



**MOUNT COLUMBUS SCHOOL
DAKSHINPURI, NEW DELHI – 62
CLASS IX**

WORKSHEET (APRIL)

ENGLISH

I. Answer the following questions in 30–40 words each:

1. The grandmother touched the feet of her granddaughter. How did she justify this gesture of hers?
2. Why did Sentila keep her passion for pot making a secret from her parents?
3. How are warriors and sages important in the poem?
4. Do you think the role of all the people belonging to different vocations is important in our daily lives? Support your answer with a reason.

II. Fill in the blanks with the correct determiners to complete the sentences meaningfully.

1. Tina's father is ---- man of honesty and integrity. He does not accept ---- gift from his friends or relatives. On ----- occasion of celebrating ----- 'Children's Day', he rewarded ----- children for ----honesty.
2. I have met ----- people in my life, but ----- person who has influenced me the most is Mother Teresa. To me she has been ----- symbol of true religion. ----- people can do what she has done. If we adopt ----- ideology, -----world will become ----- better place to live in.

III. To encourage students to participate in outdoor activities, your school has planned a 7-day trek to Rohtang Pass for students of classes VIII-X during the summer vacation. Write a notice for the school notice board giving all the necessary information. You are Raghav/Ragini, Secretary Trekking Club, Amar Bahadur School.

IV. Write an invitation in not more than 50 words to your friend Rameshwari to spend her winter break with you in Mumbai. You are Puja/Puneet of 25, M.G. Road, Mumbai.

HINDI

1. अपने मित्र को परीक्षा की तैयारी के बारे में पत्र लिखिए।
2. निम्नलिखित विषयों में से किसी एक पर 80-100 शब्दों में अनुच्छेद लिखिए:
 1. समय का महत्व
 2. स्वच्छ भारत अभियान
 3. ऑनलाइन शिक्षा के लाभ
3. निम्न शब्दों में उपसर्ग पहचानकर अलग कीजिए:
 1. अनुचित = _____ + _____
 2. विद्यालय = _____ + _____
 3. निराश = _____ + _____
 4. उपकार = _____ + _____
 5. पराजय = _____ + _____
4. उपसर्ग जोड़कर नए शब्द बनाइए:
 1. ___ + योग्य = _____
 2. ___ + विश्वास = _____
 3. ___ + मित्र = _____
 4. ___ + ज्ञ = _____
5. निम्न शब्दों में प्रत्यय पहचानिए:
 1. सुंदरता = _____ + _____
 2. मित्रता = _____ + _____
 3. लिखाई = _____ + _____
 4. खिलाड़ी = _____ + _____
6. प्रत्यय जोड़कर नए शब्द बनाइए:
 1. बल + _____ = _____
 2. सुख + _____ = _____
 3. पढ़ + _____ = _____
 4. मीठा + _____ = _____

MATHEMATICS

1. Give any two examples of coordinates of points which lie on negative y-axis.
2. Cartesian plane is divided into how many quadrants? Give example of any point which lies in the third quadrant.
3. Find the distance between points (2, -5) and (3, -6).
4. Find the mid points of the line segment having end points A (7, 2) and B (-7, -3).
- 5 Write the coefficient of x^2 in each of the following polynomial:
 - i) $x^2 + 2x$
 - ii) $-4x^3 - 3x^2 + 7x - 6$
 - iii) $5x^3 - 4x$
6. Write an example of a trinomial of degree 900.
7. Express $x = -13$ in the form of a linear equation in two variables and find two solutions.
8. If the larger of the complementary angles is 3 more than the five times the smaller angle, then form a linear equation in two variables.
9. Find three solutions of an equation $x - 3y = -2$ and write the coefficient of y in given equation.
10. Plot any three solutions of equation $y = -2x$ on graph.
11. Express $y = \frac{-9}{2}$ in the form of $ax + by + c = 0$ and write the value of b and c.

