

St. Thomas School, INDIRAPURAM
HOLIDAY HOMEWORK (2025-26)
CLASS- X

ENGLISH

Theme: Poster Making with a Slogan

Design a colourful, creative and meaningful poster that highlights on the rich potential of Eco-Tourism and celebrating Cultural Harmony in our diverse nation.

Your poster should include:

- Use A4 size sheet.
- A catchy slogan that captures the essence of your message.
- The breathtaking beauty and importance of eco-tourism in preserving nature.
- The spirit of unity and harmony among the diverse cultures, traditions, and communities of India.
- Simple, thoughtful text to support the slogan.
- Creative visuals – hand-drawn or digital – that reflect the theme vividly.
- Revise the lessons done in the class.
- Do exercises from Work Book, Page no 26,35,40,79,80,82,83,84

HINDI

विज्ञापन पर परियोजना कार्य

हिन्दी समाचार पत्र में से 10 विज्ञापन काटकर A 4 SHEET पर चिपकाएँ और किन्हीं दो उत्पादों के विषय में दो विज्ञापन बनाइए।



Instructions for Class X AIL Project: Arithmetic Progression

Project Title: Exploring Arithmetic Progression in Architecture and Nature.

Objective: This project will explore how **Arithmetic Progression (AP)** appears in **architecture, nature, and urban planning**. Students will analyse step patterns in traditional **staircases**, terraces in **farming**, .

**1. Introduction to Arithmetic Progression (AP)**

- Define **AP** and its **general formula**:
[$a_n = a + (n-1)d$]
- Explain its **importance in mathematics** and how it appears in **nature and human-made structures**.

2. Identifying AP in Architecture

- Study traditional **staircases** used in temples and monasteries.
- Measure **step heights** and analyse if they follow an AP pattern.
- Document observations with **photographs** and numerical examples.

3. AP in Terraced Farming

- Observe how **terraced fields** are structured in mountainous terrain.
- Measure the **height difference** between consecutive terraces.
- Identify whether the terracing follows an AP pattern

4. AP in Temperature Variation Across Altitudes –

The gradual decrease in temperature as elevation increases can sometimes be modelled using AP

5. Conclusion & Learning Outcomes

- Summarize findings and discuss **real-world applications** of AP.
- Reflect on how mathematics connects with **culture and geography**.

Project Submission Format: Report: 5–10 pages with **calculations, images, and observations**.

(Examples are provided in the instructions which will be uploaded in EDUNEXT by respective sub teacher.)

SCIENCE

ROLL NO (1-20)

1. Read the following and answer all questions from 1.1 to 1.5:

Marble's popularity began in ancient Rome and Greece, where white and off-white marble were used to construct a variety of structures, from hand-held sculptures to massive pillars



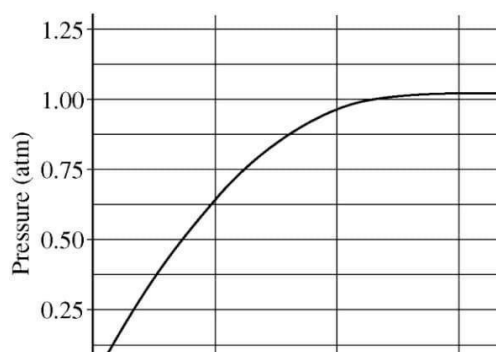
and buildings.

1.1 The chemical formula for marble is

- a) MgSO_4
- b) CaCO_3
- c) Ca(OH)_2
- d) CaSO_4

1.2 A student added 10g of calcium carbonate in a rigid container, secured it tightly and started to heat it. After some time, an increase in pressure was observed, the pressure reading was then noted at intervals of 5 mins and plotted against time, in a graph as shown below. During which time interval did maximum decomposition took place?

