to be done on A4 sheet

केन्द्रीय विद्यालय कालिम्पोन्ग
(शरदकालीन अवकाश गृहकार्य)
कक्षा- 7th 2026-27 विषय- संस्कृत

1. 'किम्' (क्या)शब्द के पुल्लिङ्ग, स्त्रीलिङ्ग, और नपुंसकलिङ्ग में शब्दरूप लिखिये ।
2. अस् धातु के सभी लकारों में रूप लिखो और याद करो।
3. कोई दो सुभाषित श्लोक अर्थसहित लिखो ।
4. बालकः और बालिकाः शब्द के रूप लिखो और याद करो ।

केंद्रीय विद्यालय कालिम्पोन्ग
शरदकालीन अवकाश परियोजना कार्य
(दिनांक 15.10.2026 से 24.10.2026 तक)
विषय - हिन्दी सत्र- 2026-27

सामान्य निर्देश:-

1. परियोजना कार्य अपने हिन्दी विषय की (कापी) अभ्यास पुस्तिका में करें।
2. परियोजना कार्य सही और व्यवस्थित रूप से करें।
3. अवकाश के पश्चात् अपने विषयाध्यापक को जांच हेतु परियोजना कार्य जमा करें।
4. परियोजना कार्य आपकी आगामी परीक्षा के लिए अत्यंत उपयोगी साबित होगा अतः ध्यान देकर कार्य करें।

कक्षा -7

1. “गिरिधर कविराय की कुण्डलिया” याद करें
2. मित्र को जन्मदिन की बधाई देते हुए एक बधाई पत्र लिखिए।
3. अपने परिवार के किसी सदस्य का उनके कार्यक्षेत्र के बारे में साक्षात्कार लीजिये और साक्षात्कार को संवाद के रूप में अपनी कॉपी में लिखें ।
4. “मोबाइल फोन का सदुपयोग कैसे करें” विषय पर 15 वाक्य लिखें।

WORKSHEET
Autumn Break Holiday Homework
Prepared by A P Singh

Instructions:

1. Prepare Multidisciplinary Project (MDP) in a project file as instructed in the class.
2. Submit it to your class teacher on 26.08.2026.

KENDRIYA VIDYALAYA KALIMPONG

Kendriya Vidyalaya Sangathan, Kolkata Region | Session 2026-27

AUTUMN BREAK HOLIDAY HOMEWORK - CLASS 7

Subject: Artificial Intelligence

Theme: Data and the AI Project Cycle

Name: _____

Class/Sec: _____

Roll No.: _____

General Instructions

- Do this homework in your **AI notebook / A4 sheets** (not on this page), unless a question says otherwise.
- Write neatly. Mention the question number before every answer.
- Do your own work. You may take help from books and family, but do **not** copy answers directly from AI chatbots or the internet.
- Submit on the **first day after the Autumn Break**, with a parent's signature on the last page.

Part A - Multiple Choice Questions

Q1. Which of these is the first stage of the AI Project Cycle?

- (a) Modelling (b) Problem Scoping (c) Evaluation (d) Deployment

Q2. Raw facts and figures that a machine learns from are called:

- (a) Data (b) Hardware (c) Wires (d) Software

Q3. Which of these is an example of image data?

- (a) A song (b) A photograph (c) A temperature list (d) A sentence

Q4. A Smart Assistant that understands your voice mainly uses:

- (a) Only a battery (b) Speech and language AI (c) A printer (d) A scanner

Q5. Which is NOT a good use of AI?

- (a) Predicting weather (b) Spreading false news (c) Helping farmers (d) Translating languages

Part B - Short Answer Questions

Q6. What is the AI Project Cycle? Write its main stages in order.

Q7. What is Problem Scoping? Explain the **4Ws** (Who, What, Where, Why) in one line each.

Q8. What is data? Write the difference between **text data**, **image data** and **number data** with one example each.

Q9. What is the difference between a **rule-based** machine and a machine that **learns from data**? Give one example of each.

Q10. What does it mean when we say AI can be **unfair or biased**? Give one simple example.

Part C - Activities

Activity 1: Problem Scoping Canvas. Choose ONE problem: (a) too much plastic waste in school, (b) students forgetting to carry water bottles, (c) landslide danger on hill roads. Fill the canvas below in your notebook:

Who has the problem? (Stakeholders)	What is the problem?	Where does it happen?	Why is it important to solve?

Then write a **Problem Statement** in one sentence, starting with: *"Our problem is that ..."*

Activity 2: Data Collection Survey. During the festival season (Dashain / Durga Puja / Tihar / Diwali), ask **15 family members, neighbours or friends**: *"Which is your favourite festival sweet or food?"* Record the answers in a tally table, then draw a **bar graph** on graph paper. Answer: (i) Which item got the most votes? (ii) Is this data text or numbers? (iii) How could a machine use such data?

Activity 3: Sort the Data. Write 3 examples each of **text data, number data and image data** that you meet in your daily life.

Part D - Think and Write

A camera app in a phone can tell whether a photo contains a dog or a cat. Write 5 lines on **how you think the machine learned this** and what kind of data it needed.

Parent's signature: _____ Teacher's remarks: _____

Enjoy the festivals, spend time with family, play outdoors, and keep asking questions. Happy Autumn Break!

Autumn Break Homework

Class VII | Social Science | Session 2026–27

Explore your surroundings and connect classroom learning with everyday life through the following tasks.

Instructions

- Complete the work neatly in your Social Science notebook. Attach the map and activity sheet.
- Write answers in your own words. Use your textbook or school atlas for reference.
- Use simple drawings and available or reused materials. No purchased model is required.
- Submit on the first Social Science class after the autumn break. Suggested total time: 3–4 hours.

A Written Questions

Answer each question in about 30–50 words.

1. Distinguish between weather and climate. Give one example of each.
2. How do mountains and plains influence people's houses, occupations and transport? Give two examples.
3. Why is the monsoon important for India? Mention one benefit and one difficulty caused by heavy rainfall.
4. What are historical sources? Give one example each of an archaeological source and a literary source.
5. Why should historians compare more than one source when studying the past?
6. What does equality mean in school life? Suggest two ways to make your classroom more inclusive.

B Map Work

On an outline physical map of India, locate and label the following. Use your atlas to check positions and add a title and a simple key.

The Himalayas • Northern Plains • Thar Desert • Deccan Plateau • Western Ghats • River Ganga • Arabian Sea • Bay of Bengal

Below the map, explain in 2–3 sentences how any one of these physical features affects people's lives.

C Observe the Weather

Observe the weather at approximately the same time on any five days of the break. Copy this table into your notebook and complete it. Record what you actually observe; a thermometer or internet access is not required.

Date and time	Sky conditions	Rainfall observed	Wind calm or breezy	Effect on daily life

After completing the table, answer:

1. What changes did you observe during the five days?
2. Why are five days of observations insufficient to describe the climate of a place?

D Think and Respond

A village receives very heavy rainfall for three days. A road is blocked, some houses are damaged and the water supply becomes muddy.

Answer each question in 2–3 sentences:

1. Identify two problems that the villagers may face.
2. Suggest two steps that the local administration should take.
3. How can people support one another while ensuring that children stay safe?

E Creative Activity

Choose ONE activity and complete it on one A4 sheet or a notebook page.

Option 1 — Our local heritage: Draw or paste a picture of a local monument, traditional craft or festival. Write 80–100 words about its location or community, importance and preservation. Mention your source of information.

Option 2 — Responsible citizens: Design a poster on “Save Water” or “Keep Our Surroundings Clean”. Include a slogan and five practical actions that students can take.

Before You Submit

Check that your answers, labelled map, five-day weather record, case responses and one creative activity are complete. Revise the lessons taught before the break.

Prepare **one working model** on any one topic from the prescribed syllabus.

Along with the working model, students must prepare a **project file** containing the following details:

1. **Cover Page** – Name of the school, student's name, class, section, roll number, and project title.
2. **Introduction** – A brief introduction to the selected topic.
3. **Aim/Objectives** – The purpose of making the model.
4. **Materials Required** – A list of materials used to make the model.
5. **Procedure** – Step-by-step explanation of how the model was made.
6. **Mathematical Concepts Used** – Explanation of the mathematical concepts demonstrated by the model.
7. **Working/Explanation of the Model** – How the model works, with suitable examples wherever required.
8. **Conclusion** – What the student learned from the project.
9. **Pictures** – Photographs of the model-making process and the completed model.

Kendriya Vidyalaya KALIMPONG

AUTUMN BREAK HOMEWORK

Department of Physical & Health Education

CLASS ASSIGNMENTS

Classes VI to VIII

Prepare a chart project on chart paper of your favourite Game.

Classes IX & X

Complete a stick file which contains a minimum of 10 pages on your favourite Game or Yoga. The file must contain a Certificate, Index, and photographs of related Games or Yoga.

Classes XI & XII

Complete all units in your notebook neat and clean, and complete your practical file.

Daily Activity Mandate

Perform 40 minutes of exercise and yoga daily to maintain good health.

KENDRIYA VIDYALAYA KALIMPONG

AUTUMN BREAK HOMEWORK

CLASS: VIII

SUB: SOCIAL SCIENCE

Answer the following questions:

1. Why do all flat map projections suffer from some degree of distortion? Compare the Mercator and Robinson projections.
2. Describe the key characteristics and ecological significance of the Eurasian Steppes.
3. What are ocean currents? Differentiate between warm and cold ocean currents with an example.
4. Differentiate between a Strait and a Canal using examples mentioned in the chapter.
5. Why is the Amazon Rainforest described as the 'Lungs of the Earth'?

Map Work:

On an outline physical map of the world, locate, mark, and shade the following geographical features using appropriate standard map color conventions:

Category & Standard Colour Code	Geographical Features to Mark on World Map
Oceans & Seas (Color: Light Blue)	Pacific Ocean, Atlantic Ocean, Indian Ocean, Arctic Ocean, Southern Ocean, Arabian Sea, Bay of Bengal
Mountain Ranges & Peaks (Color: Dark Brown / Brown Triangles)	Himalayas, Ural Mountains, Alps, Rocky Mountains, Andes Mountains
Plateaus & Plains (Color: Yellow / Light Green)	Tibetan Plateau, Colorado Plateau, Great European Plain
Deserts (Color: Light Yellow / Orange Stippling)	Sahara Desert, Gobi Desert, Atacama Desert, Great Australian Desert
Important Waterways & Special Features (Color: Red Dots / Blue Lines)	Suez Canal, Mariana Trench (Challenger Deep), Great Barrier Reef, Amazon River, Nile River

Sanjay Karmakar, PGT Geography

KENDRIYA VIDYALAYA KALIMPONG
AUTUMN BREAK HOLIDAY HOMEWORK
CLASS VIII (2026-27)

Q1. Prepare a travel brochure about your hometown or a nearby place of interest.

Include its geographical location, history, local food, festivals, tourist attractions and environmental challenges. Add a map or drawing and write a catchy tourism slogan.

Q2. Imagine that you made a mistake that initially caused disappointment but eventually taught you an important life lesson.

Write a diary entry, describing the incident, your feelings and what you learnt from it.

Q3. Create an eight-frame comic strip about a student who discovers a way to solve a community problem. Include dialogue, captions, a conflict, a solution and a meaningful message.

Q4. Choose any one story or poem from your English textbook and answer the following questions.

- a. What is the central theme of the text?
- b. Which character, event or image had the greatest impact on you? Explain why.
- c. Identify one important decision made by a character. What might have happened if the character had made a different decision?
- d. Connect the message of the text to a situation in contemporary life.
- e. Create an alternative ending, an additional stanza or a short dialogue that develops the original text's message.

Q5. Complete your learner's diary

NOTE: The holiday homework is to be done on A4 sheet

केन्द्रीय विद्यालय कालिम्पोना
(शरदकालीन अवकाश गृहकार्य)
कक्षा- 8th 2026-27 विषय- संस्कृत

1. भू धातु के लट्, लृट्, लङ्, लोट् और विधिलिङ् लकारों में रूप लिखिए और याद करो ।
2. दधि इकारान्तः नपुंसकलिङ्गः और वारि इकारान्तः नपुंसकलिङ्गः शब्द के रूप लिखिए और याद करो।
3. “मञ्जुलमञ्जुषा सुन्दरसुरभाषा” पाठ के गीत को याद करें । [\(7827\) ||sanskrit songs|| मुनिवर विकसित || - YouTube](#)
4. संस्कृत प्रतिज्ञा लिखो और याद करो।

केंद्रीय विद्यालय कालिम्पोन्ग
शरदकालीन अवकाश परियोजना कार्य
(दिनांक 15.10.2026 से 24.10.2026 तक)
विषय - हिन्दी सत्र- 2026-27

सामान्य निर्देश:-

1. परियोजना कार्य अपने हिन्दी विषय की (कापी) अभ्यास पुस्तिका में करें।
2. परियोजना कार्य सही और व्यवस्थित रूप से करें।
3. अवकाश के पश्चात् अपने विषयाध्यापक को जांच हेतु परियोजना कार्य जमा करें।
4. परियोजना कार्य आपकी आगामी परीक्षा के लिए अत्यंत उपयोगी साबित होगा अतः ध्यान देकर कार्य करें।

कक्षा -8

1. अपनी पाठ्यपुस्तक से पाठ 7 मत बांधो(महादेवी वर्मा) नामक कविता को याद करो।
2. एक टोकरी भर मिट्टी पाठ के आधार पर दादी के साथ आपके जीवन में घटित होने वाली किसी एक घटना का रोचक वर्णन लिखो।
3. बस कंडक्टर से वार्तालाप का संवाद लेखन करो।
4. पाठ्य-पुस्तक में नए मेहमान(एकांकी) पाठ के आधार पर किसी एक नाटक का वर्णन 20 वाक्यों में लिखो।
5. "प्लास्टिक को कहें अलविदा" पर निबंध लिखिए (200 शब्द)

KENDRIYA VIDYALAYA KALIMPONG

Kendriya Vidyalaya Sangathan, Kolkata Region | Session 2026-27

AUTUMN BREAK HOLIDAY HOMEWORK - CLASS 8

Subject: Artificial Intelligence

Theme: AI Domains, Data and Responsible AI

Name: _____

Class/Sec: _____

Roll No.: _____

General Instructions

- Do this homework in your **AI notebook / A4 sheets** (not on this page), unless a question says otherwise.
- Write neatly. Mention the question number before every answer.
- Do your own work. You may take help from books and family, but do **not** copy answers directly from AI chatbots or the internet.
- Submit on the **first day after the Autumn Break**, with a parent's signature on the last page.

Part A - Multiple Choice Questions

- Q1.** The AI domain that lets machines understand pictures and videos is:
(a) Computer Vision (b) Natural Language Processing (c) Data Science (d) Robotics only
- Q2.** Chatbots and language translators belong to which domain?
(a) Computer Vision (b) Natural Language Processing (c) Statistical Data (d) Hardware
- Q3.** Predicting the monthly sales of a shop from past records belongs mainly to:
(a) Data Science (b) Computer Vision (c) NLP (d) Gaming
- Q4.** Collecting data from sources such as surveys and sensors is called:
(a) Data Acquisition (b) Data Deletion (c) Evaluation (d) Scoping
- Q5.** An AI trained mostly on one type of people may treat others unfairly. This is called:
(a) Speed (b) Bias (c) Memory (d) Encryption

Part B - Short Answer Questions

- Q6.** List the stages of the AI Project Cycle and write one line about each.
- Q7.** What is the difference between a **feature** and a **label** in data? Explain with an example.
- Q8.** Explain the three domains of AI (Data, Computer Vision, NLP) with one real-life example each.
- Q9.** What is a neural network? Explain in simple words using the terms input, hidden and output.
- Q10.** Write any four rules for using AI tools and the internet **safely and ethically**.

Part C - Activities

Activity 1: Which Domain? Write the AI domain for each example and give a reason:

Example	Domain (Data / CV / NLP)	Reason
Face unlock on a phone		
A voice assistant answering questions		
Predicting tomorrow's rainfall from past records		

Example	Domain (Data / CV / NLP)	Reason
Auto-correct and word suggestions while typing		
Reading number plates at a toll gate		

Activity 2: Case Study. A school library installs an AI that recommends books to students. After one month, it only suggests adventure books to boys and story books to girls. Answer: (i) What is the problem? (ii) What could be the reason (think about the data it learned from)? (iii) Suggest two ways to fix it. (iv) What private information of students should the system protect?

Activity 3: AI for My Hills (one-page report). Write a one-page report on "*How AI can help Kalimpong and the Darjeeling hills*". Pick any one area: landslide and weather warning, tea or cardamom farming, tourism, healthcare, or traffic on hill roads. Mention what data would be needed, who would use it, and one possible risk.

Activity 4 (Unplugged): Be a Neural Network. With 5 family members, play the "whisper game": one person is the *input* and whispers a short sentence, 3 people pass it on as *hidden layers*, and the last person says it aloud as the *output*. Write 4 lines on what changed and what this teaches about how neural networks pass information.

Parent's signature: _____ Teacher's remarks: _____

Enjoy the festivals, spend time with family, play outdoors, and keep asking questions. Happy Autumn Break!

KENDRIYA VIDYALAYA KALIMPONG

AUTUMN BREAK

HOLIDAY HOMEWORK

Class VIII – Science (Session 2026-27)

1. Take three transparent glasses containing equal amounts of cold, room-temperature and warm water. With adult supervision, add one drop of food colouring to each glass at the same time. Do not stir. Observe for five minutes.

a. Which glass shows the fastest spreading? Explain your result using the particle model of matter.

b. Identify one factor that must be kept the same to make this a fair test.

2. Prepare a small mixture of sand, salt and water in a clear glass. Predict how you could recover the sand and the salt separately. Filter the mixture using a funnel and filter paper/clean cloth, then allow the filtrate to evaporate naturally in a shallow dish in a safe place. Do not heat it.

a. Draw and label the separation setup.

b. Explain why sand remains on the filter while dissolved salt passes through.

c. What remains after the water evaporates? Explain why filtration alone cannot separate dissolved salt from water.

3. Ask an adult to open a bottle of a safe, mild-smelling substance, such as rose water, at one end of a well-ventilated room. Observe from different distances without approaching or inhaling directly.

a. How does the smell reach a person standing away from the bottle?

b. What does this observation reveal about the movement of particles in gases?

c. Why might the smell spread faster in a warmer room?

4. Prepare MDP for term 2 on the topic – **“Digital India and Technology”**(A4 size sheet and 4-5 pages)

Prepare **one working model** on any one topic from the prescribed syllabus.

Along with the working model, students must prepare a **project file** containing the following details:

1. **Cover Page** – Name of the school, student's name, class, section, roll number, and project title.
2. **Introduction** – A brief introduction to the selected topic.
3. **Aim/Objectives** – The purpose of making the model.
4. **Materials Required** – A list of materials used to make the model.
5. **Procedure** – Step-by-step explanation of how the model was made.
6. **Mathematical Concepts Used** – Explanation of the mathematical concepts demonstrated by the model.
7. **Working/Explanation of the Model** – How the model works, with suitable examples wherever required.
8. **Conclusion** – What the student learned from the project.
9. **Pictures** – Photographs of the model-making process and the completed model.

Kendriya Vidyalaya KALIMPONG

AUTUMN BREAK HOMEWORK

Department of Physical & Health Education

CLASS ASSIGNMENTS

Classes VI to VIII

Prepare a chart project on chart paper of your favourite Game.

Classes IX & X

Complete a stick file which contains a minimum of 10 pages on your favourite Game or Yoga. The file must contain a Certificate, Index, and photographs of related Games or Yoga.

Classes XI & XII

Complete all units in your notebook neat and clean, and complete your practical file.

Daily Activity Mandate

Perform 40 minutes of exercise and yoga daily to maintain good health.

KENDRIYA VIDYALAYA KALIMPONG
AUTUMN BREAK HOLIDAY HOMEWORK
CLASS IX (2026-27)

Q1. Imagine a place where you feel completely peaceful, away from the noise and pressure of everyday life. Write a descriptive paragraph of **100–120 words** about the place. Describe its surroundings, sounds, colours and atmosphere. Explain why the place is meaningful to you.

Q2. You witnessed a situation in which telling the truth could hurt a close friend, but remaining silent would be unfair to someone else.

Write a diary entry describing the situation, your emotions, the decision you made and what you learnt.

Q3. Fill in the blanks with the correct form of the verbs given in brackets.

1. Neither the captain nor the players _____ (be) willing to give up.
2. By the time we reached the station, the train _____ (leave).
3. If she _____ (work) consistently, she will improve her performance.
4. The quality of these products _____ (be) excellent.
5. Each of the participants _____ (receive) a certificate yesterday.

