



**MOUNT COLUMBUS SCHOOL**  
**DAKSHINPURI, NEW DELHI-62**

**SESSION: 2025-26**

**SUMMER VACATION HOLIDAY HOMEWORK**

**CLASS: X**

*No more books, no morning bell,  
Summer's here, and all is well!  
Time to play and time to rest,  
Days like these are truly the best.*

*Ice cream melts in sunny hands,  
We build castles in the sand.  
Swimming pools and lemonade,  
Under trees, we find cool shade.*

*Trips to Grandma's, fun and games,  
Running wild, no rules, no shame!  
Storybooks and songs at night,  
Stars above are shining bright.*

*Picnics packed with treats to share,  
Laughter floating in the air.  
Summer's magic, pure delight,  
From sunny morn to starry night!*



- **Appreciate Nature** - Go for long walks in a park or garden with your family and friends. Adopt/Grow a plant.
- **Unravel the artist in you** - Create a new story, try a new recipe with your mom, learn a new song, play a new instrument.
- **Good manners is the key** - Respect your parents, grandparents and all elders. Use three magical words (Sorry, Please and Thank you) often. 'A little more courtesy goes a long way.'
- **Stay Fit, Stay Healthy** - Play your favourite game / sport regularly. Develop in yourself the spirit of sportsmanship & sense of healthy competition.
- **Learn about our Heritage** – Find some time to visit museum and monuments. Read about them. Learn new things related to your country.
- **Save Nature** – Contribute to save our precious environment. Minimize the wastage of resources like water and fuel.
- **Effective English Communication**– Encourage your ward to converse in English as a regular practice during holidays to enhance the 3C's of communication (confidence, clarity & courtesy).

Happy Holidays!!

Regards

Team Mount Columbus

## **SUBJECT- ENGLISH**

### **1. MULTILINGUISM-**

Design your own anthology (collection of self-written poems) on the theme:

- Wild Animals
- Mother Earth
- Death
- Courage

Select any one theme and write a short poem in Himachal Pradesh's regional language. (On A-4 size sheet)

### **2. MULTILINGUISM-**

Read any short novel of your choice and prepare a beautiful book cover of the same book in Uttarakhand's regional language, ie. Garhwali and Kumauni. For eg- Kumaoni Lok Katha, Bhabar etc. (On A-4 size sheet)

### **3. MULTILINGUISM-**

Make a poster on the 'Food and Festivals' of Jammu and Kashmir. Write the names of the food items and the festivals in Jammu and Kashmir's regional language. (On A-4 size sheet)

### **4. ART INTEGRATED –**

A. Design a poster on the topic "Preserve Nature's Beauty: Stop Illegal Wildlife Trade ". (On A-4 size sheet)

B. Consider yourself to be a Veterinary Doctor who treated Tricki and other pets having a problem of over-eating/ over-fed/ obesity. Prepare a diet chart so that the same plan could be followed with the stray dogs on an A-4 size sheet.

### **5. LITERATURE-**

A. Words and Expressions- Unit 4 and 5

### **6. SUGGESTED BOOKS FOR READING:**

- Fire on the Mountain by Anita Desai
- The Hungry Tide by Amitav Ghosh

## हिंदी

### परियोजना कार्यबहुभाषावाद-

1. हिमाचल, उत्तराखंड या जम्मू और कश्मीर के किसी लोकगीत को याद करें और फिर उसे गाते हुए एक वीडियो तैयार करें। **(अनुक्रमांक-1-15 तक)**
2. 'हमारी भाषाएँ हमारी पहचान –' को ध्यान में रखते हुए 'भारतीय भाषा और संस्कृति विषय' पर एक अनुच्छेद हिंदी में लिखकर उसका उत्तराखंड अथवा हिमाचल की किसी भाषा में अनुवाद भी कर लिखें।  
**-अनुक्रमांक)16-30 तक(**
3. हाल ही में कश्मीर में हुए आतंकी हमले में आपके किसी मित्र के पिता की मृत्यु हो गई है, बढ़ते आतंकी हमलों से जन पत्र के संपादक को-जीवन में सकारत्मकता बनाए रखने हेतु सुझाव देने के लिए समाचार-पत्र लिखिए। **-अनुक्रमांक)31-45 तक(**