- a) 15-20 min
- b) 10-15 min



- c) 5-10 min
- d) 0-5 min

1.3 Gas A, obtained above is a reactant for a very important biochemical process which occurs in the presence of sunlight. Identify the name of the process -

- a) Respiration
- b) Photosynthesis
- c) Transpiration
- d) photolysis

1.4 Marble statues are corroded or stained when they repeatedly come into contact with polluted rain water. Identify the main reason.



- a) decomposition of calcium carbonate to calcium oxide
- b) polluted water is basic in nature hence it reacts with calcium carbonate
- c) polluted water is acidic in nature hence it reacts with calcium carbonate
- d) calcium carbonate dissolves in water to give calcium hydroxide.

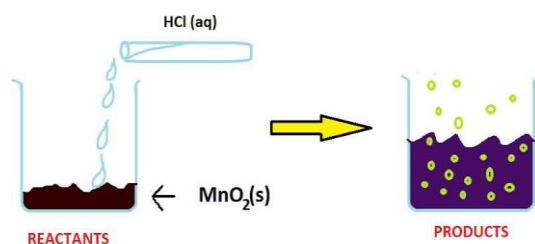
1.5 Calcium oxide can be reduced to calcium, by heating with sodium metal. Which compound would act as an oxidizing agent in the above process?

- a) Sodium
- b) sodium oxide
- c) calcium
- d) calcium oxide

ROLL NO (21-38)

2. Read the following and answer all questions from 2.1 to 2.5:

The reaction between MnO_2 with HCl is depicted in the following diagram. It was observed that a gas with bleaching abilities was released.



2.1 The chemical reaction between MnO_2 and HCl is an example of:

- a) displacement reaction
- b) combination reaction
- c) redox reaction
- d) decomposition reaction.

2.2 Oxidation in chemical reaction is the _____.

- a) Loss of nitrogen
- b) Loss of oxygen
- c) Gain of hydrogen
- d) Gain of oxygen

2.3 Identify the correct statement from the following:

- a) MnO_2 is getting reduced whereas HCl is getting oxidized
- b) MnO_2 is getting oxidized whereas HCl is getting reduced.
- c) MnO_2 and HCl both are getting reduced.
- d) MnO_2 and HCl both are getting oxidized.

2.4 In the above discussed reaction, what is the nature of MnO_2 ?

- a) Acidic oxide
- b) Basic oxide
- c) Neutral oxide
- d) Amphoteric oxide

2.5 What will happen if we take dry HCl gas instead of aqueous solution of HCl?

- a) Reaction will occur faster.
- b) Reaction will not occur.
- c) Reaction rate will be slow
- d) Reaction rate will remain the same.

(BIOLOGY)

A) PASSAGE

Ravi recently went for a blood test. His report showed a low red blood cell (RBC) count and reduced haemoglobin levels. He often feels tired and breathless even after light physical activity. His doctor explained that haemoglobin is crucial for transporting oxygen from the lungs to the body tissues. Ravi was advised to take an iron-rich diet and some supplements. Questions:

1. Why does a low RBC and haemoglobin count cause tiredness and breathlessness?
2. How is oxygen transported in the blood, and what is the role of haemoglobin in this process?
3. Which component of the circulatory system is responsible for pumping oxygenated blood to the body?
4. Suggest two dietary changes that can help Ravi increase his haemoglobin level.

B) Passage:

During a morning jog, Ananya began to breathe faster and deeper. Her biology teacher had once explained that during physical activity, the demand for energy in the muscles increases. The energy is provided by the breakdown of glucose in the presence of oxygen — a process called aerobic respiration. However, during intense physical activity like sprinting, the muscles might not get enough oxygen for aerobic respiration, and in such cases, anaerobic respiration occurs, producing lactic acid as a by-product.

After the jog, Ananya felt mild pain and fatigue in her legs. She rested and drank water to help recover. She remembered that the pain was due to the temporary accumulation of lactic acid in her muscles.