Q4. Change the following into reported speech.

1. Riya said, "I am preparing for the examination."
2. The teacher said to the students, "Submit your assignments tomorrow."
3. Aman asked me, "Have you read this novel?"
4. Mother said, "Honesty is the best policy."
5. The stranger said to me, "Can you show me the way to the hospital?"

Q5. Design a poster on "Reduce, Reuse and Recycle" and write five slogans for the same.

NOTE: The holiday homework is to be done on A4 sheet

केन्द्रीय विद्यालय कालिम्पोना
(शरदकालीन अवकाश गृहकार्य)
कक्षा- 9th 2026-27 विषय- संस्कृत

1. 1-100 तक संस्कृत गिनती लिखकर याद करें। **इरावती** पृष्ठ सङ्ख्या 106-107 की मदद से।
2. निम्न विषयों पर अनुच्छेद 7-8 वाक्य संस्कृत में लिखिए-
1. मम दिनचर्या 2. मम विद्यालयः 3. मम प्रिय कार्य
4. वस्तु परिचयः त्रिषु लिङ्गेषु **इरावती** (पृष्ठ संख्या 109-111) की मदद से लिखे और उनका अपनी दिनचर्या में प्रयोग करें।
5. विभक्तियाँ और उनके अर्थ **इरावती** (पृष्ठ संख्या 111-112) की मदद से अपनी उत्तर पुस्तिका में लिखे।

केंद्रीय विद्यालय कालिम्पोन्ग
शरदकालीन अवकाश परियोजना कार्य
(दिनांक 15.10.2026 से 24.10.2026 तक)
विषय - हिन्दी सत्र- 2026-27

सामान्य निर्देश:-

1. परियोजना कार्य अपने हिन्दी विषय की (कापी) अभ्यास पुस्तिका में करें।
2. परियोजना कार्य सही और व्यवस्थित रूप से करें।
3. अवकाश के पश्चात् अपने विषयाध्यापक को जांच हेतु परियोजना कार्य जमा करें।
4. परियोजना कार्य आपकी आगामी परीक्षा के लिए अत्यंत उपयोगी साबित होगा अतः ध्यान देकर कार्य करें।

कक्षा -9

1. झाँसी की रानी (सुभद्रा कुमारी चौहान) कविता को अपनी कॉपी में लिखकर याद करें ।
2. ऐसी भी बातें होती हैं (लता मंगेशकर से साक्षात्कार) पाठ को पढ़कर उसके आधार पर अपने घर में दादा या दादी का साक्षात्कार अथवा अपने माता-पिता का साक्षात्कार ले और अपनी कॉपी में लिखें ।
3. विशेषण और क्रिया की परिभाषा और और उनके भेद अपनी कॉपी में लिखें ।

WORKSHEET 02

SOUND WAVES: CHARACTERISTICS AND APPLICATIONS

Prepared by A P Singh

Autumn Break Holiday Homework

Instructions: Write answers in the notebook itself.

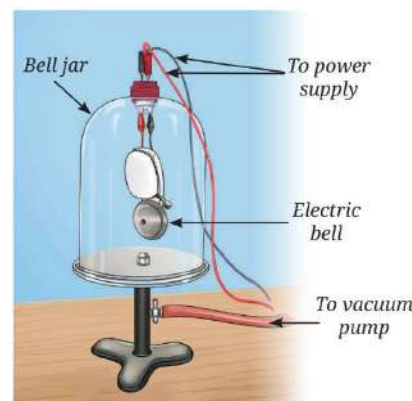
1. Identify the part that vibrates when the object produces sound and complete the table given below.

S. No.	Instrument/Object	How is sound produced?	Vibrating Part
1	Guitar	By plucking	
2	Tabla	By striking	
3	Drum	By striking	
4	Flute	By blowing	
5	Harmonium	By blowing air	
6	Bell	By striking	
7	Tuning fork	By striking	
8	Violin	By drawing a bow	
9	School bell	By striking	
10	Piano	By pressing keys	
11	Bicycle bell	By pressing/striking	
12	Metal plate	By striking	
13	Rubber band	By plucking	
14	Whistle	By blowing	
15	Mobile phone speaker	By electrical signal	

2. Observe the experimental setup shown in the figure and answer the following:

(Read Article 10.2.1 Sound needs a medium to propagate given on page 187)

- What is the purpose of the vacuum pump in this experiment?
- Why is the electric bell connected to an external power supply?
- What happens to the sound of the electric bell when air is gradually removed from the bell jar?
- Does the electric bell stop vibrating when the air is removed from the bell jar? What does this tell us?
- Why can the electric bell still be seen vibrating even when its sound becomes very faint?
- What conclusion can be drawn if the bell becomes inaudible when most of the air is removed from the bell jar?



3. Use internet and collect answers to the questions:
- What does term 'vacuum' mean?
 - Is it really an ideal vacuum in outer space?
 - Why do we measure speed of supersonic aircrafts/missiles in units of '1 mach'?
4. See (Table 10.1: Speed of sound in different media at 15 °C on Page 197) and answer the following:
- In which medium the sound travels fastest – solids, liquids and gases?
 - Compare speed of sound in water with respect to the speed in the steel.
 - Why could be the reason behind mentioning that the speed of sound is at 15 °C in the table given?

KENDRIYA VIDYALAYA KALIMPONG

Kendriya Vidyalaya Sangathan, Kolkata Region | Session 2026-27

AUTUMN BREAK HOLIDAY HOMEWORK - CLASS 9

Subject: Artificial Intelligence (Code 417)

Theme: AI Project Cycle, Neural Networks and Python

Name: _____

Class/Sec: _____

Roll No.: _____

General Instructions

- Do this homework in your **AI notebook / A4 sheets** (not on this page), unless a question says otherwise.
- Write neatly. Mention the question number before every answer.
- Do your own work. You may take help from books and family, but do **not** copy answers directly from AI chatbots or the internet.
- Submit on the **first day after the Autumn Break**, with a parent's signature on the last page.
- For Python programs, write the code and the sample output in your notebook. If a computer is available, run and verify your code.

Part A - Multiple Choice Questions

Q1. Which stage of the AI Project Cycle involves testing how well the model performs?

(a) Data Exploration (b) Evaluation (c) Problem Scoping (d) Data Acquisition

Q2. In a neural network, the layer that gives the final answer is the:

(a) Input layer (b) Hidden layer (c) Output layer (d) Memory layer

Q3. Which of these is a Python list?

(a) (1, 2, 3) (b) [1, 2, 3] (c) {1, 2, 3} (d) <1, 2, 3>

Q4. What is the output of `print(7 // 2)`?

(a) 3.5 (b) 3 (c) 4 (d) 2

Q5. Data used to teach the model is called:

(a) Testing data (b) Training data (c) Output data (d) Fake data

Part B - Short and Long Answer Questions

Q6. Differentiate between **Artificial Intelligence, Machine Learning and Deep Learning** with the help of a diagram.

Q7. Explain each stage of the AI Project Cycle with one example for each stage.

Q8. What is the **4Ws Problem Canvas**? Write its parts and why it is useful.

Q9. What is a neural network? Draw a neat labelled diagram with an input layer, two hidden layers and an output layer. Explain what a node and a weight are.

Q10. Write any three ethical concerns of AI (e.g. bias, privacy, job loss) and how each can be reduced.

Q11. Differentiate between **supervised, unsupervised** and **reinforcement** learning with one example each.

Part C - Evaluation Numericals

Q12. An AI model was tested on 100 photos to detect whether a picture contains a landslide. The results were:
True Positive = 40, True Negative = 45, False Positive = 5, False Negative = 10.

- (a) Draw the confusion matrix. (b) Calculate Accuracy. (c) Calculate Precision. (d) Calculate Recall. (e) In a landslide warning system, which is more dangerous: a False Positive or a False Negative? Why?

Part D - Python Practice

Q13. Predict the output of the following programs:

```
a = 10
b = 3
print(a // b, a % b, a ** b)
```

```
fruits = ["apple", "mango", "guava"]
fruits.append("kiwi")
print(len(fruits), fruits[1])
```

Q14. Write Python programs for the following:

- (a) Take a number as input and print its multiplication table up to 10.
- (b) Take a number as input and tell whether it is even or odd.
- (c) Take marks of 5 subjects, find the total and percentage, and print the grade (A: 90+, B: 75+, C: 60+, else D).
- (d) Store 5 numbers in a list and print the largest and the smallest number.
- (e) A simple chatbot: take a message as input and reply using if-elif-else (for "hi", "bye", "help" and any other message).

Part E - Mini Project: AI Project Cycle on a Local Problem

Choose one local problem from the Kalimpong / Darjeeling hills (examples: landslide warning, predicting crop disease in cardamom, tourist crowd prediction, waste management in town). Prepare a **2-page project file** on A4 sheets with:

- Problem Scoping: 4Ws canvas and a problem statement
- Data Acquisition: what data you would collect, from where, and how (sensors, surveys, records)
- Data Exploration: one chart or table of sample data (you may create 10 imaginary data points)
- Modelling: which type of AI model (supervised / unsupervised / neural network) and why
- Evaluation: how you would measure if your model works well (accuracy, precision, recall)
- Ethics: one risk and one way to reduce it

Parent's signature: _____ Teacher's remarks: _____

Enjoy the festivals, spend time with family, play outdoors, and keep asking questions. Happy Autumn Break!

Holiday Homework

Class IX | Social Science | Session 2026–27

Connect Social Science with everyday life through explanation, map reading, evidence and local observation.

General Instructions

- Complete Sections A, B and C in your Social Science notebook. Attach the map. Complete the project in Section D on 2–3 pages.
- Write in your own words. Refer to lessons taught in class, your textbook and an atlas. Mention sources used for your project.
- Use hand-drawn illustrations and available materials. Internet access, travel and purchased models are not required.
- Submit in the first Social Science class after the holidays. Suggested total working time: 4–5 hours, spread across the break.

A Explain and Apply

Answer each question in approximately 50–70 words.

1. How can history, geography, political science and economics help us understand a local issue such as water shortage? Explain the contribution of each discipline.
2. Distinguish between weathering and erosion. Give one example of each and explain how vegetation can reduce soil erosion.
3. How do internal and external forces shape the Earth's surface? Explain with one example of each.
4. Why is the atmosphere essential for life? Explain three roles it plays.
5. Explain how altitude and distance from the sea influence the climate of a place.
6. How did the development of agriculture change human life? Explain its effects on settlement, occupations and community life.

B Map Skills

On an outline physical map of India, locate and label the following using an atlas. Add a title and use separate symbols for a peak, a river and regions.

Himalayan Range • Northern Plains • Thar Desert • Deccan Plateau • Western Ghats • Eastern Ghats • River Ganga • Kanchenjunga

Below the map, answer in 40–50 words: How can relief influence transport and settlement? Use one mountainous region and one plain as examples.

C Competency Based Case Studies

Read both situations. Answer each question in 30–40 words using evidence from the case.

Case 1 Heavy rainfall in a hill settlement

A hill settlement receives continuous heavy rainfall. A road has been cut into a steep slope, vegetation has been removed and a drain is blocked with waste. Cracks appear near the road, and muddy water flows towards nearby houses.

1. Identify two human activities that may increase the risk of slope failure. Explain how each activity contributes to the risk.
2. Explain how rainfall and slope conditions together can increase the risk of a landslide.
3. Suggest two preventive measures for the local administration and one responsible action residents can take.

Case 2 A village chooses a development project

A village has limited funds and must prioritise one project: repairing a drinking-water system, building a market shed or improving a playground. Residents have different needs. The village council organises an open meeting to discuss the alternatives.

1. Which economic problem is reflected in this situation? Explain why choosing one project involves an opportunity cost.
2. Recommend one project and justify your choice using two criteria, such as urgency, number of people helped or long-term benefits.
3. Suggest two ways to ensure that the decision-making process is inclusive and transparent.

D Local Study Project

Topic: Our Locality — Environment, Livelihoods and Heritage

Prepare a 2–3 page illustrated report on Kalimpong or the place where you spend your holidays. Use everyday observations, your textbook and a conversation with a willing adult. No special visit is necessary.

1. Location and environment: Describe the landform and one feature of the local climate. Explain how these influence houses, farming or transport.
2. Livelihoods: Describe two local occupations. Explain how each depends on natural resources, skills, markets or transport.
3. Heritage and change: Describe one local tradition, craft, building or historical place. Record one change mentioned by an adult and identify a source that could help verify it.
4. Responsible citizenship: Identify one local environmental or civic problem. Suggest two practical steps and explain who could help implement them.

Include one labelled sketch or drawing, a brief conclusion and your sources. Identify interview sources by relationship or role; personal contact details are not needed.

Final Check

Check all six written answers, the labelled map and its response, both case studies and your project. Revise the lessons completed before the holidays.

अवकाशकालीन गृहकार्य (2026-27)

केन्द्रीय विद्यालय कालिम्पोङ · विषय: नेपाली · कक्षा 9

विद्यार्थीको नाम: _____ कक्षा/खण्ड: _____ क्रमाङ्क: _____

सामान्य निर्देशन

- सबै काम छुट्टै नेपाली गृहकार्य कापी वा ए4 फाइलमा आफ्नै हस्ताक्षरमा गर्नुहोस्।
- सफा, सुन्दर र शुद्ध लेखन अपेक्षित छ। कुनै पनि काम इन्टरनेटबाट सिधै सारिनु हुँदैन।
- अभिभावकको हस्ताक्षर अनिवार्य छ। विद्यालय खुलेको पहिलो दिन कापी जम्मा गर्नुहोस्।

गृहकार्य कक्षा 9

1. निबन्ध लेखन (300-350 शब्द)

"हाम्रा चाडपर्व र सामाजिक सद्भाव" शीर्षकमा निबन्ध लेख्नुहोस्।

2. पत्र लेखन

प्लास्टिक प्रदूषणको समस्या औँल्याउँदै कुनै पत्रिकाको सम्पादकलाई औपचारिक पत्र लेख्नुहोस्।

3. व्याकरण अभ्यास

- पाँचओटा उपसर्ग र पाँचओटा प्रत्यय लागेका शब्द बनाई वाक्यमा प्रयोग गर्नुहोस्।
- तीनओटा कालका (भूत, वर्तमान, भविष्यत) दुईदुईओटा वाक्य लेख्नुहोस्।
- पाँचओटा उखान-टुक्का वा मुहावरा अर्थसहित वाक्यमा प्रयोग गर्नुहोस्।

4. साहित्यिक अध्ययन

पाठ्यपुस्तकको कुनै एउटा कविता वा कथा छानेर यसको सार, मुख्य पात्र/भाव र आफूले पाएको सन्देश लेख्नुहोस्।

5. परियोजना कार्य

दार्जिलिङ-कालिम्पोङ क्षेत्रका कुनै एक नेपाली साहित्यकार (जस्तै: परिजात, इन्द्रबहादुर राई, अगमसिंह गिरी) को जीवनी र योगदानबारे एक पृष्ठमा परिचय तयार गर्नुहोस्।

6. अपठित गद्यांश

पत्रपत्रिका वा पुस्तकबाट एउटा अनुच्छेद छानेर त्यसमाथि आफैँले पाँचओटा प्रश्न बनाई उत्तरसहित लेख्नुहोस्।

शुभ अवकाश! नियमित पठन र लेखनको बानी कायम राख्नुहोस्।

विषय शिक्षक: _____ अभिभावकको हस्ताक्षर: _____

Kendriya Vidyalaya KALIMPONG

AUTUMN BREAK HOMEWORK

Department of Physical & Health Education

CLASS ASSIGNMENTS

Classes VI to VIII

Prepare a chart project on chart paper of your favourite Game.

Classes IX & X

Complete a stick file which contains a minimum of 10 pages on your favourite Game or Yoga. The file must contain a Certificate, Index, and photographs of related Games or Yoga.

Classes XI & XII

Complete all units in your notebook neat and clean, and complete your practical file.

Daily Activity Mandate

Perform 40 minutes of exercise and yoga daily to maintain good health.

KENDRIYA VIDYALAYA KALIMPONG
AUTUMN BREAK HOLIDAY HOMEWORK
CLASS X (2026-27)

Q1. You are a resident of your locality. The roads near your school have developed large potholes, creating inconvenience and safety risks for students and pedestrians.

Write a letter to the Municipal Commissioner describing the problem and requesting immediate action.

Suggest two practical measures to improve road safety.

Q2. You are concerned about the increasing use of single-use plastic in your neighbourhood. Write a letter to the editor of a national daily highlighting the environmental consequences and suggesting measures that citizens, schools and local authorities can adopt.

Q3. Two groups of students prepared for an examination using different methods.

Feature	Group A	Group B
Study method	Memorising answers	Understanding concepts
Revision	One long session	Regular short sessions
Practice	Reading notes	Solving application-based questions
Doubt clearing	Before the examination	Throughout preparation

Write an analytical paragraph comparing the two approaches. Discuss their possible advantages and limitations and identify which approach is likely to support deeper learning. Justify your opinion.

Q4. Answer each question in approximately 40–50 words.

1. **A Letter to God:** Lencho's faith is admirable, yet his reaction to the post office employees is deeply ironic. Explain.
2. **Nelson Mandela: Long Walk to Freedom:** How does Mandela's understanding of freedom change from childhood to adulthood?
3. **Two Stories about Flying:** Compare the role of fear in *His First Flight* and the mystery surrounding the pilot in *The Black Aeroplane*.
4. **From the Diary of Anne Frank:** How does Anne's diary become more than a record of everyday events?
5. **Glimpses of India:** How do the three accounts present India's cultural and geographical diversity?
6. **Mijbil the Otter:** What does the narrator's experience reveal about the challenges and rewards of understanding an animal's behaviour?
7. **Madam Rides the Bus:** How does Valli's journey reflect her curiosity, independence and growing awareness of life?
8. **The Sermon at Benares:** How does Kisa Gotami's experience help her understand the universality of suffering?
9. **The Trees:** How can the movement of trees out of the house be interpreted symbolically?

Q5. Answer each question in approximately 40–50 words.

1. **A Triumph of Surgery:** How does the story distinguish between genuine care for a pet and excessive indulgence?
2. **The Thief's Story:** How does Anil's trust become a turning point in Hari Singh's life?
3. **The Midnight Visitor:** Why is Ausable's intelligence more effective than physical strength in dealing with Max?
4. **A Question of Trust:** How does Horace Danby's overconfidence contribute to his downfall?
5. **Footprints Without Feet:** How does Griffin's scientific brilliance contrast with his moral irresponsibility?

6. **The Making of a Scientist:** Which qualities helped Richard Ebright become a successful scientist? Explain how these qualities can help students in their own lives.
7. **The Necklace:** How does the ending challenge the idea that social status and outward appearance guarantee happiness?
8. **Bholi:** How does education help Bholi develop confidence and challenge social expectations?
9. **The Book That Saved the Earth:** How does humour expose the danger of making decisions based on assumptions and incomplete information?

Q6. Answer each question in approximately 100–120 words.

1. Compare Lencho in *A Letter to God* and Hari Singh in *The Thief's Story*. How does faith influence their actions and their understanding of other people?
2. In *Bholi* and *The Making of a Scientist*, education and curiosity become powerful forces for change. Compare how the central characters develop through learning and support from others.
3. In *The Necklace* and *A Question of Trust*, the desire to achieve a particular goal leads to unexpected consequences. Compare how the characters' decisions contribute to their difficulties.
4. Both *Madam Rides the Bus* and *His First Flight* present young characters who encounter experiences beyond their familiar surroundings. Explain how these experiences contribute to their growth and independence.

NOTE: The holiday homework is to be done on A4 sheet

KENDRIYA VIDYALAYA _____

AUTUMN BREAK HOLIDAY HOMEWORK | SESSION 2026-27

Class: X

Subject: Artificial Intelligence (417)

Subject Teacher: _____

Autumn Break: ____/____/2026 to ____/____/2026

Date of Submission: ____/____/2026

PROJECT: AI FOR SUSTAINABLE DEVELOPMENT (AI PROJECT CYCLE)

Instructions

- Work neatly, in your own handwriting/own work. Copying from friends or the internet will not be accepted.
- Write your name, class, section and roll number on the first page of your submission.
- Submit the work to the subject teacher on the day school reopens.
- Work individually or in a pair, as told by your teacher. Prepare an **A4 project file or a PPT of 8 to 10 slides**.
- Choose **one** Sustainable Development Goal (SDG) and a **real problem from your school, locality or state** that AI can help with. Example SDGs: No Hunger (2), Good Health (3), Quality Education (4), Clean Water (6), Clean Energy (7), Sustainable Cities (11), Responsible Consumption (12), Climate Action (13), Life on Land (15).