## साहित्य

1. ततौरा वामीरो कहानी को संवाद में बदलें।-
2. टोपी अपनी परीक्षा में बारबार असफल क्यों हो जाता था-?
3. टोपी ने इफ़्फ़न से दादी से बदलने की बात क्यों की?
4. इफ़्फ़न टोपी की कहानी का अभिन्न हिस्सा कैसे है?
5. कबीर के अनुसार कौन दुखी और सुखी है? सोना और जागना किसके प्रतिरूप है?
6. इफ़्फ़न की दादी की मौत का समाचार सुनकर टोपी पर क्या प्रभाव पड़ा? टोपी ने इफ़्फ़न को क्या कहकर सांत्वना दी ?
7. मीरबाई ने अपनी पीड़ा हरने के लिए किन किन उदाहरणों का सहारा लिया है विस्तार से लिखिए।-
8. कश्मीर, उत्तराखंड या हिमाचल प्रदेश के किसी एक पर्यटक स्थल पर घूमने के लिए सचित्र आकर्षक विज्ञापन तैयार करें।
9. कुछ बच्चों को अपने मातापिता के पद और हैसियत का कुछ ज्यादा ही घमंड हो जाता है। इसका - मानवीय संबंधों पर क्या असर पड़ता है? इसे रोकने के लिए आप क्या सुझाव देना चाहेंगे? 'टोपी शुक्ला ' पाठ के आलोक में लिखिए।
10. रचना के आधार पर वाक्य भेद अथवा पदबंध विषय का माइंड मैप तैयार करें।

**(नोट संपूर्ण कार्य -:A4 साइज शीट पर करके, एक फाइल में लगाकर जमा किया जाएगा।)**

## MATHEMATICS

**NOTE** – All the work to be done on A-4 size sheet.

### **Project: Math Cafe!**

You are working at a cafe that serves delicious sandwiches, juices, and burgers. Use your knowledge of **linear equations in two variables** to solve the problem below.

### **Menu:**

Item	Price (₹)
Sandwich	₹30
Juice	₹20
Burger	₹50

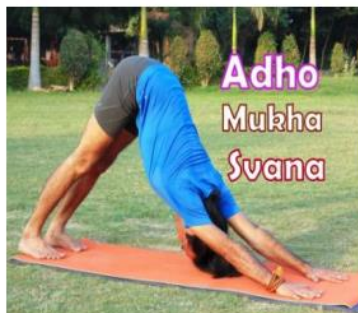
A customer ordered **sandwiches and juices**. The total number of items ordered is **8**, and the total cost is **₹200**.

Plot both then equations on a Cartesian plane & solve it graphically.

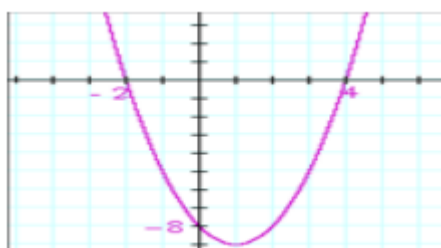
Also, solve the equations algebraically (By substitution/elimination method).

### **Case Based Questions**

- To enhance the reading skills of grade X students, the school nominates you and two of your friends to set up a class library. There are two sections- section A and section B of grade X. There are 32 students in section A and 36 students in section B.
  - What is the minimum number of books you will acquire for the class library, so that they can be distributed equally among students of Section A or Section B?
  - If the product of two positive integers is equal to the product of their HCF and LCM is true then, find the HCF of the number of students in each section.
  - Express the students in each section as a product of their primes.
  - If  $p$  and  $q$  are positive integers such that  $p = ab^2$  and  $q = a^2b$ , where  $a, b$  are prime numbers, then find the LCM ( $p, q$ ).
- An asana is a body posture, originally and still a general term for a sitting meditation pose, and later extended in hatha yoga and modern yoga as exercise, to any type of pose or position, adding reclining, standing, inverted, twisting, and balancing poses. In the figure, one can observe that poses can be related to representation of quadratic polynomial.