Questions:

1. Why does Ananya breathe faster during jogging?
2. Differentiate between aerobic and anaerobic respiration. Which one took place during Ananya's sprint?
3. What causes the muscle pain and fatigue Ananya experienced after the run?
4. Write the chemical equation for:
 - (a) Aerobic respiration in humans
 - (b) Anaerobic respiration in muscle cells
5. How does drinking water help Ananya recover from muscle fatigue?

(PHYSICS)

(A) The ability of a medium to refract light is expressed in terms of its optical density. Optical density has a definite connotation. It is not the same as mass density. On comparing two media, the one with the large refractive index is optically denser medium than the other. The other medium with a lower refractive index is optically rarer. Also the speed of light through a given medium is inversely proportional to its optical density.

Read the above passage carefully and give the answer of the following questions:

Q1. Determine the speed of light in diamond if the refractive index of diamond with respect to vacuum is 2.42. Speed of light in vacuum is 3×10^8 m/s.

Q2. Refractive indices of glass, water and carbon disulphide are 1.5, 1.33 and 1.62 respectively. If a ray of light is incident in these media at the same angle (say), then write the increasing order of the angle of refraction in these media.

Q3. The speed of light in glass is 2×10^8 m/s and in water is 2.25×10^8 m/s.

(i) Which one of the two is optically denser and why?

(ii) A ray of light is incident normally at the water- glass interface when it enters a thick glass container filled with water. What will happen to the path of the ray after entering the glass? Give reason.

Q4. The absolute refractive indices of water and glass are $\frac{4}{3}$ and $\frac{3}{2}$ respectively. If the speed of light in glass is 2×10^8 m/s, find the speed of light in (i) vacuum and (ii) water.

(B) Ravi wanted to fix the rear-view mirror of his scooter. He knows that rear-view mirror is an essential safety device in the vehicle and allows him to see objects at the backside of his vehicle. He bought two mirrors M₁ and M₂, out of which M₁ is curved inwards and M₂ is curved outwards.

Read the above passage carefully and give the answer of the following questions:

Q1. Based on the given situation, which mirror should Ravi need to fix as his rear-view mirror and why?

Q2. Ravi did some preliminary experiment with mirror M₁ and found that magnification of the real image of an object placed at 10 cm in front of it is 3, at what distance is the image located?

Q3. What is the formula for magnification obtained with a mirror?

Q4. An object is placed at the centre of curvature of M₁. Find the distance between its image and pole.

Q5. An object is placed 60 cm in front of M₂. The image formed by the mirror is located 30 cm behind the mirror. What is the object's magnification?

SOCIAL SCIENCE

Subject Enrichment Activity (5 marks)

1. Every student has to compulsorily undertake one project on the topics according to the roll number given in the table.

2. Objective: The overall objective of the project work is to help students gain an insight and pragmatic understanding of the theme and see all the Social Science disciplines from interdisciplinary perspective. It should also help in enhancing the Life Skills of the students.

3. Students are expected to apply the Social Science concepts that they have learnt over the years in order to prepare the project report. If required, students may use different primary and secondary resources to prepare the project.

4. If possible, *different forms of Art* may be integrated in the project work.

5. Use eco-friendly products without incurring too much expenditure.

6. The Project Report should be *handwritten* by the students themselves on A4 size sheets.

PATTERN OF THE PROJECT FILE:

1. **Cover page** - Project title, school name, session, class, subject, name of the student
2. **First page**-Project title, subject, session, name of the student, class/ section
3. **Acknowledgment**- Acknowledging the individuals/institutions who helped in making the project
4. **Index**- With page numbers
5. **Introduction**- Purpose and aim of the project
6. **Content/Project Report**- Present material/ data/ statistics with related pictures, pie charts, bar graphs, cartoons, slogans, maps etc. **on the left side of the file** to make a quality project.
7. **Conclusion**- Draw a relevant conclusion by mentioning the learning outcomes and suggestions (if any).
8. **Bibliography**- Mention name of the book, newspaper, magazine, website, author, publisher used as references.