Stage 1: Problem Scoping

- State the SDG and the problem you chose, and why it matters.
- Fill the **4Ws Problem Canvas**: Who (stakeholders), What (nature of the problem), Where (context / location), Why (benefit of solving it).
- Write the **Problem Statement** using the template: *Our [stakeholder] has a problem that [issue/problem], when/while [context/situation]. An ideal solution would [benefit of the solution].*

Stage 2: Data Acquisition

- List the **data features** you need (for example: date, location, quantity, rating, temperature).
- Mention where the data can come from: surveys, interviews, sensors, cameras, web, open government data.
- Draw a **System Map** showing the elements of your system and how they affect each other (use arrows with + / -).

Stage 3: Data Exploration

- Collect a small dataset of at least **20 to 30 entries** (by survey or from an open data source) and put it in a table.
- Represent it with **two different graphs** (for example bar chart, pie chart, line graph) and write **3 observations** from them.

Stage 4: Modelling

- Say whether your solution would be **Rule-Based** or **Learning-Based**, and justify it.
- If learning-based, name the type: **Supervised** (classification or regression) or **Unsupervised** (clustering). Explain what the model will take as input and give as output.
- Draw a simple flowchart or sketch of how your model would work.
- *Optional*: make a small prototype using Teachable Machine, Orange Data Mining or Python.

Stage 5: Evaluation

- Create a **confusion matrix** with imaginary but sensible values (TP, TN, FP, FN) for your model.
- Calculate **Accuracy, Precision, Recall and F1 Score** and write one line on what each tells you.

Accuracy = $(TP + TN) / (TP + TN + FP + FN)$

Precision = $TP / (TP + FP)$

Recall = $TP / (TP + FN)$

F1 Score = $2 \times (Precision \times Recall) / (Precision + Recall)$

AI Ethics Note (5 to 6 lines)

- Write about possible **bias** in your data, **privacy** concerns, and who could be affected unfairly by your solution.

What to Submit

- Cover page (title, SDG, name, class, section, roll number), the five stages in order, ethics note, and a list of data sources used.
- A final line: *How does your project help achieve the chosen SDG?*

WORKSHEET
Autumn Break Holiday Homework
Prepared by A P Singh

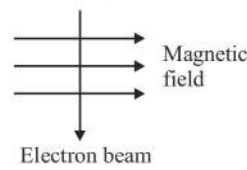
Instructions:

1. Write answers in the notebook itself.
2. Write answers of MCQs with detailed solutions; not just option in the answer.

Section A: Magnetic Effects of Electric Current

Multiple Choice Questions (MCQs)

DIRECTIONS : This section contains multiple choice questions. Each question has four choices (a), (b), (c) and (d) out of which only one is correct.

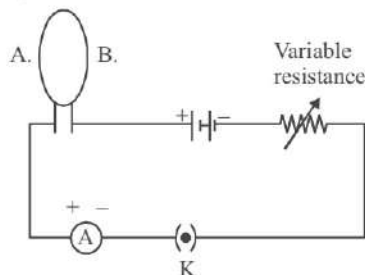
1. A magnet attracts:
(a) plastics (b) carbon
(c) aluminium (d) iron and steel
2. A plotting compass is placed near the south pole of a bar magnet. The pointer of plotting compass will:
(a) point away from the south pole
(b) point parallel to the south pole
(c) point towards the south pole
(d) point at right angles to the south pole
3. Which of the following statements is incorrect regarding magnetic field lines?
(a) The direction of magnetic field at a point is taken to be the direction in which the north pole of a magnetic compass needle points.
(b) Magnetic field lines are closed curves
(c) If magnetic field lines are parallel and equidistant, they represent zero field strength
(d) Relative strength of magnetic field is shown by the degree of closeness of the field lines
4. The magnetic field lines in the middle of the current carrying solenoid are
(a) circles
(b) spirals
(c) parallel to the axis of the tube
(d) perpendicular to the axis of the tube
5. The front face of a circular wire carrying current behaves like a north pole, The direction of current in this face of the circular wire is:
(a) clockwise (b) downwards
(c) anticlockwise (d) upwards
6. The most suitable material for making the core of an electromagnet is:
(a) soft iron (b) brass
(c) aluminium (d) steel
7. In an electric motor, the direction of current in the coil changes once in each:
(a) two rotations (b) one rotation
(c) half rotation (d) one-fourth rotation
8. An electron beam enters a magnetic field at right angles to it as shown in the Figure.


Magnetic field
Electron beam

The direction of force acting on the electron beam will be:
(a) to the left (b) to the right
(c) into the page (d) out of the page
9. The force experienced by a current-carrying conductor placed in a magnetic field is the largest when the angle between the conductor and the magnetic field is:
(a) 45° (b) 60°
(c) 90° (d) 180°
10. The force exerted on a current-carrying wire placed in a magnetic field is zero when the angle between the wire and the direction of magnetic field is:
(a) 45° (b) 60°
(c) 90° (d) 180°
11. A circular loop placed in a plane perpendicular to the plane of paper carries a current when the key is ON.

The current as seen from points A and B (in the plane of paper and on the axis of the coil) is anti clockwise and clockwise respectively. The magnetic field lines point from B to A. The N-pole of the resultant magnet is on the face close to

- (a) A
- (b) B
- (c) A if the current is small, and B if the current is large
- (d) B if the current is small and A if the current is large



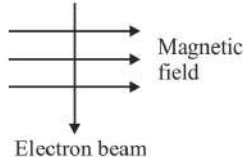
12. A small magnet is placed perpendicular to a uniform magnet field. The forces acting on the magnet will result in
 - (a) Rotational motion
 - (b) Translatory motion
 - (c) No motion at all
 - (d) Translational and rotational motion both
13. Which one of the following substances is the magnetic substances?
 - (a) Mercury
 - (b) Iron
 - (c) Gold
 - (d) Silver
14. Magnetic lines do not intersect on one-another because
 - (a) they are at a distance
 - (b) they are in the same direction
 - (c) they are parallel to another
 - (d) at the point of intersection there will be two direction of the magnetic force which is impossible
15. By removing the inducing magnet, the induced magnetism is
 - (a) Finished after some time
 - (b) Finished just after
 - (c) Not finished for a long time
 - (d) Not changed
16. A current carrying wire in the neighbourhood produces
 - (a) no field
 - (b) electric and magnetic fields
 - (c) electric field only
 - (d) magnetic field only
17. The magnetic lines of force, inside a current carrying solenoid, are
 - (a) along the axis and are parallel to each other
 - (b) perpendicular to the axis and equidistant from each other
 - (c) circular and they do not intersect each other
 - (d) circular at the ends but they are parallel to the axis inside the solenoid.
18. Which of the following determines the direction of magnetic field due to a current carrying conductor?
 - (a) Faraday's laws of electromagnetic induction
 - (b) Fleming's left-hand rule
 - (c) Lenz's rule
 - (d) Maxwell's cork screw rule
19. Along the direction of current carrying wire, the value of magnetic field is
 - (a) zero
 - (b) infinity
 - (c) depends on the length of the wire
 - (d) uncertain
20. The value of magnetic field due to a small element of current carrying conductor at a distance r and lying on the plane perpendicular to the element of conductor is
 - (a) zero
 - (b) maximum
 - (c) inversely proportional to the current
 - (d) none of the above
21. The value of intensity of magnetic field at a point due to a current carrying conductor depends
 - (a) Only on the value of current
 - (b) Only on a small part of length of conductor
 - (c) On angle between the line joining the given point to the mid point of small length and the distance between the small length and the given point
 - (d) On all of the above
22. The direction of magnetic lines of forces close to a straight conductor carrying current will be
 - (a) along the length of the conductor
 - (b) radially outward
 - (c) circular in a plane perpendicular to the conductor
 - (d) helical
23. When an electron beam is moving in a magnetic field, then the work done is equal to the
 - (a) charge of electron
 - (b) magnetic field
 - (c) product of electronic charge and the magnetic field
 - (d) zero

Section B: Electricity

Multiple Choice Questions (MCQs) >>>

DIRECTIONS : This section contains multiple choice questions. Each question has four choices (a), (b), (c) and (d) out of which only one is correct.

1. A magnet attracts:
 - (a) plastics
 - (b) carbon
 - (c) aluminium
 - (d) iron and steel
2. A plotting compass is placed near the south pole of a bar magnet. The pointer of plotting compass will:
 - (a) point away from the south pole
 - (b) point parallel to the south pole
 - (c) point towards the south pole
 - (d) point at right angles to the south pole
3. Which of the following statements is incorrect regarding magnetic field lines?
 - (a) The direction of magnetic field at a point is taken to be the direction in which the north pole of a magnetic compass needle points.
 - (b) Magnetic field lines are closed curves
 - (c) If magnetic field lines are parallel and equidistant, they represent zero field strength
 - (d) Relative strength of magnetic field is shown by the degree of closeness of the field lines
4. The magnetic field lines in the middle of the current carrying solenoid are
 - (a) circles
 - (b) spirals
 - (c) parallel to the axis of the tube
 - (d) perpendicular to the axis of the tube
5. The front face of a circular wire carrying current behaves like a north pole. The direction of current in this face of the circular wire is:
 - (a) clockwise
 - (b) downwards
 - (c) anticlockwise
 - (d) upwards
6. The most suitable material for making the core of an electromagnet is:
 - (a) soft iron
 - (b) brass
 - (c) aluminium
 - (d) steel
7. In an electric motor, the direction of current in the coil changes once in each:
 - (a) two rotations
 - (b) one rotation
 - (c) half rotation
 - (d) one-fourth rotation
8. An electron beam enters a magnetic field at right angles to it as shown in the Figure.



Magnetic field

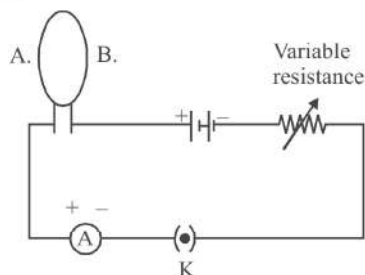
Electron beam

The direction of force acting on the electron beam will be:

 - (a) to the left
 - (b) to the right
 - (c) into the page
 - (d) out of the page
9. The force experienced by a current-carrying conductor placed in a magnetic field is the largest when the angle between the conductor and the magnetic field is:
 - (a) 45°
 - (b) 60°
 - (c) 90°
 - (d) 180°
10. The force exerted on a current-carrying wire placed in a magnetic field is zero when the angle between the wire and the direction of magnetic field is:
 - (a) 45°
 - (b) 60°
 - (c) 90°
 - (d) 180°
11. A circular loop placed in a plane perpendicular to the plane of paper carries a current when the key is ON.

The current as seen from points A and B (in the plane of paper and on the axis of the coil) is anti clockwise and clockwise respectively. The magnetic field lines point from B to A. The N-pole of the resultant magnet is on the face close to

- (a) A
- (b) B
- (c) A if the current is small, and B if the current is large
- (d) B if the current is small and A if the current is large



12. A small magnet is placed perpendicular to a uniform magnet field. The forces acting on the magnet will result in
 - (a) Rotational motion
 - (b) Translatory motion
 - (c) No motion at all
 - (d) Translational and rotational motion both
13. Which one of the following substances is the magnetic substances?

(a) Mercury	(b) Iron
(c) Gold	(d) Silver
14. Magnetic lines do not intersect on one-another because
 - (a) they are at a distance
 - (b) they are in the same direction
 - (c) they are parallel to another
 - (d) at the point of intersection there will be two direction of the magnetic force which is impossible
15. By removing the inducing magnet, the induced magnetism is
 - (a) Finished after some time
 - (b) Finished just after
 - (c) Not finished for a long time
 - (d) Not changed
16. A current carrying wire in the neighbourhood produces
 - (a) no field
 - (b) electric and magnetic fields
 - (c) electric field only
 - (d) magnetic field only
17. The magnetic lines of force, inside a current carrying solenoid, are
 - (a) along the axis and are parallel to each other
 - (b) perpendicular to the axis and equidistance from each other
 - (c) circular and they do not intersect each other
 - (d) circular at the ends but they are parallel to the axis inside the solenoid.
18. Which of the following determines the direction of magnetic field due to a current carrying conductor?
 - (a) Faraday's laws of electromagnetic induction
 - (b) Fleming's left-hand rule
 - (c) Lenz's rule
 - (d) Maxwell's cork screw rule
19. Along the direction of current carrying wire, the value of magnetic field is
 - (a) zero
 - (b) infinity
 - (c) depends on the length of the wire
 - (d) uncertain
20. The value of magnetic field due to a small element of current carrying conductor at a distance r and lying on the plane perpendicular to the element of conductor is
 - (a) zero
 - (b) maximum
 - (c) inversely proportional to the current
 - (d) none of the above
21. The value of intensity of magnetic field at a point due to a current carrying conductor depends
 - (a) Only on the value of current
 - (b) Only on a small part of length of conductor
 - (c) On angle between the line joining the given point to the mid point of small length and the distance between the small length and the given point
 - (d) On all of the above
22. The direction of magnetic lines of forces close to a straight conductor carrying current will be
 - (a) along the length of the conductor
 - (b) radially outward
 - (c) circular in a plane perpendicular to the conductor
 - (d) helical
23. When an electron beam is moving in a magnetic field, then the work done is equal to the
 - (a) charge of electron
 - (b) magnetic field
 - (c) product of electronic charge and the magnetic field
 - (d) zero

KENDRIYA VIDYALAYA KALIMPONG

Autumn Break (Home-Work-2026-27)

Class- X

Subject- SOCIAL SCIENCE

Instructions: Attempt all questions in your notebook at one place. Write answers according to the marks allotted.

1. History (5 marks): Explain the circumstances that led to the launch of the Civil Disobedience Movement in India.
2. History (3 marks): Explain any three ways in which symbols, folklore and images helped develop the feeling of nationalism in India.
3. Geography (5 marks): Explain any five measures to control land degradation and conserve soil resources in India.
4. Geography (3 marks): Why is the conservation of water resources essential for sustainable development? Explain any three reasons.
5. Political Science (5 marks): Explain five major features of federalism, with suitable examples from India.
6. Political Science (3 marks): How do political parties perform important functions in a democracy? Explain any three functions.
7. Economics (5 marks): Explain how the development of the primary, secondary and tertiary sectors contributes to the Indian economy. Give suitable examples.
8. Economics (3 marks): Differentiate between formal and informal sources of credit on any three grounds

Teacher: - SN CHOUDHARY, PGT History

KENDRIYA VIDYALAYA, KALIMPONG
AUTUMN BEARK HOMEWORK 2026-27
CLASS X
MATHEMATICS

1. Everyone has to make flash cards of mathematics formulas.
2. CBSE sample question paper 2026-27 have to be solve and submitted on reopening i.e. 26/10/2026.(BASIC AS WELL AS STANDARD)

कक्षा 10वीं हेतु शरदकालीन अवकाश के लिए गृहकार्य

1. बिस्मिल्लाह खां के चरित्र की किन विशेषताओं ने आपके जीवन को प्रभावित किया है? आप इनमें से किन विशेषताओं को अपनाना चाहेंगे? अपने शब्दों में उत्तर लिखिए।
2. 'यह दंतुरित मुसकान' कविता का प्रतिपाद्य/मूल भाव स्पष्ट कीजिए।
3. अपने विद्यालय में विज्ञान मेला आयोजित करवाने के लिए प्रधानाचार्य को प्रार्थना पत्र लिखिए।
4. आपको चरित्र प्रमाण-पत्र की आवश्यकता है। चरित्र प्रमाण-पत्र प्राप्त करने के लिए अपने विद्यालय के प्राचार्य को abcschool@gmail.com पर ईमेल लिखिए।
5. निम्न विषय पर अनुच्छेद लिखिए:
जीना मुश्किल करती महंगाई
 - महंगाई और आम आदमी पर प्रभाव
 - कारण
 - महंगाई रोकने के उपाय
 - सरकार के कर्तव्य

Kendriya Vidyalaya KALIMPONG

AUTUMN BREAK HOMEWORK

Department of Physical & Health Education

CLASS ASSIGNMENTS

Classes VI to VIII

Prepare a chart project on chart paper of your favourite Game.

Classes IX & X

Complete a stick file which contains a minimum of 10 pages on your favourite Game or Yoga. The file must contain a Certificate, Index, and photographs of related Games or Yoga.

Classes XI & XII

Complete all units in your notebook neat and clean, and complete your practical file.

Daily Activity Mandate

Perform 40 minutes of exercise and yoga daily to maintain good health.

Autumn Break Holiday Homework

Prepared by A P Singh

Instructions For Part A:

1. Investigatory project should be handwritten on A4-size unruled pages in the following order:
 - (i) Cover Page
 - (ii) Certificate
 - (iii) Acknowledgement
 - (iv) Index
 - (v) Introduction
 - (vi) Idea and Methodology
 - (vii) Working
 - (viii) Outcome/Result
 - (ix) Teacher's Remark

Instructions For Part B:

2. Write answers to the questions in your notebook and prepare yourself for presenting your answer to the whole class.

PART A

AISSCE Investigatory Project for Session 2026-27

For non-CS students:

Prepare a detailed project report suggesting an experimental setup on how to measure rotational speed of a body rotating about fixed axis.

The last date to submit the project is 26.10.2026.

For CS – students:

Write a Python program to visualize the trajectory of a projectile when launched at different launch angles.

The last date to submit the project was already over on 31.08.2026.

PART B

1. Why does the Moon, not the Sun, responsible for causing the tides on the Earth even though the Sun exerts 180 times greater force than that of the force by the Moon on the Earth. (Do necessary calculations to justify it)
2. Calculate the surface gravity (acceleration due to gravity) on the surface of each planet along with the value of it on the surface of the Sun. (Use internet for the values of mass and size of these celestial bodies)
3. Calculate orbital speed of International Space Station from its altitude. (Gather info about ISS from internet)
4. Practice problems of NCERT Vol. 01 for upcoming Cumulative (HY) Exam scheduled in Nov 2026.

Class: XI**Subject:** Computer Science (083)**Subject Teacher:** _____**Autumn Break:** ____/____/2026 to ____/____/2026**Date of Submission:** ____/____/2026**REVISION WORKSHEET, PYTHON PRACTICE AND MINI PROJECT****Instructions**

- Work neatly, in your own handwriting/own work. Copying from friends or the internet will not be accepted.
- Write your name, class, section and roll number on the first page of your submission.
- Submit the work to the subject teacher on the day school reopens.
- Do Parts A to D in the practical file / homework notebook. For every program write the question, code and output. Part E is a bonus.

Part A: Number Systems and Boolean Logic

1. Convert: (i) $(156)_{10}$ to binary, octal and hexadecimal; (ii) $(1011011)_2$ to decimal; (iii) $(2AF)_{16}$ to binary; (iv) $(745)_8$ to decimal; (v) $(0.625)_{10}$ to binary.
2. Write the ASCII code of **A, a and 0**. Differentiate between ASCII, ISCII and Unicode.
3. Draw truth tables for AND, OR, NOT, NAND, NOR and XOR.
4. Verify **De Morgan's laws** using truth tables.
5. Draw the logic circuit for the expression **F = (A AND B) OR (NOT C)** and make its truth table.

Part B: Python Programs (Minimum 10)

1. Check whether a number is prime.
2. Print the Fibonacci series up to n terms.
3. Check whether a string is a palindrome (without using slicing `[::-1]`).
4. Count vowels, consonants, uppercase and lowercase letters in a string.
5. Find the largest and second largest number in a list without using `max()`.
6. Swap the first and last elements of a list and remove duplicates from it.
7. Input a tuple of numbers; display its minimum, maximum, sum and average.
8. Create a dictionary of 5 students (name: marks). Display the topper, the class average and students who scored below the average.
9. Use the **math**, **random** and **statistics** modules: generate 10 random numbers and display their mean, median and square root of each.
10. Print any two patterns using nested loops (for example a triangle of stars and a number pyramid).

Part C: Predict the Output / Find the Error

- Q1. `s = 'Kendriya'`
`print(s[::-1]); print(s[2:6]); print(s.upper().count('E'))`
- Q2. `L = [10, 20, 30, 40]`
`L.append(50); L.insert(1, 15)`
`print(L[-2]); print(L[1:4]); print(len(L))`
- Q3. `d = {'a': 1, 'b': 2}`
`d['c'] = 3; d.pop('a')`
`print(list(d.keys()), list(d.values()))`
- Q4. `for i in range(1, 10, 3):`
`print(i, end=' ')`
- Q5. `T = (1, 2, 3)`
`T[0] = 5` # find the error and correct it

Part D: Society, Law and Ethics (150 words)

- Write a short note on **any one**: Digital footprint and netiquette / Cyber crime and IT Act / E-waste management and its safe disposal.