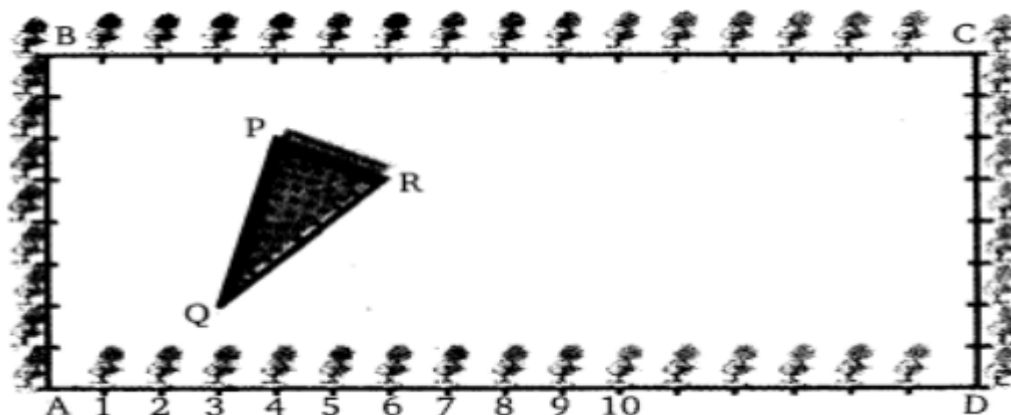
- What is the shape of the poses shown?
- In the graph, how many zeroes are there for the polynomial?



- Find the two zeroes in the above shown graph.
- Find the zeroes of the quadratic polynomial :

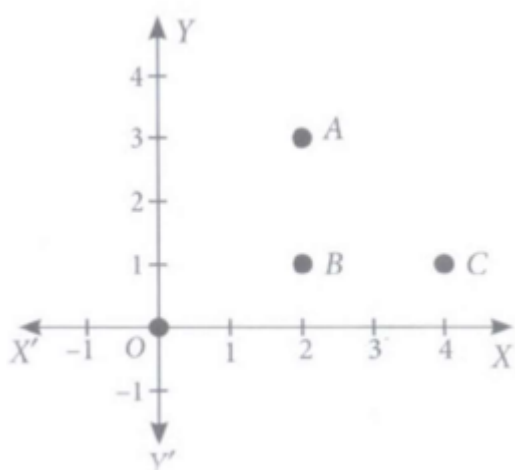
$$4\sqrt{3}x^2 + 5x - 2\sqrt{3}$$

- The class X students school in krishnagar have been allotted a rectangular plot of land for their gardening activity. Saplings of Gulmohar are planted on the boundary at a distance of 1 m from each other. There is triangular grassy lawn in the plot as shown in the figure. The students are to sow seeds of flowering plants on the remaining area of the plot.



- Taking A as origin, find the coordinates of P
- What will be the coordinates of R, if C is the origin?
- What will be the coordinates of Q, if C is the origin?
- Calculate the area of the triangles if A is the origin.

4. Alia and Shagun are friends living on the same street in Patel Nagar. Shagun's house is at the intersection of one street with another street on which there is a library. They both study in the same school and that is not far from Shagun's house. Suppose the school is situated at the point O, i.e., the origin, Alia's house is at A. Shagun's house is at B and library is at C. Based on the above information, answer the following questions.
- How far is Alia's house from Shagun's house?
  - How far is the library from Shagun's house?
  - Show that for Shagun, school is farther compared to Alia's house and library.
  - Show that Alia's house, shagun's house and library form an isosceles right triangle.



