

# MOUNT COLUMBUS SCHOOL

# DAKSHINPURI, NEW DELHI-62

**SESSION: 2025-26** 

# SUMMER VACATION HOLIDAY HOMEWORK

CLASS: IX

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 &courteousness).

Happy Holidays!! Regards Team Mount Columbus

# **ENGLISH**

#### 1. MULTILINGUISM-

1. Research about places to visit in 'Goa' and prepare a 'Travel Brochure' describing the location, ways to reach there, weather, best time to visit, hotels, the flora and fauna, food suggested, activities etc. Note the following points:

- On an A-3 size sheet where you draw up or paste some pictures associated with that place
- There should be interesting and catchy headings.

### 2. MULTILINGUISM-

Write the titles of the chapters done so far in Karnataka's Regional Language on an A-4 size sheet.

### 3. MULTILINGUISM-

Make a poster on the 'Food and Festivals' of Kerala on the A4 size sheet. Write the names of the food items and the festivals in Kerala's Regional Language.

### 4. ART INTEGRATED –

A. Design a poster on the topic ""Go Green: Plant Trees, Save Earth".

B. Collect the photographs of different musical instruments and paste them on an A-3 size sheet. Also write their names. (Any five)

### **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

# <u>हिंदी</u>

# <u>परियोजना कार्य</u>

 गोवा के प्रसिद्ध समुद्री तटों में से किसी एक का दृश्य चिपकाकर उसका वर्णन 100-120 शब्दों में करें। (अनुक्रमांक-1-15 तक)

2. कर्नाटक की प्रसिद्ध पर्वतारोहियों में उषा हेगड़े का साक्षात्कार लेने के लिए 10 प्रश्नों की सूची तैयार कर लिखिए और उसका चित्र भी चिपकाए **(अनुक्रमांक-16-30 तक)** 

3. मलयालम भाषा की किसी कहानी को हिंदी अनुवाद के साथ चित्र सहित लिखें। (अनुक्रमांक-31-45 तक)

### <u>बहुभाषावाद</u>

• अंग्रेजी साहित्य के कवि विलियम वर्ड्सवर्थ की प्रसिद्ध कविता 'डेफोडिल्स' पढ़ें और अपनी किताब (संचयन) की कहानी

'स्मृति' से उसकी तुलना 100-120 शब्दों में लिखें।

# <u>साहित्य</u>

- 1. लेखक ने बुढ़िया के दुख का अंदाज़ा कैसे लगाया?
- 2. इस पाठ का शीर्षक 'दुख का अधिकार' कहाँ तक सार्थक है? स्पष्ट कीजिए।
- 3. एवरेस्ट पर चढ़ने के लिए कुल कितने कैंप बनाए गए? उनका वर्णन कीजिए।
- 4. लेखिका को देखकर 'की' हक्का-बक्का क्यों रह गया?
- 5. अतिथि को जाने के लिए लेखक और उसकी पत्नी ने क्या -क्या संकेत दिए?
- 6. लेखक के व्यवहार में क्या-क्या परिवर्तन आया जब अतिथि उनके घर से नहीं गया?
- 7. केस आधारित प्रश्न: उपसर्ग और प्रत्यय
- अजय एक होशियार छात्र है। वह हर कार्य को सुसमय करता है। विद्यालय में होने वाली पूर्वपरीक्षा के लिए उसने पूरी तैयारी कर ली है। उसके शिक्षकों ने उसके दक्षता की सराहना की। अजय को नई-नई चीज़ें जानने में रुचि है और वह सदैव शिक्षनीय व्यवहार करता है। वह हर विषय में अध्ययनशील है और निरंतर अभ्यास से विद्वानता प्राप्त करना चाहता है। प्रश्न:
  - 1. उपरोक्त गद्यांश में किन-किन शब्दों में उपसर्ग लगे हैं? उन्हें छाँटिए और उपसर्ग बताइए।
  - 2. किन शब्दों में प्रत्यय का प्रयोग हुआ है? शब्द छाँटिए और प्रत्यय लिखिए।
  - 3. 'सुसमय' और 'पूर्वपरीक्षा' शब्दों में कौनू-से उपसर्ग हैं ?
  - 4. 'शिक्षनीय' शब्द में कौन-सा प्रत्यय है? लिखिए।
  - 5. 'विद्वानता' शब्द का मूल शब्द क्या है?
  - 8. स्वर संधि का एक माइंड-मैंप तैयार करें।