Part E (Bonus): Mini Project

- Write a **menu-driven Student Report Card** program using a list or dictionary. Menu: Add student, Show all, Search by name, Show topper, Exit. Use loops, conditions and string methods taught in class.

KENDRIYA VIDYALAYA KALIMPONG
AUTMN BREAK (2026-27) HOMEWORK

CLASS: XI

SUBJECT : MATHEMATICS

1. Write activity N0. 2 to 5 in your activity notebook.

2. Do all these questions in a your maths copy

SETS

1. Write down all possible subsets of sets $\{1,2\}$
2. Write down all possible subsets of sets $\{a,b,\{c\}\}$
3. Write number proper subset of a set having six elements.

Write the following sets in set builder form (Question 5 to Question 8)

4. $A = \{5, 10, 15, 20, 25\}$
5. $B = \{5, 25, 125, 625, 3125\}$
6. $C = \{2, 5, 10, 17, 26\}$
7. $D = \{1/2, 2/3, 3/4, 4/5, 5/6\}$
8. $E = \{1/2, 2/5, 3/10, 4/17, 5/26\}$

Write the following sets in roaster form (Question 10 to Question 12)

9. $A = \{x: x \in \mathbb{Z}, x^2 < 25\}$
10. $B = \{x: x \text{ is a letter of the word "principal"}\}$
11. $C = \{x: x \text{ is a two digit natural number such that sum of its digit is 8}\}$
12. $D = \{x: x \text{ is a natural number and divisor of 36}\}$
13. For $A = \{1, 2, 3, 4, 5, 6\}$; $B = \{3, 4, 5, 6\}$, $C = \{4, 5, 7, 8\}$ and $U = \{1, 2, \dots, 8\}$

Find (a) $(A - B)'$, (b) A'

14. For $A = \{1, 2, 3, 4, 5, 6\}$; $B = \{3, 4, 5, 6\}$, $C = \{4, 5, 7, 8\}$ and $U = \{1, 2, \dots, 8\}$

Verify that (1) $(A \cup B)' = A' \cap B'$;
(2) $(A \cap B)' = A' \cup B'$

15. For $A = \{1, 2, 3, 4, 5, 6\}$; $B = \{3, 4, 5, 6\}$, $C = \{4, 5, 7, 8\}$ and $U = \{1, 2, \dots, 8\}$

Verify that (1) $A - (B \cup C) = (A - B) \cap (A - C)$
(2) $A \cap (B - C) = (A \cap B) - (A \cap C)$

16. A and B are two sets such that $n(A) = 3$ and $n(B) = 6$

Find (1) minimum value of $n(A \cup B)$ (2) maximum value of $n(A \cap B)$.

17. Let A, B and C be 3 sets such that $A \cup B = A \cup C$ and $A \cap B = A \cap C$ show $B = C$.

18. If $A \subset B$ show that $(C - B) \subset C - (C - A)$

19. If $A \subset B$ and $B \in C$, is it true that $A \in C$, Explain giving example.

20. Find $A \cup B$ and $A \cap B$ if $A = \{x : x \in \mathbb{Z} \text{ and } x^2 \leq 36\}$, $B = \{x : x \text{ is a prime natural number whose square is } < 50\}$

RELATIONS AND FUNCTIONS

1. If $A = \{2, 3\}$, $B = \{1, 2, 3, 4\}$ and $C = \{3, 4, 5, 6\}$ verify that
 - (i) $A \times (B \cap C) = (A \times B) \cap (A \times C)$
 - (ii) $A \times (B \cup C) = (A \times B) \cup (A \times C)$
2. If $A = \{1, 2, 3\}$, $B = \{4, 5, 6\}$ and $C = \{1, 2\}$ find $(A - B) \times (A \cap C)$
3. If $A = \{3, 5\}$, $B = \{5, 6\}$ and $C = \{3, 6\}$, find $(A \times C) - (A \times B)$
4. $A = \{1, 0, -1\}$, $B = \{2, 3\}$, $C = \{1, -1\}$, find $A \cdot B \cdot C$ and $B \cdot A \cdot C$
5. If $(a, 1)$, $(b, -1)$ and (c, c) are three elements of $A \cdot B$ and $n(B \cdot A) = 9$, Find the sets A ,

B and $B \cdot C$. Ans $\{a, b, c\}, \{1, -1, c\}, \{(a, 1), (a, -1), (a, c), (b, 1), (b, -1), (b, c), (c, 1), (c, -1), (c, c)\}$

6. 7. If $A = \{x : x \in \mathbb{N}, x < 4\}$, $B = \{x : x^2 + 5x - 6 = 0, x < 0\}$ then find $A \times B$

7. Let $A = \{1, 2, 3, 4, 5, 6\}$ Define a relation R on set A , $R = \{(x, y) : y = x + 1\}$. Write R ,

represent R using arrow diagram and also write domain and range of R .

8. $f : R \rightarrow R$ is defined by, $f(x) = \begin{cases} 1 & , x \in Q \\ -1 & , x \notin Q \end{cases}$. Find $f\left(\frac{1}{4}\right)$, $f(\pi)$, $f(\sqrt{2})$

9. Find the domain and range of function given by $f(x) = \frac{x-1}{x-5}$

10. **Find domain and range of following functions:**

a) $f(x) = \sqrt{x-4}$ b) $f(x) = \frac{1}{\sqrt{1-x}}$ c) $f(x) = \sqrt{25-x^2}$ d) $f(x) = \frac{x^2-4}{x-2}$

e) $f(x) = \frac{9-x}{x-9}$ f) $f(x) = \frac{3x-2}{2x-5}$

TRIGONOMETRY CLASS XI

1) Evaluate

(i) $\cos(-480^\circ)$ (ii) $\sin(-1125^\circ)$ (iii) $\cot(690^\circ)$ (iv) $\sin(-765^\circ)$

(v) $\cos 120^\circ$

2) (i) Show that $\cos 510^\circ \cdot \cos 330^\circ + \sin 390^\circ \cdot \cos 120^\circ = -1$

(ii) Show that $\sin(-420^\circ) \cdot \cos 390^\circ + \cos(-660^\circ) \cdot \sin 330^\circ = -1$

- 3) Evaluate $\cot (90 + x) + \tan (180 + x) + \sec (360 - x) + \operatorname{cosec} (270 - x)$
- 4) If $A - B = \pi/4$, Show that $(1 + \tan A)(1 + \tan B) = 2 \tan A$
- 5) If $\tan (A + B) = x$ and $\tan (A - B) = y$, then Find $\tan 2A$
- 6) Show that $\tan 8\theta - \tan 6\theta - \tan 2\theta = \tan 8\theta \cdot \tan 6\theta \cdot \tan 2\theta$
- 7) Show that $\cot 3x \cdot \cot 4x - \cot 7x \cdot \cot 3x - \cot 7x \cdot \cot 4x = 1$
- 8) Show that $\cos 20^\circ \cos 40^\circ \cos 60^\circ \cos 80^\circ = 1/16$
- 9) Show that $\sin 20^\circ \sin 40^\circ \sin 60^\circ \sin 80^\circ = 3/16$
- 10) If $A + B = \pi/4$, Show that $(1 + \tan A)(1 + \tan B) = 2$

COMPLEX NUMBERS

- 1) $i^{49} + i^{68} + i^{89} + i^{110}$
- 2) $i^{37} + i^{67}$
- 3) $1 + i^{10} + i^{20} + i^{30}$
- 4) $2i^2 + 6i^3 + 3i^{16} - 6i^{19} + 4i^{25} + 4$
- 5) Show that $i^n + i^{n+1} + i^{n+2} + i^{n+3} = 0$
- 6) Show that $(-i)^{4n+3} = i$

Express in standard form

7) $\frac{2-5i}{3+6i}$

8) $\frac{(2+3i)(3-2i)}{(2+5i)(5+2i)}$

9) $\frac{2+3i}{1+2i} + \frac{1+i}{2+i}$

10) $\frac{(1+i)(1+2i)}{1+3i}$

11) Find x and y in the following case

$$3x + (2x - 3y)i = 6 + 3i$$

12) Find x and y in the following case

13) $(x+i)(x+iy) = 2 - 5i$

14) Find x and y in the following case

$$(x + iy)(2 - 3i) = 4 - 3i$$

15) Find the conjugate and the modulus of the followings

a) $(3 - 2i)(3 + 2i)(1 + i)$ b) $(2 + 3i)^2$

16) If conjugate of $(x + iy)(2 - 3i)$ is $7 + 4i$, find x & y

17) If conjugate of $(x - iy)(3 + 5i)$ is $-6 - 24i$, find x & y

18) If $\left(\frac{1+i}{1-i}\right)^{100} = a + bi$, find a and b

19) Find the least value of n if $\left(\frac{1+i}{1-i}\right)^n = 1$

20) If $z_1 = 2 + 3i$ and $z_2 = -1 + 3i$, then find $\operatorname{Im}\left(\frac{z_1 z_2}{\bar{z}_1}\right)$

LINEAR INEQUALITIES

Solve for x from Q No 1 to 9

1. $\frac{3(x-2)}{5} \leq \frac{5(2-x)}{3}$

2. $2(2x+3) - 10 < 6(x-2)$

3. $3(2-x) \geq 2(1-x)$

4. $37 - (3x+5) \geq 9x - 8(x-3)$

5. $\frac{5-2x}{3} \leq \frac{x}{6} - 5$

6. $-3 \leq -3x + 2 < 4$,

7. $\frac{(2x-1)}{3} \geq \frac{(3x-2)}{4} - \frac{(2-x)}{5}$

8. $\frac{x}{4} < \frac{(5x-2)}{3} - \frac{(7x-3)}{5}$

9. Solve the system of inequalities

$3x - 7 < 5 + x$ and $11 - 5x \leq 1$ and represent the solutions on the number line

10. A manufacturer has 600 litres of a 12% solution of acid. How many litres of a 30% acid solution must be added to it so that acid content in the resulting mixture will be more than 15% but less than 18%?

PERMUTATIONS AND COMBINATIONS

Case study based

Q.1 A state cricket authority has to choose a team of 11 members, to do it so the authority ask 2 coaches of a government academy to select the team

Members that have experience as well as best performer in the last 15 matches. They can make up a team of 11 cricketers amongst 15 possible candidates in which 5 players can bowl.



- (i) In how many ways can the final eleven be selected from 15 cricket players ?
- (ii) In how many ways can the final eleven be selected if exactly 4 bowlers must be included.
- (iii) In how many ways can the final eleven be selected if all bowlers must be included.

S

Short answer type question

Q.1 How many number of rectangle forming by 5 different horizontal parallel lines and 7 other different vertical parallel line.

Q.2 How many arrangement of the letters of the word APPLICATION.

Q.3 There are 12 point on a circle. How many chord can be draw? Find number of intersection of all chord in the circle?

Long answer type questions

Q.1 Find rank of the word MONDAY in the dictionary wise all arrangements of word MONDAY, also find the word which will on the rank 400.

Q.2 Find the arrangements of the letters of the word VOLUMES. Find the arrangements if:-

- (a) all vowels come together.
- (b) all vowels don't come together.
- (c) vowel don't come together.

III .Questions for Practice

MCQs

Q.1 Number of words from the letters of the word **BHARAT** in which B and H will never come together is:

- (a) 210 (b) 240 (c) 422 (d) 400

Q.2 There are 10 true-false questions in a examination. If all questions are compulsory then these questions can be answered in:

- (a) 210 (b) 512 (c) 422 (d) 1024

Q.3 If $^{15}\text{Cr} : ^{15}\text{Cr}_1 = 11:5$ then r equals

- (a) 15 (b) 11 (c) 5 (d) 4

Q.4 A polygon has 35 diagonals. Find the number of its sides.

- (a) 7 (b) 16 (c) 10 (d) 70

Q.5 ASSERTION-REASON

In the following question, a statement of assertion (A) is followed by a statement of Reason(R).

Assertion (A): $^{13}\text{C}_9 = ^{13}\text{C}_6$

Reason(R): Selection of the r distinct things out of n is equal to the rejection of the (n-r) distinct things out of n.

Choose the correct answer out of the following choices.

- (a) Both A and R are true and R is the correct explanation of A.
- (b) Both A and R are true but R is not the correct explanation of A.
- (c) A is true but R is false.
- (d) A is false but R is true.

Case study based

Q.1 In a company, CEO wants to establish a new branch. New branch required a committee of 5 members is to be formed out of 6 gents and 4 ladies.



In how many ways this can be done, when

- i. At least two ladies are included?
- ii. At most two ladies are included?

Q.2 Read the following passage and answer the questions given below.

Every person has Independence thought.



Find the number of arrangements of the letters of the word INDEPENDENCE. In how many of these arrangements,

- (i) Do the words start with P
- (ii) Do all the vowels always occur together
- (iii) Do the vowels never occur together

OR

Do the words begin with I and end in P?

Q.3 Read the following passage and answer the question given below.

The longest river of North America is *Mississippi River*

In how many ways can the letters of the word MISSISSIPPI be arranged Such that

- (i) All letters are used
- (ii) All I's are together
- (iii) All I's are not together

OR

All S's are not together



Short answer type question

Q.1 If ${}^{10}P_r = 5040$, find the value of r

Q.2 If $5 \cdot {}^4C_r = 6 \cdot {}^5C_{r-1}$, find value of r.

Q.3 How many 6-digit number can be formed from the digits 0,1,3,5,7,9 which are divisible by 10 and no digit is repeated ?

Q.4 How many words can be formed by using the letters of the word ORIENTAL, so that the vowels always occupy the odd places ?

Q.5 How many squares in a chess board?

Q.6 How many palindrome of 5 letters can be made by using letters of the word MATHS?

Q.7 It is required to seat 5 men and 4 women in a row so that the women occupy the even places. How many such arrangements are possible ?

Q.8 Given 12 flags of different colours, how many different signals can be generated if each signal requires the use of 2 flags, one below the other?

Q.9 There are four bus routes between A and B; and three bus routes between B and C. A man can travel round-trip in number of ways by bus from A to C via B. If he does not want to use a bus

route more than once, in how many ways can he make round trip?

Q.10 In an examination there are three multiple choice questions and each question has 4 choices. Find the number of ways in which a student

Find the

BINOMIAL THEOREM

1	$(1 + 4x + 4x^2)^{10}$ has 10 TERMS B) 11 TERMS C) 20 TERMS D) 21 TERMS
2	The ratio of the coefficients of x^r and x^{r-1} in $(1 + x)^n$ is A) $\frac{n+r}{r}$ B) $\frac{n-r+1}{r}$ C) $\frac{n+r-1}{r}$ D) NONE
3	If the coefficient of x^2 and x^3 in the expansion of $(3 + mx)^9$ are equal, then the value of m is A) $-\frac{9}{7}$ B) $-\frac{7}{9}$ C) $\frac{9}{7}$ D) $\frac{7}{9}$
4	The term independent of x in the expansion of $\left(2x + \frac{1}{3x^2}\right)^6$ is A) 2 nd B) 3 rd C) 4 th D) 5 th
5	Using binomial theorem, evaluate $(99)^5$.
6	Expand $\left(x^2 + \frac{3}{x}\right)^4$, $x \neq 0$ b using Pascal triangle.
7	Prove that: $(a + b)^6 - (a - b)^6$ is an even number if a and b are integers:
8	Find 4 th term of the expansion $\left(3x + \frac{2}{x}\right)^6$
9.	Find 5 th term from the end of the expansion $(a + bx)^7$
10.	Find $(a + b)^6 - (a - b)^6$ hence evaluate $(\sqrt{3} + \sqrt{2})^6 - (\sqrt{3} - \sqrt{2})^6$
11	Find a, if the 4 th and 5 th term of the expansion $(2 + a)^7$ are equal.
12	Expand: $(x^2 + 1 - 2x)^3$
13	Find the value of $(a^2 + \sqrt{a^2 - 1})^4 + (a^2 - \sqrt{a^2 - 1})^4$
14	Using binomial theorem prove that $5^{4n} + 52n - 1$ is divisible by 676 $\forall n \in N$
15	Find the middle term in the expansion $\left[\frac{x}{7} - \frac{5}{x}\right]^6$
16	Find the coefficient of x^4 in $\left[2x^2 - \frac{3}{x}\right]^5$
17	Using the binomial theorem, show that $6^n - 5n$ always leaves remainder 1 when divided by 25
18	Find a if coefficients of x^2 and x^3 in $(3+ax)^9$ are equal.
19	The coefficients of 2 nd and 3 rd terms in the expansion of $(1 + a)^n$ are in the ratio 1:2. Find n.
20	Find the middle term(s) in the expansion of $\left(3x - \frac{x^3}{6}\right)^5$
21	Case based Question: In class XI, teacher explained binomial theorem. Two students Shivani and Vishwani trying to solve the exercise. Shivani expanded $(1+x)^6$ by using Binomial theorem, Vishwani expanded $(x+1)^6$. Based on this above information answer the following questions. 1. According to Shivani find 4th term. (1M) 2. Find the value of $6C_0 + 6C_1 + 6C_2 + 6C_3 + \dots + 6C_6$ (1M) 3. Find the positive value of x if 3rd terms of Shivani and Vishwani are equal. (2M)

SEQUENCE AND SERIES

Q1. The third term of a geometric progression is 4. When the first five terms are multiplied together, what is the result?

Q2. $13/6$ is the sum of two numbers. An even number of mathematical means are placed between them, and their sum exceeds their number by one. What is the number of inserted means multiplied by two?

Q3. A total of 150 workers were hired to finish a job in a specific number of days. Four workers dropped out on the second day, four more dropped out on the third day, and so on. Determine the number of days it took to complete the task and the number of days it took to complete the work

Q4. Between 1 and 31, m numbers have been inserted in such a way that the resulting sequence is an A.P. It has a 5:9 ratio of 7th to $(m - 1)$ th numbers. Determine the value of m .

Q5. 150 workers were hired to complete a job in a certain number of days. Four workers left on the second day, four more on the third day, and so on. It took 8 more days to complete the work; what was the number of days it took to complete the work?

Q6. Show that the sum of the first n terms of the series $11 + 103 + 1005 + \dots$ equals $109(10n - 1) + n^2$.

KENDRIYA VIDYALAYA KALIMPONG
AUTUMN BREAK HOLIDAY HOMEWORK

CLASS – XIA

SUBJECT- BIOLOGY

1. Explain the difference between reducing and non-reducing sugars. Give one example of each. Why are proteins considered heteropolymers?
2. An enzyme-catalysed reaction was studied at different temperatures. The reaction rate increased gradually with temperature up to an optimum level, but decreased sharply when the temperature was raised further.
 - (a) Explain why the reaction rate increases with temperature up to the optimum level.
 - (b) Why does the reaction rate decrease sharply above the optimum temperature?
 - (c) Explain the role of the active site in enzyme action.
3. A botanist observes two flowers. In Flower A, the ovules are attached to the inner wall of a unilocular ovary. In Flower B, the ovules are attached to a central axis, and septa are absent.
 - (a) Identify the type of placentation in each flower.
 - (b) Explain why examining placentation is useful in the identification of flowering plants.
4. A researcher treats a cell with a chemical that disrupts the structure of its ribosomes. Soon afterwards, the rate of protein synthesis decreases significantly. In a separate experiment, another chemical damages the inner membrane of mitochondria.
 - (a) Explain why ribosome damage affects protein synthesis.
 - (b) Predict how damage to the inner mitochondrial membrane would affect ATP production. Give a reason.
 - (c) Why are mitochondria described as semi-autonomous organelles?
5. Explain the life cycle patterns found in plants. Differentiate between haplontic, diplontic and haplodiplontic life cycles with suitable examples.
6.
 - (a) Explain the importance of binomial nomenclature.
 - (b) Differentiate between archaebacteria and eubacteria on the basis of their habitat and cell wall.
 - (c) What are lichens? Mention their biological significance.
7. A frog's heart is found to have one ventricle instead of two separate ventricles.
 - (a) Explain how this structure influences the mixing of oxygenated and deoxygenated blood.
 - (b) Name the type of circulation found in frogs.
8. A frog can obtain oxygen through its moist skin while submerged in water and through its lungs when active on land.
 - (a) Explain the role of cutaneous respiration in frogs.

(b) How does the circulatory system help transport oxygen absorbed through the skin to different body tissues?

(c) Why must the skin remain moist for effective cutaneous respiration?