(PROJECT SHOULD BE SUMMED UP IN 10-15 PAGES)

Make a Project File on the given topic as per the given format.

<u>Economics</u>	<u>Topic –</u> <u>Consumer</u> <u>Awareness</u> Roll Nos. 10 A (1 – 11) 10 B (1 – 13) 10 C (2 – 13) 10 D (1 – 13) 10 E (1 – 13)	<u>Sub-topic: Consumer Rights</u> <u>Key Points:</u> 1) Introduction 2) Exploitation of consumers in marketplace. 3) Consumer Protection Act-1986 (Consumer Rights) 4) Consumer Protection Act 2019. 5) Consumer Redressal Process (1 Case Study) 6) Conclusion Note: Use related articles, pictures, slogans, statistics etc. to make a quality project. Refer Chapter 5 (Consumer Awareness) of Economics book
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<p>Political Science</p>	<p>Topic- Social Issues</p> <p>Roll Nos.</p> <p>10 A (12 – 22)</p> <p>10 B (14 – 26)</p> <p>10 C (14 – 26)</p> <p>10 D (14 – 26)</p> <p>10 E (14 – 26)</p>	<p>Sub-Topic: Tribal Rights and the Protection of Indigenous Identity in Sikkim</p> <p>Key Focus Areas:</p> <p>1. Introduction: Define who indigenous tribes are. Briefly introduce Sikkim and its tribal diversity.</p> <p>2. Overview of Tribal Communities in Sikkim: List and describe major tribes (Lepcha and Bhutiya). Their unique customs, traditions, languages, and lifestyles. Importance of their traditional knowledge and practices.</p> <p>3. Traditional Governance Systems – Explore how traditional community-based structure and customary laws function.</p> <p>4. Legal Protections and Policies – Mention Constitutional provisions like 371 F, Scheduled Tribe status, and Forest Rights Act.</p> <p>5. Land Rights and Resource Conflicts – Examine issues related to land acquisition, hydropower projects, and deforestation.</p> <p>6. Case Studies – Include specific tribal movements or disputes over land rights.</p> <p>7. Conclusion and Suggestions: Summary of key findings. Suggestions for better protection of tribal rights and identity. Importance of balancing development with cultural preservation.</p> <p>8. Bibliography/Sources</p> <p>Note: Project should be handwritten. Use maps to show tribal distribution. Include pictures of tribal lifestyles and traditions. Use graphs to present statistics related to the project.</p>
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Geography	Topic- Sustainable Development Roll Nos. 10 A (23 – 34) 10 B (27 – 38) 10 C (27 – 38) 10 D (27 – 38) 10 E (27 – 39)	<ul style="list-style-type: none"> ✧ Define sustainable development. ✧ Sustainable development -- Agenda 2030. ✧ List the Goals of SDG 2030 <p style="text-align: center;">SDG - 3 Good health and well being</p> <ul style="list-style-type: none"> ✧ Define: Good health, well being ✧ List the goals within a goal: Health targets for SDG-3. ✧ Describe the following diseases supporting it with one case study of each (In India): <ul style="list-style-type: none"> i) Kala-Azar - Pockets of areas affected by it ii) Lymphatic Filariasis - Endemic pockets iii) Tuberculosis - India iv) Malnutrition - India (Pockets) ✧ Conclusion ✧ Suggestions ✧ Bibliography.
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ARTIFICIAL INTELLIGENCE

Q1. List and explain some ethical issues related with AI. Explain how it is impacting/will impact our society.(e.g. Deep Fake, bias, privacy, etc).

Q2. Write any one IT/AI technical term that starts with the letters(first, middle and surname) of your name. Explain that term in one paragraph.

Note- Do Q1 & 2 in A4 sheet as your Portfolio activity

Q3. Create an INFOGRAPHIC on the applications of AI around us. The students can use any software like CANVA, COGGLE, etc. Take the printout and paste in your AI Practical file.