5. A Mathematics Exhibition is being conducted in your School and one of your friends is making a model of a factor tree. He has some difficulty and asks for your help in completing a quiz for the audience. Observe the following factor tree and answer the following:



- What will be the value of x?
- What will be the value of y?
- What will be the value of z?
- Show the prime factorization of 13915.

## SCIENCE

### Project

Prepare a mini magazine on any one of the topic of life processes (Digestion, Respiration, Excretion or Circulation) covering the following pointers:

Project Structure: (To be done on A4 size sheet)

- Cover Page
- Index
- Acknowledgement
- Introduction
- Content
  - a. It should contain minimum 14 pages
  - b. About any one system
  - c. Role of different organs
  - d. Importance of that system
  - e. Impact of disfunctioning of system in overall health
  - f. Diagram, Charts, additional support material related to the topic
- Conclusion
- Bibliography

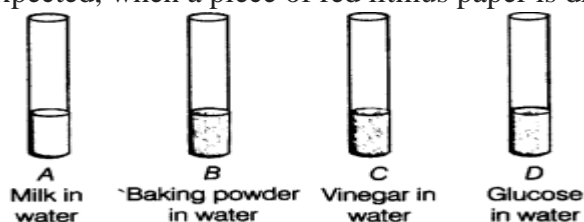
**NOTE- Complete the following questions in the following notebooks.**

### Physics

1. The distance between the object and its image formed by a plane mirror appears to be 18 cm. What is the distance between mirror and the object?
2. The angle between the incident ray and reflected ray is  $100^\circ$ . What is the value of angle of incidence

### Chemistry

3. Salt is an ionic compound that results from the neutralization reaction of an acid and a base. It is composed of related numbers of cations (positively charged ions) and anions (negative ions) so that the product is electrically neutral (without a net charge). They may be simple salts such as NaCl, KCl, and  $\text{Na}_2\text{SO}_4$ ; acid salts like  $\text{NaHCO}_3$  and  $\text{NaH}_2\text{PO}_4$ ; or double salts like  $\text{KAl}(\text{SO}_4)_2$ .
  - a. What happens when a solution of an acid is mixed with a solution of a base in a test tube?
  - b. What is neutralisation reaction?
  - c. Name one strong acid and base.
  - d. Why is Sodium carbonate is a basic salt?
4. Why does a turmeric stain on white shirt is turned to red when it is washed with soap?
5. Look at the figure which shows solutions taken in test tubes A, B, C and D. What colour is expected, when a piece of red litmus paper is dropped in each test tube?



## **SOCIAL SCIENCE**

**Project Work** – Each section of Class X is assigned a specific Social Science project topic as follows:

S. No.	Topic	Sections
1.	Consumer Awareness	X-A
2.	Sustainable Development	X-B
3.	Social Issues	X-C

### **Project Guidelines:**

1. Prepare a project on the assigned topic.
2. Submit the project in **soft copy format** (PDF/Word Document/PPT).
3. The project should include the following sections in order:
  - Cover Page (Include name of the school, session, project title, student name, class, and roll number)
  - Table of Contents with page numbers (Introduction, Objective, Policies, Act, Case Study, Conclusion)
  - Acknowledgement
  - Project Overview (Purpose, Aim & Methodology)
  - Conclusion
  - Bibliography

### **Instructions:**

- Include relevant information, facts, pictures, and figures.
- Label all photographs, maps, sketches, and diagrams.
- Use newspaper/magazine articles, graphs, and creative layouts for better presentation.
- Projects can be either handwritten /scanned or typed (PDF/Word Document/PPT).