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

# **MATHEMATICS**

(Holiday homework to be done on A4 size sheet)

Project:

- a) Create a beautiful design of square root spiral on an A4 size sheet.
- b) Create a wall hanging of all Algebraic identities.

#### Case Based Questions

1. Garden Design

Imagine a rectangular garden where the length is 3x + 5 meters and the width is x - 2 meters, where x is a positive number.

- a) Express the area of the garden as a polynomial.
- b) Find the perimeter of the garden.
- c) If x = 3, what is the area of the garden in square meters?
- d) What are the coefficients and constant terms of the polynomial representing the area?
- 2. Rahul is creating a game where the scoring rule is based on polynomials. He sets the scoring pattern as:

 $S(x)=x^3-4x^2+6x-3$ 

Answer the questions that follow:

a) What is the degree of the scoring polynomial?

b) What will be the score when x=2?

- c) How many terms are there in the polynomial S(x)?
- d) Find the zeroes of the scoring pattern.
- 3. Meena wants to paint a square wall of side (x+3) meters. To calculate the area quickly, she recalls an algebraic identity. Later, she decides to create a square design inside the wall with side (x -2) meters. To find the area to be painted (excluding the inner square), she needs to calculate the difference of the two square areas. Her friend Rohan reminds her that these calculations can be simplified using algebraic identities.
  - a) What is the area of the outer square wall?
  - b) Using appropriate identity, expand  $(x + 3)^3$ .
  - c) Find the expression for the area of the inner wall.
  - d) Create a rule/identity that Meena should use to find the area to be painted as the difference of squares.
- 4. The students of Class 9 are assigned a project to design a garden in the school courtyard. They decide to place the four corners of the garden at specific points on a coordinate grid for accurate planning. They choose the following coordinates for the corners:
  - A(2, 3)
  - B(2, 8)
  - C(7, 8)
  - D(7, 3)

They want to use the grid to determine the length and breadth of the garden.

a) What is the length of AB?

- b) What is the length of BC?
- c) Plot the coordinates given on a Cartesian plane.
- d) Determine the shape of the garden.
- 5. Ritu is helping her father renovate their kitchen. They decide to buy square tiles to cover the floor. Each tile has a side  $\sqrt{2}$  meters. The cost per tile is calculated based on its area, and the rate is Rs.  $500/\sqrt{2}$  per square meter. At the shop, the seller tells Ritu that prices are easier to manage when they're rationalized, so he suggests rationalizing the cost.
  - a) What is the area of each tile?
  - b) Find the cost of each tile in rationalized form.
  - c) How many tiles are needed to cover a floor of  $20 \text{ m}^2$ ?
  - d) Find the total cost of the tiles needed to cover the above floor.