SCIENCE

1. If the plasma membrane of a cell ruptures, what will most likely happen first?
 - A. The nucleus will divide uncontrollably
 - B. Organelles will multiply rapidly
 - C. The cell will lose its contents and die
 - D. The cell will become multicellular

2. A plant cell was placed in a concentrated salt solution. What will happen to the cell and why?
 - A. It will burst due to endosmosis
 - B. It will shrink due to exosmosis
 - C. It will swell and become turgid
 - D. No change will occur

3. Why are lysosomes called 'suicidal bags' of the cell?
 - A. They help in respiration
 - B. They destroy other cells
 - C. They digest their own cell when damaged
 - D. They transport nutrients

4. Assertion (A): Mitochondria are known as the powerhouse of the cell.
Reason (R): Mitochondria synthesize proteins required for cell function.

5. Assertion (A): Lysosomes are essential for the survival of the cell.
Reason (R): They help in intracellular digestion and destruction of worn-out organelles.

6. Ravi observed an onion peel and a human cheek cell under the microscope in his school lab. He noticed some differences between the two. Based on his observation, answer the following:
 - a. What are the major differences between the two types of cells?
 - b. Name the structure responsible for maintaining the shape of the onion cell.
 - c. Which type of cell (plant or animal) has plastids and why?

7. A student observes a cell under a microscope and notes the absence of a nucleus. What type of cell is it? Justify your answer. Draw the diagram of the type of cell.

SOCIAL SCIENCE

Section A – MCQs

1. Social Science mainly studies:
a) Natural resources b) Human society c) Machines d) Animals
2. Which of the following is NOT a branch of Social Science?
a) History b) Geography c) Biology d) Political Science
3. Democracy is a form of government in which:
a) One person rules b) Army rules c) People rule d) King rules
4. The word 'Democracy' comes from:
a) Latin b) Greek c) English d) Sanskrit
5. Which institution conducts elections in India?
a) Supreme Court b) Election Commission c) Parliament d) President

Section B – Question Answer

1. Define Social Science.
2. Name any two branches of Social Science.
3. What is democracy?
4. What is universal adult franchise?
5. Why are rules important in a democracy?
6. Explain the scope of Social Science.
7. Why is Social Science important in daily life?
8. Mention three features of democracy.
9. What role do citizens play in a democracy?
10. Explain the importance of Social Science in understanding society.
11. Describe the key features of democracy.
12. Why is democracy considered the best form of government? Explain with reasons.

Section C – Assertion & Reason

Choose the correct option:

- 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

1. Assertion (A): Social Science helps us understand human society.
Reason (R): It studies relationships, institutions, and human behavior.
2. Assertion (A): Geography is a branch of Social Science.
Reason (R): It studies living organisms.
3. Assertion (A): Democracy is considered the best form of government.
Reason (R): It allows people to participate in decision-making.
4. Assertion (A): Elections are important in a democracy.
Reason (R): They give citizens the right to choose their leaders.
5. Assertion (A): Social Science has no role in daily life.
Reason (R): It helps us understand society and solve social problems.
6. Assertion (A): In a democracy, laws apply equally to all citizens.
Reason (R): Democracy is based on equality and justice.
7. Assertion (A): Only educated people can vote in a democracy.
Reason (R): Democracy follows universal adult franchise.
8. Assertion (A): Political Science studies government and political systems.
Reason (R): It helps us understand rights and duties of citizens.