## **ASSIGNMENT**

1. Complete the following assignment in Social Science Lab Manual.

**Political Science** – Assignment 1 (Page No. 21 -27)

**Geography** – Assignment 1 (Page No. 43 to 48)

**Economics** - Assignment 1 (Page No. 59 to 62)

**Disaster Management** – Page No. 68 & 69



## **ARTIFICIAL INTELLIGENCE**

### **Part A:**

**Complete one project by following the guidelines on the link given below:**

[https://docs.google.com/document/d/e/2PACX-1vQHYnGVMj2yVKMf5eD1trO9\\_KJEbohe9nq4P0svXcmFAX01HiW37MaPrr219KsbPX2mnSE-3QWwO0JC/pub](https://docs.google.com/document/d/e/2PACX-1vQHYnGVMj2yVKMf5eD1trO9_KJEbohe9nq4P0svXcmFAX01HiW37MaPrr219KsbPX2mnSE-3QWwO0JC/pub)

### **Part B: Answer the following questions on A4 sheets neatly:**

1. Explain one key difference between a traditional computer program that follows explicit instructions and an Artificial Intelligence program that uses machine learning.
2. Why is the quality and quantity of data crucial for the performance of most AI models?
3. Give an example of an AI application that uses **classification** and briefly explain what it classifies.
4. Describe one significant way AI is being used to improve efficiency or productivity in an industry (like manufacturing, finance, or retail).
5. What is one potential ethical concern that arises from the increasing use of AI in areas like surveillance or decision-making?
6. In simple terms, explain what happens during the **training phase** of a machine learning model.
7. How could AI potentially contribute to achieving one of the Sustainable Development Goals (SDGs)? Give a specific example.
8. Do you believe AI can truly be creative (e.g., compose music, write stories)? Briefly justify your answer.
9. What does the term "bias" mean in the context of AI, and why is it important to address it?
10. Think about a challenge in your local community or school. How could a simple AI application potentially help to address it?

### **Important Note:**

**Please ensure you complete and submit your holiday homework as soon as school reopens after the vacations.**

## **INFORMATION TECHNOLOGY**

1. Creating a Newsletter Using LibreOffice Writer
2. Prepare a report on “Annual Prize day celebration” of your school.
3. Create a Brochure
4. Create a CV template in Writer and fill in personal details, qualifications, and work experience.
5. Email Writing Activity using MS Word

### **NOTE: Submission Instructions:**

- Complete the practical task using **MS Word** or **LibreOffice Writer**.
- Take a **printout** of the document.
- Submit it in a **properly labeled physical folder** with your **Name, Class, Section, and Roll Number** on the cover.
- Ensure the pages are arranged neatly and securely.

**Note: Complete this in your IT notebook as part of your holiday homework.**

### **Multiple Choice Questions**

**1. Which of the following is a valid file extension for a document created in LibreOffice Writer?**

- a) .xls
- b) .odp
- c) .odt
- d) .ppt

**2. What does the term "Cloud Computing" refer to?**

- a) Running software without installation
- b) Storing data locally
- c) Using floppy disks
- d) Accessing the internet at high speed

**3. Which one of the following is a component of digital citizenship?**

- a) Digital divide
- b) Digital access
- c) Digital history
- d) Digital pressure

**4. Which key combination is used to justify text in a document?**

- a) Ctrl + L
- b) Ctrl + R
- c) Ctrl + J

d) Ctrl + E

**5. In spreadsheets, which function is used to calculate the average of a set of numbers?**

- a) =COUNT()
- b) =ADD()
- c) =MEAN()
- d) =AVERAGE()

6. What do you understand by the term Table of Contents? List the characteristics of a good 'Table of content' in a word processor.
7. What do you understand by Anchoring in Word Processor?
8. What is the importance of healthy lifestyle? Give any four points related to it.
9. How is self-regulation connected to the ability to work independently?
10. How we can prevent computer against attack by viruses.

## **ART EDUCATION**

**1. Prepare an Art File on the following topics given in the Art Book:**

- a) Colour Tone
- b) Nature Study
- c) Landscape
- d) Human Body
- e) Sketching