Q4. Complete your AI practical file. File will be shared in EduNext.

Q5. Complete your copy work.

INFORMATION TECHNOLOGY

Q1. Write any one IT technical term that starts with the letters(first,middle and surname) of your name. Explain that term in one paragraph. Do it in A4 sheet.

Q2. Make presentation on topic “Green Skills”. Refer to your Employability Skills book.

Content in the slides should be as follows:

- Slide 1 - Topic – Green Skills**
- Slide 2 - Introduction to Sustainable Development**
- Slide 3 - Importance of Sustainable Development**
- Slide 4 - Problems related to Sustainable Development**
- Slide 5 - Sustainable Development Goals**
- Slide 6 - Sustainable Development Initiatives**
- Slide 7 - Our role in Sustainable Development**
- Slide 8 - Conclusion**

Include templates, text, images, graphics in your presentation.

Take the printout of Slide Sorter view and paste in your IT Practical file.

Q3. Complete your IT practical file. File will be shared in EduNext.

Q4. Complete your copy work.

SANSKRIT

1 संस्कृत के समाचारपत्र से कोई भी मुख्य दस खबरों की कटिंग चिपका कर उनका हिंदी में अनुवाद कीजिए। (ए-3 शीट पर)

2 पितृ दिवस पर संस्कृत में शुभकामना पत्र तैयार कीजिए।

FRENCH

1) Your friend is in London enjoying her/his summer vacations, write the dialogues of you two(15 dialogues)

2) In your notebook write your daily routine (15 sentences) decorate the page as well.

GERMAN

Es war ein warmer Frühlingstag, als Anna beschloss, einen Spaziergang durch den nahegelegenen Wald zu machen. Der Duft der blühenden Blumen und das fröhliche Zwitschern der Vögel begleiteten sie, während sie den schmalen Pfad entlangging. Der Wald war ihr schon seit ihrer Kindheit vertraut, aber heute schien er eine besondere Magie auszustrahlen. Als sie tiefer in den Wald eindrang, entdeckte sie einen alten, moosbewachsenen Brunnen, den sie noch nie zuvor gesehen hatte. Neugierig näherte sie sich und blickte in das dunkle Wasser. Plötzlich schien der Brunnen zu leuchten, und ein goldenes Licht erfüllte die Umgebung. Eine leise Stimme flüsterte: "Wähle weise, was du wünschst, und es wird in Erfüllung gehen." Anna war erstaunt und konnte kaum glauben, was sie hörte. Sie dachte lange nach und entschied sich schließlich für einen Wunsch. Mit einem Herzen voller Hoffnung und einem Hauch von Angst sprach sie ihren Wunsch aus. Augenblicklich verblasste das Licht, und der Wald kehrte zu seiner normalen, ruhigen Atmosphäre zurück. Anna spürte eine Veränderung in sich und wusste, dass dieser Tag ihr Leben für immer verändern würde.

1. An welchem Tag beschloss Anna, einen Spaziergang zu machen?
2. Welche Geräusche begleiteten Anna auf ihrem Spaziergang?
3. Was entdeckte Anna im Wald, das sie noch nie zuvor gesehen hatte?
4. Wie beschrieb Anna den Brunnen, den sie fand?
5. Was geschah, als Anna in das Wasser des Brunnens blickte?
6. Welche Botschaft hörte Anna, als der Brunnen zu leuchten begann?
7. Was sollte Anna laut der leisen Stimme tun?
8. Wie fühlte sich Anna, als sie ihren Wunsch aussprach?
9. Was geschah mit dem Wald, nachdem Anna ihren Wunsch geäußert hatte?
10. Welche Veränderung spürte Anna nach dem Vorfall?

FINANCIAL MARKETING

Make a PPT on the topic “Securities Market”, save it and take its print out . Submit printout by 5th July 2025.