# **SCIENCE**

#### **PROJECT**

- 1. Prepare a mini magazine on the topic of application of Newton's three laws of motion in our daily life covering the following pointers:
- Project Structure:
- Cover Page
- Index
- Acknowledgement
- Introduction
- Content (It should contain minimum 14 pages, Diagram, Charts, additional support material related to the topic)
- Conclusion
- Bibliography (Mini magazine to be done on A4 size sheet) <u>WORKSHEET</u>
- 2. <u>Answer the following questions: (Do the questions answer in chemistry notebook)</u>
- A. Meera threw a ball vertically upward with some force. She noticed it slowed down, stopped at a height, and then came back down. Her teacher explained that gravity acts downward throughout the motion—even when the object is going up.
- i. What happens to the velocity of the ball as it goes upward?a) Increasesb) Decreasesc) Becomes zero instantlyd) Constant
- ii. At the highest point, the velocity of the ball is:a) Maximumb) Zeroc) Equal to initial velocityd) Constant
- iii. What causes the ball to slow down while going up?a) Air resistance b) Upward force c) Gravitational force d) Friction
- iv. During downward motion, acceleration of the ball is:a) Negativeb) Zeroc) Equal to gd) Cannot be measured
- v. The motion of the ball thrown vertically upward and coming down is an example of:
  a) Uniform motion b) Circular motion c) Uniform acceleration motion
  d) Non-uniform motion
- B. Complete the following chart:



C. a. Label the parts of atom in the given diagram



- b. What part of the atom has no charge?
- c. What part of the atom has positive charge?
- d. What part of the atom has negative charge?
- e. How many electrons can be held in the first orbital?
- f. How many electrons can be held in the second orbital?
- g. The mass number is determined by the sum of the numbers of which particles?

D.

	Animal Cell Organelles Quiz 1. Each cell has a protective, semi-permeable, outer layer called the
	2. Inside the cell, the watery medium in which all the organelles float, is called 3. Little grains floating around inside the cell involved in proteins
	production are called
	4. The cell contains our DNA
	with all our genetic information found on 23 paired structures called
	5. It is is surrounded by a protective
	6
	is a series of folded
	membrane pathways spotted with ribosomes. Together they make new proteins and membranes.
	has no
	ribosomes on it and forms containers called <b>transport vesicles</b> that are used to move things around inside the cell.
	8.
	are package things to be transported out and around the cell.
	9 are vesicles with digestive
$\frown$	enzymes inside to break down the things the cell no longer needs.
	10 are membrane large
~ ()	membranous sacs for storing things. Vesicles are smaller sacs.
	- 11. have a double
10	membrane with finger-like and
	break down sugars to make energy for the cell

E. a. Compound Y has boiling point equal to room temperature. Identify its physical state at room temperature, below & above room temperature.b. We can easily move our hand in air but do the same in water with greater effort. Give reason

b. We can easily move our hand in air but do the same in water with greater effort. Give reason. Explain interconversion of states of matter.

# SOCIAL SCIENCE

<u>PROJECT – Research Work</u> Topic – DISASTER MANAGEMENT Submission Format: Soft Copy (PDF or Word Document)

#### **Instructions:**

- Prepare a structured project report answering this question, using real-world examples, visuals (maps, graphs, drawings, newspaper clippings), and case studies.
- Follow the format: Cover Page, Index, Acknowledgement, Project Overview, Main Content (Introduction, Objective, Policies, Act, Case Study, and Conclusion), Bibliography with References, and Summary.
- Use creative elements: labelled drawings, maps, charts, collages, etc.
- The report must be original, informative, and well-organized.
- Submit your work in a soft copy (typed or neatly handwritten and scanned as PDF).
- Ensure proper citation of sources.

The project report will be presented in the following order:

- 1. Cover page showing name of the school, session, and project title and student information.
- 2. List of content with page numbers (Introduction, Objective, Policies, Act, Case study, Conclusion)
- 3. Acknowledgement
- 4. Project overview: Purpose, Aim & Methodology.
- 5. Conclusion
- 6. Bibliography
- 7. Various forms of art must be integrated in the project work.
- 8. A summary report should be prepared

Credit will be awarded to use of maps, graphs, articles of newspapers and magazines, good layout, cost effective and creative use of materials.

#### ASSIGNMENT

#### 1. Social Science Lab Manual.

Complete the following assignments – Economics: Assignment 1 (Page No.56 to 58) Assignment 2 (Page No. 59 and 60) Geography: Assignment 1 (Page No. 37 to 41) Political Science: Assignment 1 (Page No. 27 to 29) Disaster Management – Page No. 64 & 65

# **ARTIFICIAL INTELLIGENCE**

Part A: Complete one project.