KENDRIYA VIDYALAYA KALIMPONG
AUTUMN BREAK HOLIDAY HOME WORK
CLASS 11 CHEMISTRY PRACTICE TEST

Chapters: Structure of Atom & Thermodynamics
(Source: NCERT & CBSE Previous Years' Questions)

Total Marks: 19 Marks

Time Allowed: 45 Minutes

SECTION A: Multiple Choice Questions (1 Mark Each)

Q1. The number of radial nodes for a 3p orbital is:

- (a) 3
- (b) 4
- (c) 2
- (d) 1

Q2. Which of the following thermodynamic properties is an intensive property?

- (a) Enthalpy (H)
- (b) Entropy (S)
- (c) Temperature (T)
- (d) Volume (V)

Q3. The maximum number of electrons that can be accommodated in a subshell with principal quantum number $n = 4$ and azimuthal quantum number $l = 3$ is:

- (a) 10
- (b) 12
- (c) 14
- (d) 16

Q4. For a chemical reaction to be spontaneous at all temperatures, the signs of change in enthalpy (ΔH) and change in entropy (ΔS) must respectively be:

- (a) Negative, Negative
- (b) Positive, Positive
- (c) Negative, Positive
- (d) Positive, Negative

SECTION B: Short Answer Questions I (2 Marks Each)

Q5. State Heisenberg's Uncertainty Principle. Write its mathematical expression.

Q6. Define Standard Enthalpy of Formation ($\Delta_f H^\circ$). Why is the standard enthalpy of formation of graphite taken as zero, but that of diamond is not?

Q7. Answer the following:

- (a) What is the photoelectric effect?
- (b) Define threshold frequency (ν_0).

SECTION C: Short Answer Questions II (3 Marks Each)

Q8. (a) Write the correct electronic configurations for Chromium (Cr, Z=24) and Copper (Cu, Z=29).
(b) Explain the reason behind the anomalous electronic configurations of these elements.

Q9. Calculate the standard enthalpy of formation of liquid methanol (CH_3OH) from the following thermochemical data:

- (i) $\text{CH}_3\text{OH}(\text{l}) + (3/2)\text{O}_2(\text{g}) \rightarrow \text{CO}_2(\text{g}) + 2\text{H}_2\text{O}(\text{l}), \Delta_r H^\circ = -726 \text{ kJ mol}^{-1}$
- (ii) $\text{C}(\text{graphite}) + \text{O}_2(\text{g}) \rightarrow \text{CO}_2(\text{g}), \Delta_c H^\circ = -393 \text{ kJ mol}^{-1}$
- (iii) $\text{H}_2(\text{g}) + (1/2)\text{O}_2(\text{g}) \rightarrow \text{H}_2\text{O}(\text{l}), \Delta_f H^\circ = -286 \text{ kJ mol}^{-1}$

Q10. 2 moles of an ideal gas are expanded isothermally and reversibly at 300 K from an initial volume of 10 L to a final volume of 100 L. Calculate the work done (w) and the heat absorbed (q) during the process.
(Given: $R = 8.314 \text{ J K}^{-1} \text{ mol}^{-1}$, $\log 10 = 1$)

AUTUMN HOLIDAY HOMEWORK
SUBJECT: ENGLISH CORE
CLASS: XI A & B

Chapter: The Adventure

Author: Jayant Narlikar

1. Briefly explain the following statements from the text in about 40-50 words;
 - 1) “You neither travelled to the past not the future. You were in the present experiencing a different world”
 - 2) “You have passed through a fantastic experience; or more correctly, a catastrophe experience.”
 - 3) Gangadharpanth could not help comparing the country he knew with what he was witnessing around him.
 - 4) A single event may change the course of the history of a nation.
2. You are one of the participants of a debate competition organized by “Indian Society of History”. Write a debate on the topic/motion “The method of inquiry of history, science and philosophy are similar”. You may write either FOR THE MOTION or AGAINST THE MOTION (only one). Word limit is 120-150.

NB: All must submit the homework on the day of reopening.



Patrick Rai
English, PGT

कक्षा 11वीं हेतु

शरदकालीन अवकाश के लिए गृहकार्य

1. वंशीधर की ईमानदारी को आप किस दृष्टिकोण से देखते हैं? क्या आप उसे सही ठहराते हैं या समाज की आलोचना को जायज मानते हैं? 'नमक का दारोगा' पाठ के आधार पर तार्किक उत्तर लिखिए।
2. मियाँ नसीरुद्दीन तीसरी पीढ़ी के हैं जिसने अपने खानदानी व्यवसाय को अपनाया। वर्तमान समय में प्रायः लोग अपने पारंपरिक व्यवसाय को नहीं अपना रहे हैं। ऐसा क्यों?
3. दिन प्रतिदिन बढ़ती पानी की समस्या से निबटने के लिए 'राजस्थान की रजत बूँदें' पाठ किस तरह से मदद करता है। पाठ के आधार पर उत्तर लिखिए।
4. कवि अपनी कौन सी मनोस्तिथि तथा परिस्थिति को अपने घर वालों से छिपाता है? 'घर की याद' पाठ के आधार पर उत्तर लिखिए।
5. यात्रा में रेल-कर्मचारी के अभद्र व्यवहार की शिकायत करते हुए रेल-अधिकारी को एक पत्र लिखिए।
6. 'फुटपाथ पर सोते लोग' विषय पर रचनात्मक लेख लिखिए।

Kendriya Vidyalaya KALIMPONG

AUTUMN BREAK HOMEWORK

Department of Physical & Health Education

CLASS ASSIGNMENTS

Classes VI to VIII

Prepare a chart project on chart paper of your favourite Game.

Classes IX & X

Complete a stick file which contains a minimum of 10 pages on your favourite Game or Yoga. The file must contain a Certificate, Index, and photographs of related Games or Yoga.

Classes XI & XII

Complete all units in your notebook neat and clean, and complete your practical file.

Daily Activity Mandate

Perform 40 minutes of exercise and yoga daily to maintain good health.

KENDRIYA VIDYALAYA KALIMPONG

Autumn Break (Home-Work-2026-27)

Class- XI

Subject- History

Answer the following questions in your History Notebook.

1. How did writing originate in Mesopotamia? Explain its development over time.
2. What does the Warka Head reveal about Mesopotamian art and urban organisation?
3. Describe the role of temples in the growth of early Mesopotamian cities.
4. "The emperor, the aristocracy, and the army were the three main players in Roman politics." Discuss.
5. Assess the role of women in Roman society with reference to family structure, marriage laws, and property rights.
6. Define the term the 'Late Roman bureaucracy'.
7. How was economic scenario of the Roman empire?
8. Describe the main characteristics of the Mongol society in 12th century.
9. Question 7. "Genghis Khan laid special emphasis on discipline in the army". Keeping this statement in your mind, describe the rules formulated by him in the sphere of military administration.
10. What do you know about Ulus system? Explain
11. Write a short note on Yam.
12. Discuss the rules and regulations of the Yasa as evolved by Genghis Khan.
13. How did technological changes affect agriculture during 11th century?
14. What were the causes that led to the decline of feudalism in Europe?
15. "Why did Europe's economic progress slow down by the early 14th century"? Give reasons?
16. On the political outline map of the world locate the following sites
1. Rome 2. Mediterranean Sea 3. Naples 4. Sicily 5. Gaul 6. Karakorum 7. Herat 8. Ur 9. Uruk 10. Mari

Holiday Homework

Class XI B | Economics | Session 2026–27

Topics: Introductory Microeconomics and Statistics for Economics

General Instructions

- Complete all sections neatly in your Economics notebook. Show formulae, calculations and units wherever applicable.
- Draw graphs with a pencil and ruler. Label the axes, title and scale. Write explanations in your own words.
- Use your textbook and class notes. The activity requires no paid materials or special travel. Suggested time: 4–5 hours across the break.
- Submit in the first Economics class after the holidays.

A Microeconomics Concepts

Answer each question in approximately 40–60 words.

1. Why does the problem of choice arise? Explain scarcity and opportunity cost using a student's allocation of time.
2. Explain the central problems of what to produce, how to produce and for whom to produce, using the example of a bakery.
3. Distinguish between a change in quantity demanded and a change in demand. Give one cause of each.
4. Explain the law of diminishing marginal utility with an example. State two assumptions of the law.

B Numerical and Graphical Applications

1. Production possibilities

An economy uses all its available resources efficiently to produce the following combinations:

Combination	A	B	C	D	E
Wheat in tonnes	0	1	2	3	4
Cloth in metres	100	90	70	40	0

- (a) Plot the production possibility curve with wheat on the horizontal axis.
- (b) Calculate the opportunity cost of each additional tonne of wheat.
- (c) Explain the curve's shape using your calculations.
- (d) Classify the combination of 2 tonnes of wheat and 50 metres of cloth as efficient, inefficient or unattainable. Give a reason.

2. Price elasticity of demand

When the price of a good falls from ₹20 to ₹18, its quantity demanded rises from 100 to 120 units. Calculate price elasticity of demand using the percentage method with initial values as the base. Report its absolute value, classify demand and interpret the result. Show all steps.

C Statistics for Economics

Answer each question in approximately 40–60 words.

1. Explain two uses and two limitations of statistics in the study of economics.
2. Distinguish between primary and secondary data. Give one economic example of each and state one precaution when using secondary data.
3. Distinguish between census and sample methods. Explain why a poorly selected sample can give misleading results.

D Organising and Analysing Data

The following hypothetical data show the number of books read by 20 students during a term:

2, 4, 3, 5, 2, 6, 4, 3, 4, 7, 5, 4, 2, 6, 3, 5, 4, 8, 3, 2

1. Arrange the observations in ascending order. Prepare a discrete frequency distribution with the number of books and frequency as the two columns. Verify that the total frequency is 20.
2. Calculate the arithmetic mean, median and mode. Show the working for each measure.
3. Draw a bar diagram of the frequency distribution. Keep the bars of equal width and leave equal gaps between them.
4. What percentage of students read at least five books? Show your calculation.
5. Which measure would be most useful for identifying the most common number of books read? Explain your answer.

E Mini Survey Activity

Topic: How Students Usually Travel to School

Collect responses from 10 willing students you can contact conveniently. Ask: “What is your usual main mode of travel to school?” If a student uses several modes, record the one used for the longest distance.

Use categories such as walking, bicycle, school bus, public transport, private vehicle and other. Record each student once; do not collect names, addresses or contact details.

Present the following on 1–2 notebook pages:

1. Objective and method: State the purpose, the question asked, the number of respondents and how you selected them.
2. Data presentation: Prepare a frequency table with percentages. Check that frequencies total 10 and percentages total 100. Draw a labelled bar diagram.
3. Findings: Write two observations based on the results and explain one limitation of the survey. State why the results may not represent all students in the school.

If you cannot contact 10 students, use 10 clearly labelled hypothetical responses and complete the same analysis. Do not present invented responses as collected data.

Before You Submit

Check all conceptual answers, the production possibility graph, elasticity calculation, statistical calculations, diagrams and the mini survey. Revise the lessons completed before the holidays.

AUTUMN HOLIDAY HOMEWORK
SUBJECT: ENGLISH CORE
CLASS: XI A & B

Chapter: The Adventure

Author: Jayant Narlikar

1. Briefly explain the following statements from the text in about 40-50 words;
 - 1) “You neither travelled to the past not the future. You were in the present experiencing a different world”
 - 2) “You have passed through a fantastic experience; or more correctly, a catastrophe experience.”
 - 3) Gangadharpanth could not help comparing the country he knew with what he was witnessing around him.
 - 4) A single event may change the course of the history of a nation.
2. You are one of the participants of a debate competition organized by “Indian Society of History”. Write a debate on the topic/motion “The method of inquiry of history, science and philosophy are similar”. You may write either FOR THE MOTION or AGAINST THE MOTION (only one). Word limit is 120-150.

NB: All must submit the homework on the day of reopening.



Patrick Rai
English, PGT

कक्षा 11वीं हेतु

शरदकालीन अवकाश के लिए गृहकार्य

1. वंशीधर की ईमानदारी को आप किस दृष्टिकोण से देखते हैं? क्या आप उसे सही ठहराते हैं या समाज की आलोचना को जायज मानते हैं? 'नमक का दारोगा' पाठ के आधार पर तार्किक उत्तर लिखिए।
2. मियाँ नसीरुद्दीन तीसरी पीढ़ी के हैं जिसने अपने खानदानी व्यवसाय को अपनाया। वर्तमान समय में प्रायः लोग अपने पारंपरिक व्यवसाय को नहीं अपना रहे हैं। ऐसा क्यों?
3. दिन प्रतिदिन बढ़ती पानी की समस्या से निबटने के लिए 'राजस्थान की रजत बूँदें' पाठ किस तरह से मदद करता है। पाठ के आधार पर उत्तर लिखिए।
4. कवि अपनी कौन सी मनोस्तिथि तथा परिस्थिति को अपने घर वालों से छिपाता है? 'घर की याद' पाठ के आधार पर उत्तर लिखिए।
5. यात्रा में रेल-कर्मचारी के अभद्र व्यवहार की शिकायत करते हुए रेल-अधिकारी को एक पत्र लिखिए।
6. 'फुटपाथ पर सोते लोग' विषय पर रचनात्मक लेख लिखिए।

Kendriya Vidyalaya KALIMPONG

AUTUMN BREAK HOMEWORK

Department of Physical & Health Education

CLASS ASSIGNMENTS

Classes VI to VIII

Prepare a chart project on chart paper of your favourite Game.

Classes IX & X

Complete a stick file which contains a minimum of 10 pages on your favourite Game or Yoga. The file must contain a Certificate, Index, and photographs of related Games or Yoga.

Classes XI & XII

Complete all units in your notebook neat and clean, and complete your practical file.

Daily Activity Mandate

Perform 40 minutes of exercise and yoga daily to maintain good health.

GEOGRAPHY PRACTICAL

CLASS: XI

CHAPTER: 1

INTRODUCTION TO MAPS

1. Map

A map is defined as selective, symbolised and generalised representation of whole or a part of the earth's surface on a plane surface at a reduced scale. It may also be understood that a simple network of lines and polygons without a scale shall not be called a map.

2. Essentials of Map Making

The processes that may also be referred to as essentials of maps are:

Scale

Map Projection

Map Generalisation

Map Design

Map Construction and

Production

3. Types of Maps Based on Scale

On the basis of scale, maps may be classified into large-scale and small-scale.

(i) Large-scale Maps: Large-scale maps are further divided into the following types:

(a) Cadastral maps

(b) Topographical maps

(a) Cadastral Maps: The term 'cadastral' is derived from the French word 'cadastre' meaning 'register of territorial property'. These maps are drawn to show the ownership of landed property by demarcating field boundaries of agricultural land and the plan of individual houses in urban areas. These maps are drawn on a very large scale, such as the cadastral maps of villages at 1 : 4,000 scale and the city plans at a scale of 1 : 2,000 and larger.

(b) Topographical Maps: These maps are also prepared on a fairly large scale. The topographical maps are based on precise surveys and are prepared in the form of series of maps made by the national mapping agencies of almost all countries of the world. For example, the Survey of India undertakes the topographical mapping of the entire country at 1: 250,000, 1: 50,000 and 1: 25,000 scale.

(ii) Small-scale Maps: Small-scale maps are further divided into the following types:

(a) Wall Maps

(b) Atlas Maps

(a) Wall Maps: These maps are generally drawn on large size paper or on plastic base for use in classrooms or lecture halls.

(b) Atlas Maps: Atlas maps are very small-scale maps. These maps represent fairly large areas and present highly generalised picture of the physical or cultural features.

4. Types of Maps Based on Function

The maps may also be classified on the basis of their functions. Broadly, maps based on their functions may be classified into physical maps and cultural maps.

(i) Physical Maps: Physical maps show natural features such as relief, geology, soils, drainage, elements of weather, climate and vegetation, etc.

(a) Relief Maps: Relief maps show general topography of an area like mountains and valleys, plains, plateaus and drainage.

(b) Geological Maps: These maps are drawn to show geological structures, rock types, etc.

(c) Climatic Maps: These maps depict climatic regions of an area. Besides, maps are also drawn to show the distribution of temperature rainfall, cloudiness, relative humidity, direction and velocity of winds and other elements of weather.

(d) Soil Maps: Maps are also drawn to show the distribution of different types of soil(s) and their properties

(ii) Cultural Maps: Cultural maps show man-made features. These include a variety of maps showing population distribution and growth, sex and age, social and religious composition, literacy, levels of educational attainment, occupational structure, location of settlements, facilities and services, transportation lines and production, distribution and flow of different commodities.

(a) Political Maps: These maps show the administrative divisions of an area such as country, state or district. These maps facilitate the administrative machinery in planning and management of the concerned administrative unit.

(b) Population Maps: The population maps are drawn to show the distribution, density and growth of population, age and sex composition distribution of religious, linguistic and social groups, occupational structure of the population, etc.

(c) Economic Maps: Economic maps depict production and distribution of different types of crops and minerals, location of industries and markets, routes for trade and flow of commodities.

(d) Transportation Maps: These maps show roads, railway lines and the location of railway stations and airports.

5. Uses of Maps

Geographers, planners and other resource scientists use maps. In doing so, they make various types of measurements to determine distances, directions and area.

GEOGRAPHY PRACTICAL

CLASS XI

CHAPTER: 2

MAP SCALE

1. Map Scale

A map scale provides the relationship between the map distance and the corresponding ground distance. It is expressed as a ratio of the distance between two points on the map to the actual distance between the same two points on the ground. A network of lines and polygons without a scale is called a 'sketch'.

2. Systems of Measurement

Scale is normally expressed in one of two major systems of measurement:

(i) Metric System of Measurement: Used in India and most parts of the world.

- 1 km = 1,000 Metres | 1 Metre = 100 Centimetres | 1 Centimetre = 10 Millimetres
- 1 km = 100,000 Centimetres

(ii) English System of Measurement: Prevalent in the UK and USA.

- 1 Mile = 8 Furlongs | 1 Furlong = 220 Yards | 1 Yard = 3 Feet | 1 Foot = 12 Inches
- 1 Mile = 63,360 Inches

3. Methods of Representing Scale

The scale of a map can be expressed using three main methods:

(i) Statement of Scale: The scale is indicated in the form of a written statement (e.g., '1 cm represents 10 km' or '1 inch represents 10 miles').

- Advantage: Simple to understand.
- Limitations: Non-universal (restricted to users familiar with the specific unit) and becomes redundant if the map is enlarged or reduced.

(ii) Representative Fraction (R. F.): Shows the ratio between map distance and ground distance in non-specific units (e.g., 1 : 50,000).

- Formula: $R. F. = \text{Map Distance} / \text{Ground Distance}$ (both in same units).
- Numerator represents map distance (always 1); Denominator represents ground distance.
- Advantage: Universal method as users can convert units into their own measurement system.

(iii) Graphical or Bar Scale: Map distances and corresponding ground distances are depicted using a line bar marked with primary and secondary divisions.

- Unique Advantage: Remains valid even when the map is enlarged or reduced, as the bar scale scales proportionally with the map.

4. Conversion of Scale

(i) Statement of Scale into R. F.:

- **Example: Convert '1 inch represents 4 miles' into R. F.**

Calculation:

1 mile = 63,360 inches. So, 4 miles = $4 \times 63,360 = 253,440$ inches.

Answer: R. F. = 1: 2,53,440

(ii) R. F. into Statement of Scale:

- **Example: Convert R. F. 1: 250,000 into Statement of Scale (Metric System).**

Calculation: 1 cm represents 250,000 cm = $250,000 / 100,000$ km = 2.50 km.

Answer: 1 cm represents 2.50 km

5. Construction of Graphical Scale

(i) Construct a graphical scale when the R.F. is 1: 100,000, which can read 4 km in primary division and 1 km in the secondary division.

GEOGRAPHY PRACTICAL
CLASS XI
CHAPTER: 3
LATITUDE, LONGITUDE AND TIME

1. Geographic Grid

The Earth is an oblate spheroid with bulging at the equator and flattening at the poles. The spinning of the Earth on its axis from west to east provides two natural points of reference: the North Pole and the South Pole. A systematic network of intersecting lines drawn on maps/globes to fix locations is called the geographic grid, composed of parallels of latitude and meridians of longitude.

2. Parallels of Latitude

Parallels of latitude refer to the angular distance, in degrees, minutes, and seconds, of a point north or south of the Equator.

- **Equator (0°):** The largest circle drawn midway between the poles, dividing the Earth into the Northern and Southern Hemispheres. It is a Great Circle.
- **Small Circles:** All other parallels decrease in size towards the poles and form Small Circles.

Key Features: Parallels are equal in distance from each other (~111 km apart on average, varying slightly from 110.6 km at the equator to 111.7 km at the poles due to flattening). Latitude is determined using the altitude of the Sun or the Pole Star.