ARTIFICIAL INTELLIGENCE

Q1. Multiple Choice Questions

1. What does AI Reflection primarily involve in the context of AI education?
 - A) Writing code for AI models
 - B) Building physical robots
 - C) Memorizing AI algorithms
 - D) Thinking critically about AI's impact, limitations, and learning process
2. Which of the following is NOT a stage in the standard AI Project Cycle?
 - A) Problem Scoping
 - B) Data Acquisition
 - C) Model Deployment
 - D) User Interface Design
3. During which stage of the AI Project Cycle would you use the 4Ws (Who, What, Where, Why) framework?
 - A) Data Exploration
 - B) Problem Scoping
 - C) Model Evaluation
 - D) Deployment
4. What is the primary purpose of the Data Exploration stage in the AI Project Cycle?
 - A) To collect raw data from various sources
 - B) To train the AI model
 - C) To clean, visualize, and understand patterns in the data
 - D) To deploy the solution to users
5. Which ethical principle in AI focuses on ensuring that AI systems do not discriminate against any group?
 - A) Transparency
 - B) Privacy
 - C) Fairness
 - D) Accountability
6. What is a key reason why transparency is important in AI systems?
 - A) It makes AI systems run faster
 - B) It helps users understand how decisions are made, fostering trust
 - C) It reduces the amount of data needed for training
 - D) It eliminates the need for model evaluation
7. Which of the following best describes the difference between ethics and morality in AI?
 - A) Ethics are personal beliefs; morality is societal rules
 - B) Ethics are societal guidelines; morality is personal beliefs
 - C) Ethics and morality mean the same thing in AI
 - D) Ethics apply only to humans; morality applies to AI
8. What is one of the main ethical concerns related to AI and data privacy?
 - A) AI systems need less data to function properly
 - B) AI might use personal data without consent for targeted advertising
 - C) AI systems cannot process personal data
 - D) Data privacy makes AI systems more accurate
9. Why is it important to evaluate an AI model before deployment?
 - A) To make the model more complex
 - B) To ensure it meets expected standards and works correctly in real-world scenarios
 - C) To reduce the need for data acquisition
 - D) To speed up the deployment process
10. In the AI Project Cycle analogy of "Making a Pizza," what does the baking step represent?
 - A) Problem Scoping
 - B) Data Acquisition
 - C) Modeling and Training
 - D) Deployment

II. Short Answer Questions.

1. Explain what AI Reflection means and why it is important for students learning about AI.
2. List the six main stages of the AI Project Cycle in correct order.
3. What is the purpose of problem scoping in an AI project?
4. Name two common techniques used during the Data Exploration stage.
5. Define what is meant by "bias" in AI systems.

INFORMATION TECHNOLOGY

I. Choose the correct answer from the options given below.

1. What does IT stand for?

- | | |
|--------------------------|-----------------------------|
| a) Internet Technology | b) Information Technology |
| c) Integrated Technology | d) Instructional Technology |

2. ITeS is also known as:

- | | |
|---|-----------------------------------|
| a) In-house Technology Services | b) Web-enabled or remote services |
| c) International Technology Exchange Services | d) None of the above |

3. BPO stands for:

- | | |
|---------------------------------|------------------------------------|
| a) Business Process Outsourcing | b) Business Personnel Organisation |
| c) Basic Process Operations | d) Banking and Public Operations |

4. Which of the following is NOT a BPO service?

- | | |
|--------------------------------------|---------------------------------------|
| a) Financial and Accounting Services | b) Legal Services and Content Writing |
| c) Computer hardware manufacturing | d) Health Care Services |

5. MNC in the context of IT-BPM industry stands for:

- | | |
|---------------------------------|----------------------------|
| a) Modern Network Computing | b) Multinational Companies |
| c) Managed Network Corporations | d) Multi-Node Connectivity |

6. Which machine creates 3D images of body parts used in disease diagnosis?

- | | |
|--|---------------------------|
| a) ECG Machine | b) EEG Machine |
| c) Computerised Axial Tomography (CAT) Machine | d) Blood Pressure Machine |

7. GIC organisations in the IT-BPM sector cater to:

- | | |
|---|---|
| a) External domestic clients only | b) Global clients across all industries |
| c) The needs of their parent company only | d) Government projects exclusively |

8. LMS in education stands for:

- | | |
|----------------------------|-------------------------------|
| a) Local Management System | b) Learning Management System |
| c) Library Media Service | d) Linked Media Software |

9. Which IT application is used for Computer Aided Design or Manufacturing?

- | | |
|----------------|--------------|
| a) NEFT / RTGS | b) CAD / CAM |
| c) ECG / EEG | d) LMS / WBT |

10. The full form of BPM in 'IT-BPM industry' is:

- | | |
|------------------------------------|------------------------------|
| a) Business Performance Management | b) Basic Process Module |
| c) Business Process Management | d) Banking Process Mechanism |

II. Answer the following questions in 3–5 sentences.

1. What is Information Technology (IT)? How is IT different from Information Technology enabled Services (ITeS)?
2. List any four areas where IT is used in everyday life and briefly explain any one of them.
3. What are the three types of organisations in the IT-BPM industry? Give a brief description of each.
4. Explain how IT is used in the banking sector. Name at least three banking services enabled by IT.
5. Describe the role of IT in the health care sector. Name and explain any two medical machines that use IT.