For Project Guide click the link below:

https://docs.google.com/document/d/e/2PACX-1vRox9m182gZ7-

 $\underline{BSnAzGqWHjjPWDdRNb2zJkMjsNN4K3HuM9HnI0Ek4ImM90tWIkQ2kZ4AbhkpL1vBNw/pub}$ 

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

- 1. List three examples of Artificial Intelligence you encounter or use in your daily life.
- 2. How is a "smart" device (like a smart speaker or smartphone camera) different from a regular, non-smart device in terms of its capabilities?
- 3. If you were teaching a robot to sort recycling, what kind of information or "data" would it need to learn from?
- 4. Think about a video game you play. Does it use any form of AI? If yes, how? If no, how could AI make it more interesting?
- 5. What is one job that you think AI might be able to do in the future? Explain why.
- 6. Do you think AI can ever be unfair? Give a simple example or reason.
- 7. How might AI be used to help the environment or address climate change? Give one specific idea.
- 8. Imagine an AI that can understand emotions. How could this AI be helpful?
- 9. What is the difference between a simple computer program that follows instructions exactly and an AI program that can "learn"?
- 10. Research one real-world application of AI (like in medicine, transportation, or entertainment) and describe it in 2-3 sentences.

#### **Important Note:**

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

# **INFORMATION TECHNOLOGY**

### 1. IT Around the World" – Global Tech Exploration

**Objective:** Understand how different countries use IT to solve local problems.

#### What to do:

- Choose any **3 countries** (e.g., Japan, India, Estonia).
- Research how IT is used uniquely in each (e.g., Estonia's digital citizenship).
- Make a **comparison chart** of innovations.
- Add photos or QR codes linking to news or videos.

Creative twist: Present as a digital travel journal with a "passport" page for each country.

# 2. Be an IT Entrepreneur" – Startup Simulation

#### What to do:

- Imagine a startup based on an IT product or service.
- Name your company and design a logo.
- Write a brief **business plan**:
  - What does it do?
  - Who are the users?
  - What technology is used?
- Create a mini website homepage using Canva or draw it.

# Note:

Upload the file to a **shared Google Drive folder** (<u>https://drive.google.com/drive/folders/1DeCFSX3x5OzGpjoue1pU8QQjI7GS\_S-P?usp=sharing</u>).

• File name format: Name\_Class9\_ITHolidayHomework.pdf

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

A. Multiple Choice Questions

#### Choose the correct option and write the answer.

- 1. Which of the following is an example of ITeS?
  - a) Teaching in school
  - b) Banking through mobile apps
  - c) Farming
  - d) Construction work

#### Answer:

- 2. Which key combination is used to copy selected text in LibreOffice Writer?
  - a) Ctrl + X
  - b) Ctrl + V
  - c) Ctrl + C
  - d) Ctrl + Z

Answer:

- 3. Which of these is NOT an input device?
  - a) Keyboard
  - b) Mouse
  - c) Monitor
  - d) Scanner
  - Answer:
- 4. Which of the following is a soft skill?
  - a) Typing speed
  - b) Communication
  - c) Coding
  - d) Using Excel

### Answer: \_\_\_\_

- 5. What is the use of the "Mail Merge" feature in Writer?
  - a) Sending emails
  - b) Inserting formulas
  - c) Creating personalized letters
  - d) Encrypting documents
  - Answer:

### Answer the following in 2–3 lines.

- 1. Define the term Information and Communication Technology (ICT)
- 2. What do you mean by Digital Footprint
- 3. Mention two benefits of using spreadsheets like LibreOffice Calc.
- 4. What is the difference between hardware and software?
- 5. What are ergonomics and why is it important in the workplace?

# ART

Prepare an art file on the following topics, given in the art book:

- a) Still Life (Hatching and Cross Hatching)b) Still Life (Water color)
- c) Seascape
- d) Nature Study
- e) Landscape