- **Temperature Zones:** Latitudes demarcate thermal zones: Torrid Zone (0° to 23½° N/S), Temperate Zone (23½° to 66½° N/S), and Frigid Zone (66½° to 90° N/S).

3. Meridians of Longitude

Meridians of longitude refer to the angular distance east or west of the Prime Meridian.

- **Prime Meridian (0°):** The meridian passing through the Greenwich Observatory near London, chosen as the international reference line.
- **Key Features:** Longitudes are semi-circles running north-south, converging at the poles. They are all equal in length. Opposite meridians together form a Great Circle.
- **Spacing:** Distance between longitudes is maximum at the equator (111.3 km), 79 km at 45° latitude, and zero at the poles.
- **Total Number:** There are 360° of longitudes (180° East and 180° West of the Prime Meridian).

4. Longitude and Time

The Earth completes one full rotation of 360° on its axis in 24 hours (West to East):

- **Rate of Rotation:** 15° longitude per hour, or 1° longitude every 4 minutes.
- **Directional Rule:** Moving Eastward → Time Increases (+4 min/degree). Moving Westward → Time Decreases (-4 min/degree).

(i) Local Time Calculation Example:

- **Example:** Find the local time of Thimphu (Bhutan) at 90°E when Greenwich (0°) is 12.00 noon.
Calculation: Difference = 90° longitude = $90 \times 4 = 360$ minutes = 6 hours.
Since it is East of Greenwich, time is ahead: 12:00 noon + 6 hours = 6.00 p.m.

(ii) Standard Time and IST:

- Standard Meridian: Selected in multiples of 15° or $7^\circ 30'$ so the time difference with GMT is in full or half hours.
- Indian Standard Time (IST): Calculated from $82^\circ 30'$ E meridian (passing through Mirzapur). IST is 5 hours 30 minutes ahead of GMT (+5:30 hrs).

5. International Date Line (IDL)

- Location: Approximately along the 180° meridian in the Pacific Ocean.
- Function: It is the line where the calendar date changes by exactly one day.
- Date Change Rule: Crossing IDL from West to East → Subtract 1 day (e.g., Tuesday becomes Monday).
Crossing IDL from East to West → Add 1 day (e.g., Tuesday becomes Wednesday).

Sanjay Karmakar, PGT Geography

KENDRIYA VIDYALAYA KALIMPONG
AUTUMN BREAK HOLIDAY HOMEWORK

CLASS- XIIA

SUBJECT- BIOLOGY

1. A population of deer is introduced into a grassland with abundant food and sufficient space. Initially, the population grows rapidly. After some time, the growth rate slows down as food and space become limited.

(a) Name the type of growth observed during the initial phase.

(b) What is meant by the carrying capacity of the habitat?

(c) Explain how resource limitation affects population growth and identify the type of growth curve expected under these conditions.

2. A population has 400 individuals. Its per capita birth rate is 0.3 and per capita death rate is 0.1 per unit time. Calculate:

(a) The intrinsic rate of natural increase (r).

(b) The rate of population increase (dN/dt).

(c) State whether the population is increasing or decreasing.

3. The population of a town of deer increased from 500 to 650 individuals in one year. Calculate the net increase in population and the percentage increase over the initial population.

4. A population of 200 bacteria increases to 300 in a given time interval. Calculate the per capita growth rate.

5. Explain how RNA interference (RNAi) technology is used to protect tobacco plants against the nematode *Meloidogyne incognita*.

6. Explain how HIV affects the human immune system. Mention the mode of transmission and the major reason why AIDS patients become vulnerable to opportunistic infections.

7. Explain the principle of gene therapy using the treatment of adenosine deaminase (ADA) deficiency as an example.

8. Solve sample paper questions of the year 2025-26.

https://cbseacademic.nic.in/web_material/SQP/ClassXII_2025_26/Biology-SQP.pdf

KENDRIYA VIDYALAYA KALIMPONG
AUTUMN BREAK HOLIDAY HOMEWORK
CLASS 12 CHEMISTRY PRACTICE TEST

Chapters: Chemical Kinetics & Coordination Chemistry
(NCERT & CBSE Previous Years' Questions)

Total Marks: 19 Marks

Time Allowed: 45 Minutes

SECTION A: Multiple Choice Questions (1 Mark Each)

- Q1.** The activation energy (E_a) of a chemical reaction can be determined experimentally by:
- (a) evaluating the rate constant at two different temperatures.
 - (b) evaluating the rate of reaction at two different temperatures.
 - (c) evaluating the concentration of reactants at different time intervals.
 - (d) changing the initial concentration of the reactants at a constant temperature.
- Q2.** Which of the following complex ions exhibits optical isomerism?
- (a) $\text{trans-}[\text{Co}(\text{en})_2\text{Cl}_2]^+$
 - (b) $\text{cis-}[\text{Co}(\text{en})_2\text{Cl}_2]^+$
 - (c) $[\text{Co}(\text{NH}_3)_4\text{Cl}_2]^+$
 - (d) $\text{trans-}[\text{Pt}(\text{NH}_3)_2\text{Cl}_2]$
- Q3.** If the rate constant for a chemical reaction is $k = 3 \times 10^{-4} \text{ mol L}^{-1} \text{ s}^{-1}$, the overall order of the reaction is:
- (a) Zero order
 - (b) First order
 - (c) Second order
 - (d) Half order
- Q4.** According to Crystal Field Theory (CFT), the magnitude of crystal field splitting energy in a tetrahedral complex (Δ_t) is related to that in an octahedral complex (Δ_o) by the relation:
- (a) $\Delta_t = (4/9) \Delta_o$
 - (b) $\Delta_t = (9/4) \Delta_o$
 - (c) $\Delta_t = (1/2) \Delta_o$
 - (d) $\Delta_t = (2/3) \Delta_o$

SECTION B: Short Answer Questions I (2 Marks Each)

Q5. A first-order reaction is 50% completed in 40 minutes. Calculate the time required for 90% completion of the reaction.

[Given: $\log 10 = 1$, $\log 2 = 0.3010$]

Q6. Using Valence Bond Theory (VBT), predict the hybridization, geometry, and magnetic behavior (paramagnetic or diamagnetic) of the complex ion $[\text{Fe}(\text{CN})_6]^{3-}$.

[Atomic number of Fe = 26]

Q7. Answer the following questions:

(a) Write the IUPAC name of the coordination compound $[\text{Co}(\text{NH}_3)_5(\text{CO}_3)]\text{Cl}$.

(b) Define Spectrochemical Series. How do weak-field ligands differ from strong-field ligands in terms of crystal field splitting?

SECTION C: Short Answer Questions II (3 Marks Each)

Q8. The rate of a reaction quadruples when the temperature changes from 293 K to 313 K. Calculate the activation energy (E_a) of the reaction, assuming it remains constant over this temperature range.

[Given: $R = 8.314 \text{ J K}^{-1} \text{ mol}^{-1}$, $\log 4 = 0.6021$]

Q9. (a) Draw the crystal field energy-level diagram showing the splitting of d-orbitals in an octahedral crystal field.

(b) Write the electronic configuration of a d^4 metal ion on the basis of Crystal Field Theory if:

(i) $\Delta_o > P$

(ii) $\Delta_o < P$

(c) What is Linkage Isomerism? Give one example of a pair of linkage isomers.

Q10. For the reaction $A + B \rightarrow \text{Products}$, the following initial rate data were obtained at 298 K:

Experiment	Initial [A] (M)	Initial [B] (M)	Initial Rate (M s^{-1})
1	0.1	0.1	2.0×10^{-3}
2	0.2	0.1	4.0×10^{-3}
3	0.1	0.2	8.0×10^{-3}

Determine:

(i) The order of reaction with respect to A and with respect to B.

(ii) The overall order of the reaction.

(iii) The value and units of the rate constant (k).

Class XII A – Computer Science

Frontend Design for Final Project

Continue with your approved project topic. If you have not finalised it, choose a suitable topic such as Library Management, Student Record System, Hotel/Restaurant Billing, Inventory/Stock, Bank Account, Hospital Appointment or Quiz System. Inform your teacher about your chosen topic.

1. Project Planning

Write the project title, a 3–4 line problem statement, objectives, intended users and what each user will do. Mention the hardware and software required.

2. Interface Design

Draw at least 5 screens on paper: Home/Main Menu, Add Record, View/Search Record, Update/Delete Record, and Report/Exit. Label the buttons, text boxes and other elements. Draw a simple screen-flow diagram to show how the screens are connected.

3. Develop the Frontend

Create the interface in Python using Tkinter or the menu-driven method taught in class. Make sure users can move between screens. Create separate functions for Add, Search, Update, Delete and Report. The database connection will be done after the break.

4. Testing

Take screenshots of at least 6 screens and add captions. Prepare a test table with at least 8 test cases, including the action, input, expected result and actual result.

5. Submission

Submit a project file containing the cover page, index, planning page, wireframes, screen-flow diagram, frontend code, screenshots and test table. Also submit the .py file and screenshots in a folder named RollNo_Name_Project, as instructed by your teacher.

Note: Only the frontend/interface is required for now. MySQL connectivity and the backend will be covered after the break.

Unit 08: Atoms and Nuclei

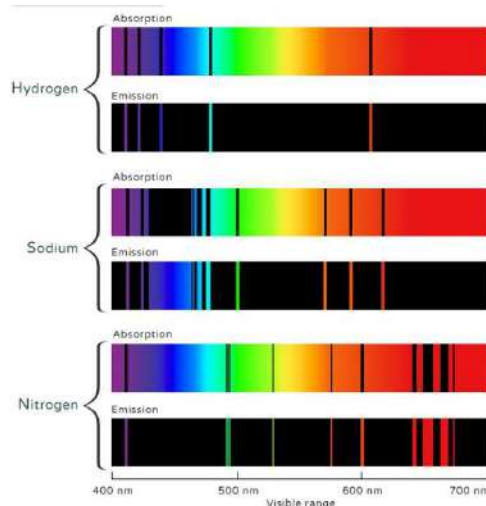
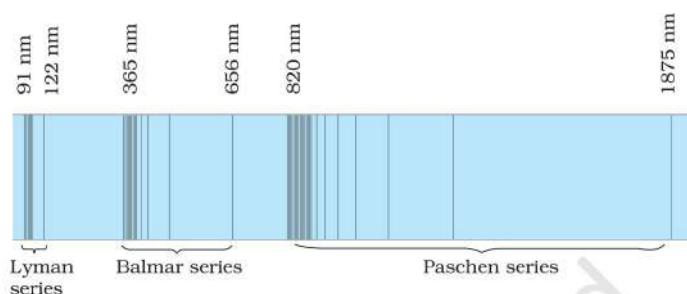
Prepared by A P Singh

Atomic Spectra: Hot solids, liquids and dense gases produce continuous spectra and excited rarefied gases produce line spectra. Each element has a characteristic line spectrum due to its atomic structure.

(Emission and Absorption spectra shown of left)

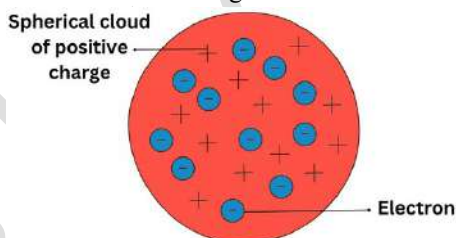
The bunch or group of lines in the atomic spectra are called spectral series.

For example, hydrogen has Lyman, Balmer, Paschen, Brackett, Pfund spectral series in its atomic spectrum.



Atomic Models

1. **Thomson Model (1898):** Also known as Plum Pudding Model.



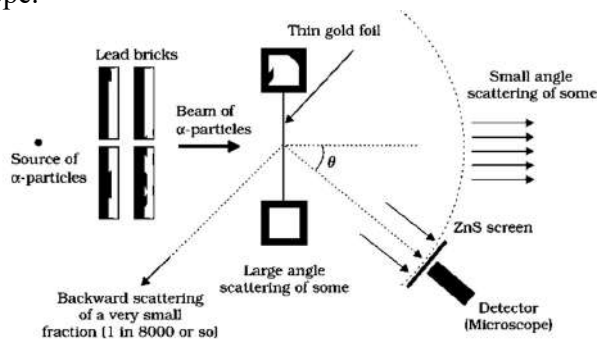
Features:

- (i) Atom contains negatively charged electrons embedded in a uniformly distributed positive charge.
- (ii) Atom is electrically neutral.

Limitations: Failed to explain origin of atomic spectra.

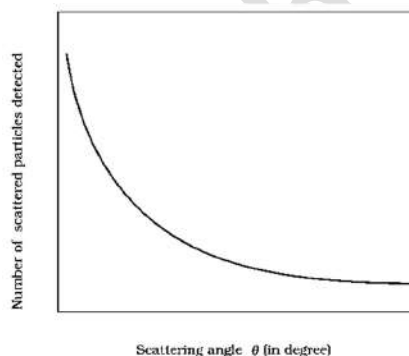
RUTHERFORD'S (Geiger-Marsden) ALPHA-PARTICLE SCATTERING EXPERIMENT (1911)

The experiment directed a collimated beam of 5.5 MeV α -particles from a $^{214}_{83}\text{Bi}$ radioactive source at a thin gold foil with a thickness of 2.1×10^{-7} m. Scattered α -particles were observed via brief light flashes (scintillations) using a rotatable detector comprised of a zinc sulphide screen and a microscope.



SN	Observations	Implications
1	Most α -particles pass straight through the gold foil without suffering any collisions.	Most of the atom is empty space.
2	Only about 0.14% of the incident α -particles scatter by more than 1° , and approximately 1 in 8000 deflect by more than 90° .	The entire positive charge and the majority of the atom's mass are tightly concentrated at its center, known as the nucleus.
3	The small fraction of incident particles that rebound back indicates that the number of head-on collisions is small.	The atom's positive charge and mass are concentrated in a very small volume

Experimental Graph between No. of Scattered Particles at a particular scattering angle justifying observations mentioned in table above:

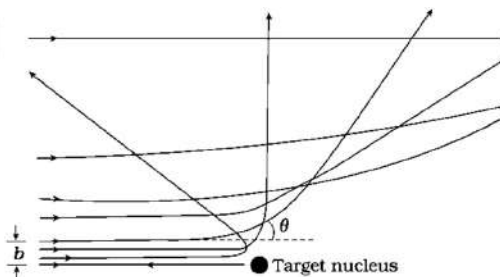


Note: The trajectory depends on the *impact parameter* (b).

Impact Parameter (b): The perpendicular distance of the α -particle's initial velocity vector from the center of the target nucleus.

A large impact parameter results in a small deflection ($\theta \cong 0$), leaving the particle nearly undeviated.

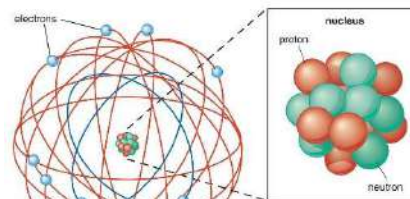
An α -particle with a small impact parameter experiences large scattering, and in a head-on collision where the impact parameter is at its minimum, the particle rebounds backwards ($\theta \cong \pi$).



2. **Rutherford's Nuclear Model (1911):** Based on the alpha-particle scattering experiment performed by Geiger and Marsden and also called the Planetary Model.

Features:

- Positive charge and most of the mass are concentrated in a tiny nucleus that exists at the centre of the atom and most of the atom is empty space.
- Electrons revolve around the nucleus where centripetal force is provided by electrostatic attraction between electrons and nucleus.

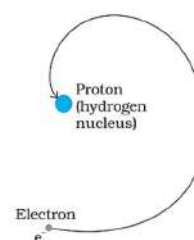


© Encyclopædia Britannica, Inc.

$$\frac{mv^2}{r} = \frac{1}{4\pi\epsilon_0} \frac{(e)(Ze)}{r^2}$$

Limitations:

- According to classical electromagnetic theory, an accelerating charged particle, such as an electron moving in a circular orbit, must continuously emit electromagnetic radiation.
- Consequently, the orbiting electron would lose energy, spiral inward, and eventually collapse into the nucleus, making the atom unstable.
- As the electron spirals inward, its angular velocity and emission frequency would change continuously, which should produce a continuous spectrum rather than the experimentally observed line spectrum.



Electron Energy in Rutherford Model

Equating the electrostatic force (F_e) and the centripetal force (F_c)

$$\begin{aligned}F_e &= F_c \\ \frac{1}{4\pi\epsilon_0} \frac{Ze^2}{r^2} &= \frac{mv^2}{r} \\ mv^2 &= \frac{1}{4\pi\epsilon_0} \frac{Ze^2}{r} \\ \frac{1}{2} mv^2 &= \frac{1}{8\pi\epsilon_0} \frac{Ze^2}{r} \\ \boxed{K &= \frac{1}{8\pi\epsilon_0} \frac{Ze^2}{r}}\end{aligned}$$

Electrostatic potential energy (U) of the electron is given by

$$\begin{aligned}U &= \frac{1}{4\pi\epsilon_0} \frac{(Ze)(-e)}{r} \\ \boxed{U &= -\frac{Ze^2}{4\pi\epsilon_0 r}}\end{aligned}$$

The total mechanical energy of the electron is

$$\begin{aligned}E = K + U &= \frac{Ze^2}{8\pi\epsilon_0 r} - \frac{Ze^2}{4\pi\epsilon_0 r} \\ \boxed{E &= -\frac{Ze^2}{8\pi\epsilon_0 r}}\end{aligned}$$

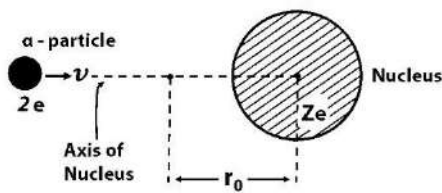
For H-atom, $Z = 1$

$$\boxed{E = -\frac{e^2}{8\pi\epsilon_0 r}}$$

Note: The negative total energy of the electron revolving inside the atom represents that it is bound to nucleus and the energy of electron increases with increase in the size of the orbit. Energy approaches zero for infinitely large orbit and electron will no more be bound to nucleus.

Estimation of Size of Nucleus

An α -particle approaching the nucleus will gradually gets slower as result of repulsion between charges as both α -particle and nucleus both are positively charged particles. So, its complete KE converts into PE when it reaches at distance r_0 (called distance of closest approach) and it stops and returns and retraces its path backward and backscatters. It shows that size of nucleus should be smaller than r_0 .



Energy Equation $\frac{1}{2} m v^2 + 0 = 0 + \frac{1}{4 \pi \epsilon_0} \frac{2Ze^2}{r_0}$

$$r_0 = \frac{2Ze^2}{4 \pi \epsilon_0 \left(\frac{1}{2} m v^2 \right)}$$

$$r_0 \propto \frac{1}{\text{K.E.}}$$

$\frac{1}{2} m v^2 \rightarrow \text{K.E. of } \alpha\text{-particle for away from nucleus}$

In experiment,

$$\text{K.E.} = 5.5 \text{ MeV} = 5.5 \times 10^6 \times (1.6 \times 10^{-19}) \text{ J} = 8.812 \times 10^{-13} \text{ J}$$

For gold $Z = 79$

After calculation, the value of $r_0 \approx 10^{-14} \text{ m}$. So, the size of nucleus is less than 10^{-14} m .

3. **Bohr Model (1913):** Niels Bohr concluded that classical mechanics and electromagnetism were insufficient at the atomic scale and proposed three postulates combining classical and quantum concepts.

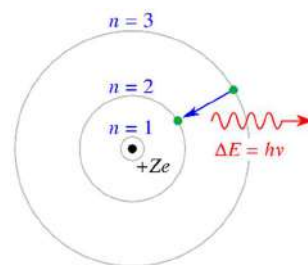
Features (Postulates of Bohr Model):

- (i) **First Postulate (Stationary States):** An electron can revolve in certain stable orbits without emitting radiant energy; each of these allowed states has a definite total energy.
- (ii) **Second Postulate (Quantized Angular Momentum):** The electron can only revolve in orbits where its angular momentum (L) is an integral multiple of $h/2\pi$ (where h is Planck's constant).

$$L = \frac{nh}{2\pi}$$

- (iii) **Third Postulate (Energy Transitions):** An electron can transition from a specified non-radiating orbit to one of lower energy by emitting a photon. The energy of the emitted photon equals the difference between the initial and final states.

$$h\nu = E_i - E_f$$



Limitations:

- (i) The Bohr model is applicable to hydrogenic atoms. It cannot be extended even to mere two electron atoms such as helium.
- (ii) While the Bohr's model correctly predicts the frequencies of the light emitted by hydrogenic atoms, the model is unable to explain the relative intensities of the frequencies in the spectrum.

Electron Orbit in Bohr's Model

From Bohr's second postulate

$$L = nh/2\pi$$

$$mvr = \frac{nh}{2\pi}$$

$$v = \frac{nh}{2\pi mr}$$

Substituting value of v in the centripetal force equation given by

$$\frac{mv^2}{r} = \frac{1}{4\pi\epsilon_0} \frac{(e)(Ze)}{r^2}$$

And solving it for H-atom ($Z=1$) to find r and rename it as r_n as it depends on quantum number ' n ', we get

$$r_n = \frac{n^2}{m} \left(\frac{h}{2\pi} \right)^2 \frac{4\pi\epsilon_0}{e^2}$$

$$r_n = a_0 n^2$$

Where $a_0 = \left(\frac{h}{2\pi} \right)^2 \frac{4\pi\epsilon_0}{me^2} = 0.53 \text{ \AA}$

Here, a_0 is called Bohr Radius.

Above expression shows that the electron can't exist in any possible orbits but only in discrete or quantized orbits and the radii of such orbits are in the ratio of 1:3:5: 7:

Electron Speed in Bohr's Model

From Bohr's second postulate

$$L = nh/2\pi$$

$$mvr = \frac{nh}{2\pi}$$

$$r = \frac{nh}{2\pi mv}$$

Substituting value of r in the centripetal force equation given by

$$\frac{mv^2}{r} = \frac{1}{4\pi\epsilon_0} \frac{(e)(Ze)}{r^2}$$

And solving it for H-atom ($Z=1$) to find v and rename it as v_n as it depends on quantum number ' n ', we get

$$v_n = \frac{1}{n} \left(\frac{e^2}{2\epsilon_0 h} \right)$$

$$v_n = \frac{\alpha}{n}$$

Where $\alpha = \frac{e^2}{2\epsilon_0 h} = \frac{c}{137}$

Here, c is speed of light in vacuum.

Above expression shows that the electron's speed decreases with increase in size of the orbit.

Electron Energy in Bohr's Model

In Rutherford's Model of H-atom, the energy of electron is given by

$$E = - \frac{e^2}{8\pi\epsilon_0 r}$$

Now, in Bohr's model, the radii of orbits is quantized. So, r must be replaced by r_n and hence energy E is rewritten as E_n

$$E_n = - \frac{e^2}{8\pi\epsilon_0 r_n}$$

Substituting the value of $r_n = \frac{n^2}{m} \left(\frac{h}{2\pi} \right)^2 \frac{4\pi\epsilon_0}{e^2}$ in above equation of energy, we get

$$E_n = - \frac{me^4}{8n^2\epsilon_0^2 h^2}$$

$$E_n = - \frac{2.18 \times 10^{-18}}{n^2} \text{ J}$$

Total energy expressed in electron volts (eV).

$$E_n = -\frac{13.6}{n^2} \text{ eV}$$

It shows that energy of electron is also quantized.

For H-atom,

In first orbit ($n = 1$) or ground state, $E_1 = -13.6 \text{ eV}$

In second orbit ($n = 2$) or first excited state, $E_2 = -\frac{13.6}{4} \text{ eV} = -3.40 \text{ eV}$

In third orbit ($n = 3$) or second excited state, $E_3 = -\frac{13.6}{9} \text{ eV} = -1.51 \text{ eV}$

In fourth orbit ($n = 4$) or third excited state, $E_4 = -\frac{13.6}{16} \text{ eV} = -0.85 \text{ eV}$

.

.

.

.

In $n = \infty$ orbit, $E_\infty = 0 \text{ eV}$

Ground State: The energy of an atom is the *least* (largest negative value) when its electron is revolving in an orbit closest to the nucleus i.e. $n = 1$. This *lowest* state of the atom, called the *ground state*.

Ground State Energy in H-atom is -13.6 eV .

Note: At room temperature, most of the hydrogen atoms are in *ground state*.

Line Spectrum of H-atom and Energy Level Diagram of H-atom

At room temperature, most of the hydrogen atoms are in *ground state*. When a hydrogen atom receives energy by processes such as electron collisions, the atom may acquire sufficient energy to raise the electron to higher energy states. The atom is then said to be in an *excited state*. From these excited states the electron can then fall back to a state of lower energy, emitting a photon in the process.

No two photons emitted as a result of transition between two different energy levels have same energy and same frequency or wavelength. Hence, the atomic spectra is line spectra.

From Bohr's 3rd postulate

$$h\nu = E_i - E_f$$

Frequency emitted is given by

$$\nu = \frac{E_i - E_f}{h}$$

And emitted wavelength is

$$\frac{1}{\lambda} = \frac{E_i - E_f}{hc}$$

Where $E_i = -\frac{me^4}{8n_i^2\epsilon_0^2h^2}$ and $E_f = -\frac{me^4}{8n_f^2\epsilon_0^2h^2}$

Substituting these values in equation of wavelength and solving it

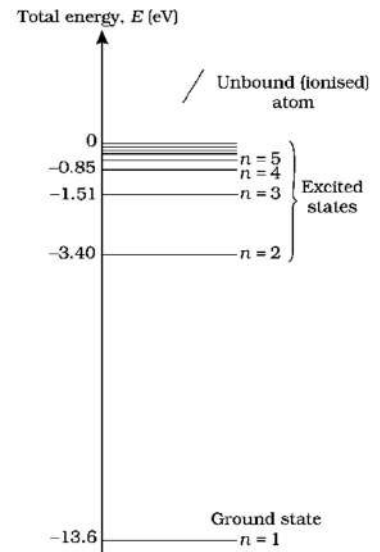
$$\frac{1}{\lambda} = \left(\frac{me^4}{8\epsilon_0^2h^3c} \right) \left[\frac{1}{n_f^2} - \frac{1}{n_i^2} \right]$$

$$\frac{1}{\lambda} = R \left[\frac{1}{n_f^2} - \frac{1}{n_i^2} \right]$$

Where $R = \frac{me^4}{8\epsilon_0^2h^3c}$

R is called Rydberg Constant.

$$R = 1.097 \times 10^7 \text{ m}^{-1}$$



KENDRIYA VIDYALAYA, KALIMPONG
AUTUMN BEARK HOMEWORK 2026-27

CLASS XII
MATHEMATICS

1. All activitie4s from 6 to 10 have to be done in activity note book.
2. CBSE sample question paper 2026-27 have to be solve and submitted on reopening i.e. 26/10/2026.

AUTUMN HOLIDAY HOMEWORK
SUBJECT: ENGLISH CORE
CLASS: XII A & B

1. Watch an interview on television or YouTube/Read an interview in a newspaper. Talk about how it added to your understanding of the interviewee, the interviewer and the field of the interviewee. (120-150 words)

2. Write the Summary of the poem “Aunt Jennifer’s Tigers” by Adrienne Rich in about 40-50 words.

3. Go through the formats of ‘Letter to the Editor’ and ‘Job Application’ in details. Answer the following questions on long writing task in about 120-150 words.

(a) You recently visited Prayatna, a women’s training centre in your city. In this centre women were being empowered through skill training and entrepreneurship experience. You are Bela/Balak, an activist for human rights. Write a letter to the editor expressing your views on the need to empower women and make them self-reliant. You may use the given cues along with your own ideas.

1. setting up of NGOs to provide skill-based learning
2. government support and CSR funding
3. awareness of government and private-led initiatives and business opportunities

(b) You are Priya/Pranav Desai of Pinewood Apartments, Sagarnagar. You read the given advertisement in the newspaper and wish to apply for the same. Write an application along with your bio-data.

BRIGHT MINDS ACADEMY
PEAKTOWN
REQUIRES CONTENT WRITERS

Qualification : Graduate in Mass Communication or English Honours

Skills :

- Excellent command of English, creative-writing,
- Editing and proof reading
- Ability to write academic blogs, newsletters and educational articles

Minimum 2 years experience preferred

Apply to the Director, Bright Minds Academy, Peaktown

NB: All must submit the homework on the day of reopening.



Patrick Rai
English, PGT

कक्षा 12वीं हेतु शरदकालीन अवकाश के लिए गृहकार्य

1. तुलसीदास जी ने अपने काल की आर्थिक दशा का वर्णन किस प्रकार किया है?
2. राम जी ने यह बात क्यों कही कि लक्ष्मण जैसा भाई इस संसार में दूसरा कोई नहीं है?
3. 'बादल राग' कविता का सारांश अपने शब्दों में लिखें।
4. 'शिरीष के फूल' द्विवेदी जी का एक संदेशपरक निबंध है। इसमें लेखक ने जो संदेश दिया है, उसको अपने शब्दों में लिखिए।
5. 'उषा' कविता में सुबह की तुलना किन किन चीज़ों से की गई है? अपने शब्दों में लिखिए।
6. गाँव में महामारी फैलने एवं अपने बेटे की मृत्यु के बावजूद भी लुट्टन पहलवान ढोलक क्यों बजाता रहा? अपने शब्दों में उत्तर दीजिए।

Kendriya Vidyalaya KALIMPONG

AUTUMN BREAK HOMEWORK

Department of Physical & Health Education

CLASS ASSIGNMENTS

Classes VI to VIII

Prepare a chart project on chart paper of your favourite Game.

Classes IX & X

Complete a stick file which contains a minimum of 10 pages on your favourite Game or Yoga. The file must contain a Certificate, Index, and photographs of related Games or Yoga.

Classes XI & XII

Complete all units in your notebook neat and clean, and complete your practical file.

Daily Activity Mandate

Perform 40 minutes of exercise and yoga daily to maintain good health.

Holiday Homework

Class XII B | Economics | Session 2026–27

Topics: Introductory Macroeconomics and Indian Economic Development

General Instructions

- Complete all sections in your Economics notebook. Show formulae, calculations and units. Write analytical answers in your own words.
- Use your textbook and class notes. Label any diagrams clearly. Complete the activity on 1–2 pages; no paid materials or special travel are required.
- Suggested working time: 4–6 hours across the break. Submit in the first Economics class after the holidays.

A Macroeconomics Concepts

Answer each question in approximately 50–70 words.

1. Distinguish between final and intermediate goods. Explain why the same good can belong to either category, using two examples.
2. Explain the circular flow of income in a two-sector economy. Distinguish between real flows and money flows.
3. Distinguish between revenue deficit and fiscal deficit. Explain what a fiscal deficit indicates about the government's borrowing requirement.

B Numerical Applications

1. National income accounting

Use the following hypothetical annual data. All figures are in ₹ crore. The first five items are factor incomes generated within the domestic territory.

Item	Amount
Compensation of employees	600
Rent	100
Interest	80
Profit	120
Mixed income of the self-employed	200
Consumption of fixed capital	50
Net indirect taxes	100
Net factor income from abroad	–20

Calculate (a) NDP at factor cost, (b) GDP at market prices and (c) NNP at factor cost. Show each adjustment. Explain why a negative net factor income from abroad makes national income lower than the corresponding domestic income.

2. Investment multiplier

In a simple two-sector economy, $MPC = 0.75$ and autonomous investment increases by ₹200 crore. Calculate MPS, the investment multiplier and the resulting change in equilibrium income. State the relationship between MPC and the multiplier.

C Indian Economic Development

Answer each question in approximately 60–80 words.

1. Explain two major features of the Indian economy on the eve of Independence and their effects on economic development.
2. Explain liberalisation, privatisation and globalisation in the context of the 1991 economic reforms. Give one example of each.
3. How do education and health contribute to human capital formation? Explain their effects on productivity and quality of life.
4. Explain how agricultural diversification and access to institutional credit can support rural development.

D Competency Based Case Studies

Read the hypothetical situations. Answer each question in approximately 40–50 words.

Case 1 Controlling excess demand

An economy is operating near full employment. Aggregate demand rises faster than its productive capacity, creating inflationary pressure. The central bank increases its policy lending rate, and commercial banks raise their lending rates.

- (a) Explain how higher lending rates can affect borrowing, consumption and investment.
- (b) Suggest one fiscal measure to reduce excess demand. Explain its effect on aggregate demand.

Case 2 Employment and sustainable development

Many families in a village depend on seasonal farm work. A cooperative proposes food-processing units, skill training for women and young people, and solar-powered cold storage. It also plans to manage water use and processing waste.

- (a) Explain how these initiatives could diversify employment and reduce seasonal unemployment.
- (b) Identify two features that could promote sustainable development. Explain the economic or environmental benefit of each.

E Applied Economics Activity

Topic: Human Capital and Sustainable Livelihoods in Our Locality

Prepare a 1–2 page note on Kalimpong or the place where you spend your holidays. Use everyday observations, your textbook or a conversation with a willing adult. No formal survey is required.

1. Select one local occupation, such as farming, tourism, transport or retail trade. Explain two skills or types of knowledge it requires.
2. Identify one challenge relating to education, health, training or the environment that may affect workers' productivity.
3. Suggest two practical measures to address the challenge. Explain one expected benefit and one cost or limitation of each measure.
4. Add a simple flow chart connecting an improvement in education, health or training with productivity and income. List your sources and distinguish observations from suggestions.

Before You Submit

Check all conceptual answers, both numericals, both case studies and the activity. Verify signs, units and calculations. Revise the lessons completed before the holidays.

KENDRIYA VIDYALAYA KALIMPONG

Autumn Break (Home-Work-2026-27)

Class- XII

Subject-

History

Instructions: Answer all questions using NCERT-based facts, relevant examples and well-structured points.

1. Harappan Civilisation (8 marks): Explain the major features of Harappan town planning, including drainage, streets, buildings and water management.
2. Kings, Farmers and Towns (3 marks): Explain any three ways in which inscriptions help historians reconstruct the political and economic history of ancient India.
3. Kinship, Caste and Class (8 marks): Discuss the importance and limitations of the Mahabharata as a source for understanding social relationships in ancient India.
4. Thinkers, Beliefs and Buildings (3 marks): Explain any three important teachings or principles associated with Buddhism.
5. Through the Eyes of Travellers (8 marks): Compare the accounts of any two travellers studied in NCERT and explain what their observations reveal about the society of their times.
6. Bhakti-Sufi Traditions (8 marks): Examine the major features of Bhakti and Sufi traditions and explain their influence on religious and social life.
7. An Imperial Capital: Vijayanagara (3 marks): Explain any three important features of water management in the Vijayanagara Empire.
8. Peasants, Zamindars and the Mughal Empire (8 marks): Explain how the Ain-i-Akbari helps historians understand Mughal administration and agrarian society. Discuss any limitations of this source.

Teacher: - SN CHOUDHARY, PGT History

AUTUMN HOLIDAY HOMEWORK
SUBJECT: ENGLISH CORE
CLASS: XII A & B

1. Watch an interview on television or YouTube/Read an interview in a newspaper. Talk about how it added to your understanding of the interviewee, the interviewer and the field of the interviewee. (120-150 words)

2. Write the Summary of the poem “Aunt Jennifer’s Tigers” by Adrienne Rich in about 40-50 words.

3. Go through the formats of ‘Letter to the Editor’ and ‘Job Application’ in details. Answer the following questions on long writing task in about 120-150 words.

(a) You recently visited Prayatna, a women’s training centre in your city. In this centre women were being empowered through skill training and entrepreneurship experience. You are Bela/Balak, an activist for human rights. Write a letter to the editor expressing your views on the need to empower women and make them self-reliant. You may use the given cues along with your own ideas.

1. setting up of NGOs to provide skill-based learning
2. government support and CSR funding
3. awareness of government and private-led initiatives and business opportunities

(b) You are Priya/Pranav Desai of Pinewood Apartments, Sagarnagar. You read the given advertisement in the newspaper and wish to apply for the same. Write an application along with your bio-data.

BRIGHT MINDS ACADEMY
PEAKTOWN
REQUIRES CONTENT WRITERS

Qualification : Graduate in Mass Communication or English Honours

Skills :

- Excellent command of English, creative-writing,
- Editing and proof reading
- Ability to write academic blogs, newsletters and educational articles

Minimum 2 years experience preferred

Apply to the Director, Bright Minds Academy, Peaktown

NB: All must submit the homework on the day of reopening.



Patrick Rai
English, PGT

कक्षा 12वीं हेतु शरदकालीन अवकाश के लिए गृहकार्य

1. तुलसीदास जी ने अपने काल की आर्थिक दशा का वर्णन किस प्रकार किया है?
2. राम जी ने यह बात क्यों कही कि लक्ष्मण जैसा भाई इस संसार में दूसरा कोई नहीं है?
3. 'बादल राग' कविता का सारांश अपने शब्दों में लिखें।
4. 'शिरीष के फूल' द्विवेदी जी का एक संदेशपरक निबंध है। इसमें लेखक ने जो संदेश दिया है, उसको अपने शब्दों में लिखिए।
5. 'उषा' कविता में सुबह की तुलना किन किन चीज़ों से की गई है? अपने शब्दों में लिखिए।
6. गाँव में महामारी फैलने एवं अपने बेटे की मृत्यु के बावजूद भी लुट्टन पहलवान ढोलक क्यों बजाता रहा? अपने शब्दों में उत्तर दीजिए।

Kendriya Vidyalaya KALIMPONG

AUTUMN BREAK HOMEWORK

Department of Physical & Health Education

CLASS ASSIGNMENTS

Classes VI to VIII

Prepare a chart project on chart paper of your favourite Game.

Classes IX & X

Complete a stick file which contains a minimum of 10 pages on your favourite Game or Yoga. The file must contain a Certificate, Index, and photographs of related Games or Yoga.

Classes XI & XII

Complete all units in your notebook neat and clean, and complete your practical file.

Daily Activity Mandate

Perform 40 minutes of exercise and yoga daily to maintain good health.

GEOGRAPHY CODE - 029
SAMPLE QUESTION PAPER*
CLASS: XII (2026- 27)

Time allowed: 3 Hours

Maximum marks: 70

General Instructions:

Read the following instructions carefully and follow them.

1. This question paper contains **30** questions. **All** questions are **compulsory**.
2. This question paper is divided into **five** sections: sections **A, B, C, D, and E**.
3. **Section A** - Question number **1 to 17** are multiple-choice type questions carrying 1 mark each.
4. **Section B**- Question number **18 and 19** are source-based questions carrying 3 marks each.
5. **Section C**- Question number **20 to 23** are Short Answer (SA) type questions carrying 3 marks each. The answer to these questions shall be written in 80 to 100 words.
6. **Section D** Question number **24 to 28** are Long Answer (LA) type questions carrying 5 marks each. Answer to these questions shall be written in 120 to 150 words.
7. **Section E** Question number **29 and 30** are map-based questions. Each question carries 5 marks.
8. In addition to this, NOTE that a separate question has been provided for Visually Impaired Candidates in lieu of questions having visual inputs, maps, etc. Such questions are to be attempted by Visually Impaired Candidates only.
9. There is no overall choice given in the question paper. However, an internal choice has been provided in a few questions in all sections, except Section A.

Q. No.	Section A Question No. 1 to 17 are Multiple Choice Type Questions				Marks 17X1=17																				
1	Match the following:				1																				
<table><tr><td></td><td>Column A – Places</td><td></td><td>Column B – Factors Affecting Population Distribution</td></tr><tr><td>I</td><td>Thar desert</td><td>1</td><td>Pleasant and comfortable climate</td></tr><tr><td>II</td><td>Mediterranean regions</td><td>2</td><td>Industrialisation and job opportunities</td></tr><tr><td>III</td><td>Katanga–Zambia copper belt</td><td>3</td><td>Harsh climatic condition and difficult landform</td></tr><tr><td>IV</td><td>Kobe–Osaka region</td><td>4</td><td>Mineral deposits and mining activities</td></tr></table>							Column A – Places		Column B – Factors Affecting Population Distribution	I	Thar desert	1	Pleasant and comfortable climate	II	Mediterranean regions	2	Industrialisation and job opportunities	III	Katanga–Zambia copper belt	3	Harsh climatic condition and difficult landform	IV	Kobe–Osaka region	4	Mineral deposits and mining activities
	Column A – Places		Column B – Factors Affecting Population Distribution																						
I	Thar desert	1	Pleasant and comfortable climate																						
II	Mediterranean regions	2	Industrialisation and job opportunities																						
III	Katanga–Zambia copper belt	3	Harsh climatic condition and difficult landform																						
IV	Kobe–Osaka region	4	Mineral deposits and mining activities																						

*There is no change in the Question Paper Design and Assessment Pattern for Academic Session 2026-27.

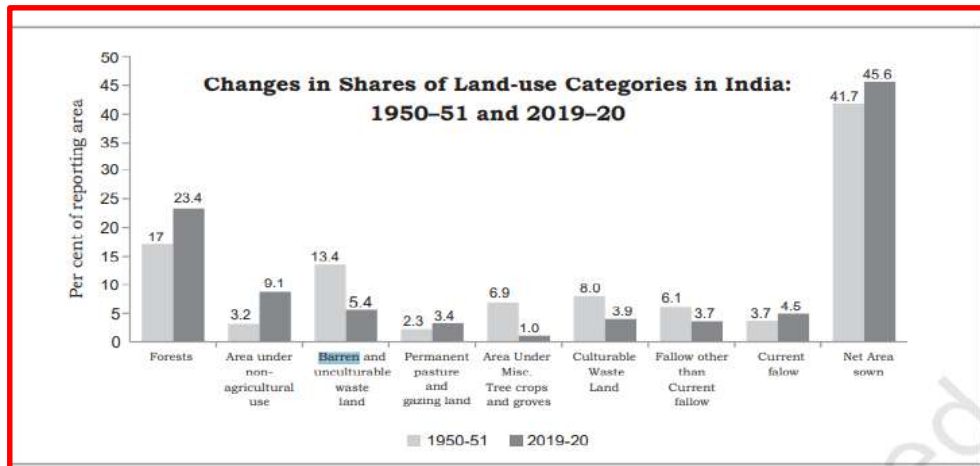
	Codes- A. I-2, II-1, III-4, IV-3 B. I-1, II-2, III-3, IV-4 C. I-3, II-1, III-4, IV-2 D. I-2, II-3, III-1, IV-4																						
2	The Government of India has introduced the Beti Bachao Beti Padhao programme to address the issue of decline in child sex ratio. Which one of the following options will lead to a more meaningful life for girls? A. Providing financial incentives only at the time of marriage. B. Encouraging families to support girls' education. C. Restricting girls from pursuing higher studies. D. Making girls responsible for household work.	1																					
3	A disaster management team wants to set up temporary shelters in Region Y, which has a population of 80,000 and an area of 200 sq km. To plan resources, they must know how densely populated the region is. What is the population density of Region Y? A. 200 persons per sq km B. 300 persons per sq km C. 400 persons per sq km D. 800 persons per sq km	1																					
4	In which of the following countries you can expect a higher investment in people providing education and healthcare as priority and good governance. <table border="1"> <thead> <tr> <th>Sl No.</th><th>Country</th><th>HDI 2022</th></tr> </thead> <tbody> <tr> <td>1.</td><td>Iceland</td><td>0.959</td></tr> <tr> <td>2.</td><td>Denmark</td><td>0.952</td></tr> <tr> <td>3.</td><td>Tajikistan</td><td>0.679</td></tr> <tr> <td>4.</td><td>El Salvador</td><td>0.674</td></tr> <tr> <td>5.</td><td>Burkina Faso</td><td>0.438</td></tr> <tr> <td>6.</td><td>Niger</td><td>0.394</td></tr> </tbody> </table> A. Niger and El Salvador B. Burkina Faso and Tajikistan C. Tajikistan and Niger D. Iceland and Denmark	Sl No.	Country	HDI 2022	1.	Iceland	0.959	2.	Denmark	0.952	3.	Tajikistan	0.679	4.	El Salvador	0.674	5.	Burkina Faso	0.438	6.	Niger	0.394	1
Sl No.	Country	HDI 2022																					
1.	Iceland	0.959																					
2.	Denmark	0.952																					
3.	Tajikistan	0.679																					
4.	El Salvador	0.674																					
5.	Burkina Faso	0.438																					
6.	Niger	0.394																					

*There is no change in the Question Paper Design and Assessment Pattern for Academic Session 2026-27.

5	Which of the following statements are correct related to rural marketing centres? Choose the correct option. i. Rural marketing centres cater to nearby settlements. ii. Rural Marketing centres are quasi-urban trading centres of the most rudimentary type. iii. They offer manufactured goods as well as many specialized markets develop, e.g. markets for labour, housing, semi or finished products. iv. Personal and professional services are not well-developed. These form local collecting and distributing centres. Options: A. i, ii, iv B. i, iii, iv C. ii, iii, iv D. i, ii, iii	1
6	How does industrial nations help to step up the volume of trade in developing nations? i. By developing industries like mining, oil drilling, heavy engineering etc in developing countries. ii. By not importing food stuffs and minerals from the developing countries. iii. By creating markets for their finished products in developing countries iv. By not opening the market for developing countries and increasing the import tariff by 50%. A. I, III B. III, IV C. II, III D. I, IV	1
7	Which of the following is a major concern associated with rapid growth of international trade in recent times? A. It reduces dependence on natural resources and promotes sustainable development. B. It can lead to exploitation of natural resources, causing environmental degradation. C. It decreases commercial rivalry and prevents conflicts between nations. D. It ensures equal development among all participating countries.	1

8	Thomas Malthus in his theory (1798) stated that the number of people would increase faster than the food supply. Which of the following statements is NOT supported by Malthus' theory? A. Food shortage would result in a decline in population. B. The rate of food supply would be faster than the population growth. C. Preventive checks are preferable to control population growth. D. To ensure sustainability of resources, population growth needs to be controlled.	1															
9	The table given below shows the crude birth rate and the crude death rate in India. Identify the year that registered the highest natural growth rate? <table border="1"> <thead> <tr> <th>Decades</th><th>Crude Birth rate per 1000</th><th>Crude Death rate per 1000</th></tr> </thead> <tbody> <tr> <td>2001-2011</td><td>21.8</td><td>7.1</td></tr> <tr> <td>1991-2001</td><td>25.4</td><td>8.4</td></tr> <tr> <td>1981-1991</td><td>29.5</td><td>9.8</td></tr> <tr> <td>1971-1981</td><td>37.2</td><td>15</td></tr> </tbody> </table> A. 1991-2001 B. 2001-2011 C. 1971-1981 D. 1981-1991	Decades	Crude Birth rate per 1000	Crude Death rate per 1000	2001-2011	21.8	7.1	1991-2001	25.4	8.4	1981-1991	29.5	9.8	1971-1981	37.2	15	1
Decades	Crude Birth rate per 1000	Crude Death rate per 1000															
2001-2011	21.8	7.1															
1991-2001	25.4	8.4															
1981-1991	29.5	9.8															
1971-1981	37.2	15															
10	Which of the following schemes is promoted by the Government for organic farming? A. PM-KISAN B. Soil Health Card Scheme C. Paramparagat Krishi Vikas Yojana (PKVY) D. Krishi Vikas Yojana	1															

11



In 2019-20, which category of land use has undergone the highest rate of increase in comparison to 1950-51?

- A. Forest
- B. Barren land & unculturable waste land
- C. Culturable wasteland
- D. Area under non-agricultural use

**The following question is for Visually Impaired Candidates only
In lieu of Question No. 11**

The land which is left without cultivation for one or less than one agricultural year is known as:

- A. Fallow other than Current Fallow
- B. Culturable Wasteland
- C. Current Fallow
- D. Land put to Non-agricultural Uses

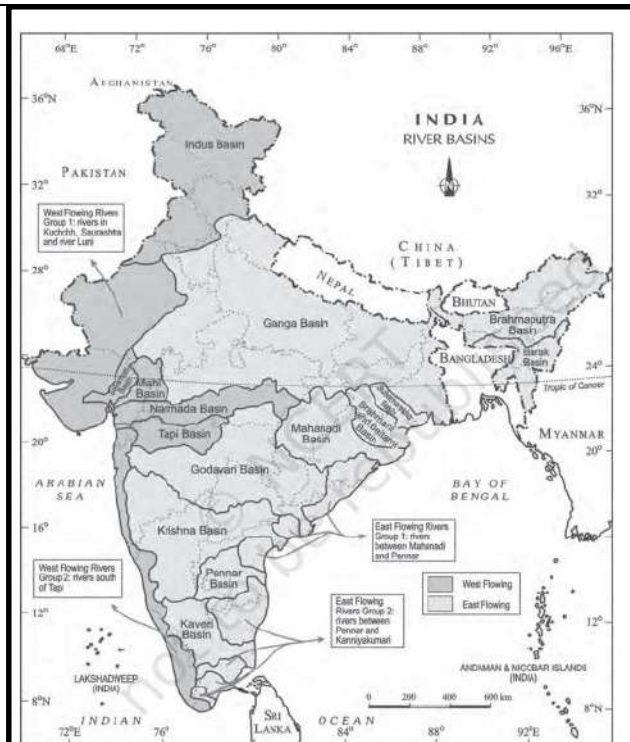
1

12

The map given below shows the major river basins of India. Identify the river basin that covers the states of UP, Bihar and West Bengal.

- A. Krishna Basin
- B. Pennar Basin
- C. Ganga Basin
- D. Indus Basin

1



The following question is for Visually Impaired Candidates only
In lieu of Question No. 12

Name the largest river basin of India.

- A. Krishna Basin
- B. Pennar Basin
- C. Ganga Basin
- D. Indus Basin

13

Assertion(A): The Iron and steel industry in India is majorly concentrated in the north eastern part of the Peninsular Plateau.
Reason(R): Most of the metallic minerals in India occur in the peninsular plateau region in the old crystalline rocks.

1

- A. Both A and R are correct and R is the correct explanation of A.
- B. Both A and R are correct and R is not the correct explanation of A.
- C. A is correct but R is incorrect.
- D. R is incorrect but A is correct.

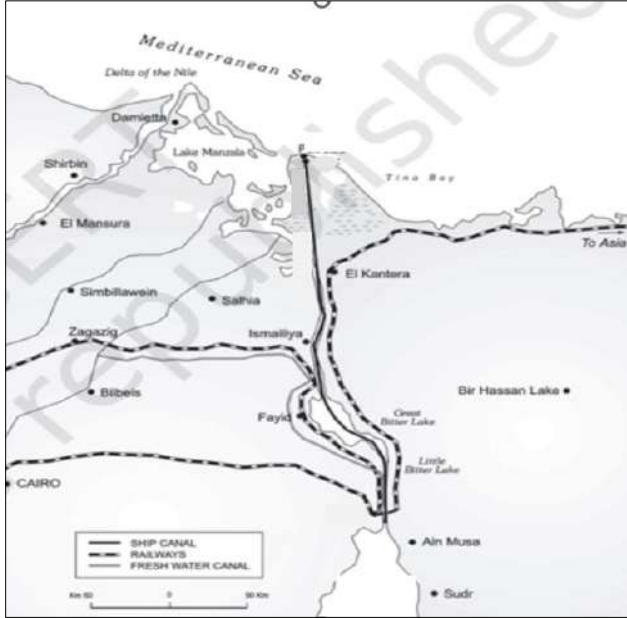
14

There is a declining availability of freshwater and increasing demand from different sectors of the economy in our country. Now the need has arisen to conserve and effectively manage this precious life giving resource for sustainable development. Suggest measures that can be adopted to solve this problem.

1

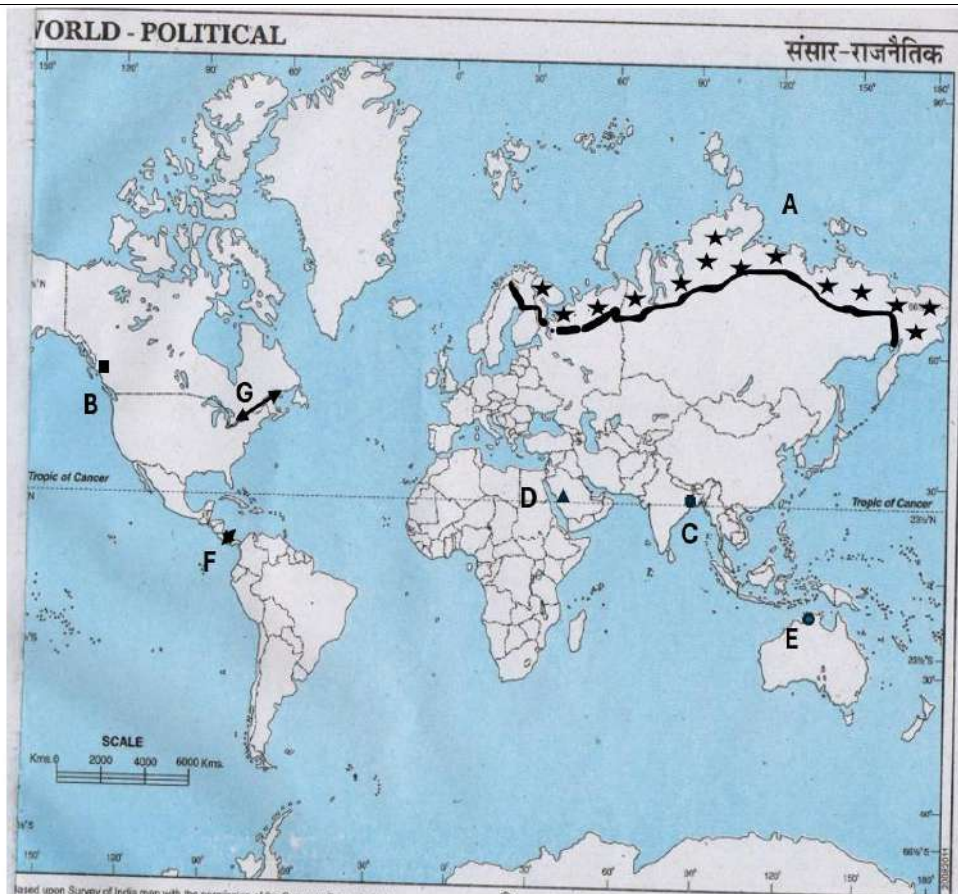
	A. Free and easy access of water to industries. B. Constructing new, large-scale dams for irrigation purposes. C. Implementing rainwater harvesting, recycling and reusing wastewater. D. Extracting more groundwater to increase supply.											
15	Given below is a list of National Waterways. Which one of the following is incorrectly matched? <table><thead><tr><th>Stretch</th><th>Waterways</th></tr></thead><tbody><tr><td>1. Allahabad-Haldia</td><td>NW-1</td></tr><tr><td>2. Kottapuram-Kollam</td><td>NW-5</td></tr><tr><td>3. Sadiya-Dhubri</td><td>NW-2</td></tr><tr><td>4. Kakinada-Puducherry</td><td>NW-4</td></tr></tbody></table> A. 1 B. 2 C. 3 D. 4	Stretch	Waterways	1. Allahabad-Haldia	NW-1	2. Kottapuram-Kollam	NW-5	3. Sadiya-Dhubri	NW-2	4. Kakinada-Puducherry	NW-4	1
Stretch	Waterways											
1. Allahabad-Haldia	NW-1											
2. Kottapuram-Kollam	NW-5											
3. Sadiya-Dhubri	NW-2											
4. Kakinada-Puducherry	NW-4											
16	A coastal district is preparing for an approaching cyclone. The disaster management team needs real-time information on cloud movement and storm intensity. Which satellite system will provide the most reliable support for this purpose? A. IRS – Indian Remote Sensing Satellite B. INSAT – Indian National Satellite System C. GSAT – Communication satellite for TV channels D. PSLV – Launch vehicle for satellites	1										
17	Mr. Netra, a 35-year-old unemployed person from a small village in Nepal, has decided to emigrate to a nearby city in the NCR region of India. He has three brothers who work on their family-owned small field, which gives very low returns for the family to survive. Formulate the likely reasons for his emigration. I. High paid farming jobs are available in the rural area. II. Better employment opportunities in the city. III. Sufficient income from agriculture in his village IV. Better standard of living in rural areas. V. More opportunities for training and personal development in the city. A. I, III, IV B. II, V, C. III, IV D. I,V	1										

*There is no change in the Question Paper Design and Assessment Pattern for Academic Session 2026-27.

	Section- B Question Nos. 18 and 19 are Source Based Questions.	2x3=6
18	Study the map given below carefully and answer the following questions.  18.1 Identify the canal shown in the map. 18.2 Which two water bodies are connected by this Canal? 18.3 State one major significance of this Canal in international trade. The following question is for Visually Impaired Candidates only in lieu of Question No. 18. 18.1 Which two water bodies are connected by the Panama Canal? 18.2 Between which two cities was the Panama Canal constructed? 18.3 Mention one point explaining how this canal benefits Latin America.	3 1 1/2+ 1/2 1 1 1/2+ 1/2 1
19	Read the passage given below carefully and answer the following questions. The uneven spatial distribution of population in India suggests a close relationship between population and physical, socioeconomic and historical factors. As far as the physical factors are concerned, it is clear that climate along with terrain and availability of water largely determines the pattern of the population distribution. Consequently, we observe that the North Indian Plains, deltas and Coastal Plains have higher proportion of population than the interior districts of southern and central Indian States, Himalayas, some of the north eastern and the western states. However, development of irrigation (Rajasthan), availability of mineral and energy resources (Jharkhand) and	

	development of transport network (Peninsular States) have resulted in moderate to high concentration of population in areas which were previously very thinly populated.	
	I. Define the term population distribution. II. Name one physical factor and one economic factor that influence population distribution. III. Name one densely populated and one sparsely populated area of India.	1 $\frac{1}{2} + \frac{1}{2}$ $\frac{1}{2} + \frac{1}{2}$
	Section C Questions number 20 to 23 are Short Answer Type Questions	(4x3=12)
20	Explain the concept of human development as introduced by Dr Mahbub-ul-Haq.	3
21	“The evolution of Indian towns is a reflection of the changing socio-political and economic priorities of different historical eras.” Analyse the evolution of modern towns in India.	3
22	What is Neo-Determinism as introduced by Griffith Taylor? Explain how it provides a middle path between Environmental Determinism and Possibilism?	1+2=3
23(A)	A multinational company wants to outsource work to a country for tasks that require highly skilled knowledge and research, such as R&D, legal services, and analysis. Which type of outsourcing—BPO or KPO—should the company choose, and why?	1+2=3
	OR	
23(B)	What do you understand by the term “Digital Divide?” Explain with one example of how it exists between countries or within a country.	1+2=3
	Section D Questions number 24 to 28 are Long Answer Type Questions	(5X5=25)
24(A)	Classify industries based on raw materials and illustrate each category with appropriate examples.	5
	OR	
24(B)	Explain any five factors influencing the location of industries with suitable examples.	5
25(A)	Why are seaports known as ‘the gateway of international trade’? Write a brief note on the importance of Kandla port.	2+3=5
	OR	
25(B)	Describe the nature of the changes in the composition of export and import trade of India.	5

26(A)	The urban waste should be properly treated as a resource for various needs of mankind. Explain the measures that can help in changing urban waste into resources.	5
26(B)	OR How has noise pollution become hazardous in many big cities of India? Explain with examples.	5
27	Distinguish between intensive subsistence farming and extensive commercial grain farming, mentioning any five points.	$2\frac{1}{2}+2\frac{1}{2}=5$
28(A)	Examine the role of the Indira Gandhi Canal in bringing about changes in the ecology, economy, and society of the Thar Desert region.	5
28(B)	OR Suggest suitable measures to promote sustainable development and improve the quality of life in the Bharmour Tribal Region of Chamba, with reference to its physiographic divisions and river systems.	5
Section E Question numbers 29 & 30 are Map based questions.		(2X5=10)
29	On the given political map of the World, seven geographical features have been marked as A, B, C, D, E, F and G. Identify any five with the help of the following information and write their correct names. A -An Area of nomadic herding B-A major seaport of Canada C- A major seaport of Asia D- An airport in Asia E- An airport in Australia F- A man made Canal G- A waterway of North America	5



The following questions are for Visually Impaired Candidates only in lieu of Question No.29. Answer five questions out of the following:

- 29 A. Name one area of nomadic herding of Asia.
- 29 B. Name a major seaport of Canada.
- 29 C. Name a major seaport of India.
- 29 D. Name a major airport in South Africa.
- 29 E. Name an airport in Australia.
- 29 F. Name the manmade Canal joining the Mediterranean Sea and the Red Sea.
- 29G. Name one major waterway of North America.

30	Locate and label any five of the following geographical features on the Political Outline map of India with appropriate symbols: A. The State with the lowest population density B. An important seaport in Odisha C. An important coal mine in Tamil Nadu D. Bailadila -iron ore mines E. An oil refinery in Gujarat	5
----	--	---

- F. The State leading in the production of Sugarcane
G. An international airport in Kerala

The following questions are for Visually Impaired Candidates only in lieu of Question No.30. Answer five questions out of the following:

- 30A. Which Indian state has the lowest population density?
30B. Name one major seaport located in Odisha.
30C. Name an important coal mine located in Tamil Nadu.
30D. In which state is the famous iron ore mine - Bailadila located?
30E. Name an oil refinery situated in Gujarat.
30F. Which Indian state is the leading producer of sugarcane?
30G. Name one international airport located in Kerala.

