

MOUNT COLUMBUS SCHOOL
DAKSHINPURI, NEW DELHI – 62
CLASS X

WORKSHEET (APRIL)

ENGLISH

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

1. What does Lencho's faith in God reveal about his character? How does it influence his actions?
2. The postmaster was touched by Lencho's letter. What does his reaction tell us about human compassion?
3. Why did Mrs. Pumphrey believe Tricki was seriously ill? What does it tell us about her relationship with her pet?
4. How did Mr. Herriot's method of treatment differ from Mrs. Pumphrey's approach? What lesson can be drawn from this?
5. Both stories involve characters who go to great lengths for someone they care about. Compare Lencho and Mrs. Pumphrey's motivations and the outcomes of their actions.

II. Choose the correct option for each of the following:

1. **What did Lencho expect from God?**
 - a) A new house
 - b) Money to repair the roof
 - c) A hundred pesos
 - d) Rain for his crops
2. **Why did the postmaster decide to answer Lencho's letter?**
 - a) He felt guilty
 - b) He admired Lencho's faith
 - c) He wanted to teach Lencho a lesson
 - d) He was ordered by his boss
3. **What was Tricki's condition when Mr. Herriot first saw him?**
 - a) Active and alert
 - b) Thin and starving
 - c) Bloated and listless
 - d) Barking constantly
4. **What immediate change was made to Tricki's lifestyle at the surgery?**
 - a) He was given more food
 - b) He was allowed to sleep all day
 - c) He was put on a strict diet and exercise
 - d) He was taken to another doctor
5. **How did Mrs. Pumphrey react when Tricki returned home?**
 - a) She was upset
 - b) She cried out of joy
 - c) She refused to believe it was Tricki
 - d) She decided to never overfeed him again

हिंदी

1. गद्यांश को पढ़कर पूछे गए प्रश्नों के उत्तर के लिए सही विकल्प का चयन कीजिए-

मेरे भाई साहब मुझसे पाँच साल बड़े, लेकिन केवल तीन दर्जे आगे। उन्होंने भी उसी उम्र में पढ़ना शुरू किया था, जब मैंने शुरू किया लेकिन तालीम जैसे महत्त्व के मामले में वह जल्दबाज़ी से काम लेना पसन्द ना करते थे। इस भवन की बुनियाद बहुत मजबूत डालना चाहते थे, जिस पर आलीशान महल बन सके। एक साल का काम दो साल में करते थे। कभी कभी तीन साल भी लग जाते थे बुनियाद ही पुख्ता न हो, तो मकान कैसे पायेदार बने। मैं छोटा था, वे बड़े थे। मेरी उम्र नौ साल की थी और वह चौदह साल के थे। उन्हें मेरी तम्बीह और निगरानी का पूरा और जन्मसिद्ध अधिकार था और मेरी शालीनता इसी में थी कि उनके हुक्म को कानून समझूँ।

(i) गद्यांश के अनुसार लेखक के बड़े भाई के व्यवहार की किस खूबी का पता चलता है -

- (क) वे जिम्मेदार थे (ख) वे लापरवाह थे
(ग) वे मंदबुद्धि थे (घ) वे रौबदार थे

(ii) 'मेरे भाई साहब मुझसे पाँच साल बड़े, लेकिन केवल तीन दर्जे आगे। उन्होंने भी उसी उम्र में पढ़ना शुरू किया था, जब मैंने शुरू किया लेकिन तालीम जैसे महत्त्व के मामले में वह जल्दबाज़ी से काम लेना पसन्द ना करते थे।'।

कथन के माध्यम से ज्ञात होता है कि -

- (क) लेखक के भाई मंदबुद्धि थे
(ख) लेखक के भाई शिक्षा के महत्त्व को समझते थे इसलिए बिना समझे आगे नहीं बढ़ पाते थे
(ग) लेखक के भाई सुस्त व्यक्ति थे
(घ) लेखक के भाई का पढ़ने में मन नहीं लगता था

(iii) निम्नलिखित कथन (A) तथा कारण (R) को ध्यानपूर्वक पढ़िए। उसके बाद दिए गए विकल्पों में से कोई एक सही विकल्प चुन कर लिखिए।

कथन (A) - उन्हें मेरी तम्बीह और निगरानी का पूरा और जन्मसिद्ध अधिकार था और मेरी शालीनता इसी में थी कि उनके हुक्म को कानून समझूँ।

कारण (R) - क्योंकि लेखक अपने बड़े भाई की बहुत इज़्जत करता था।

- (क) कथन (A) तथा कारण (R) दोनों गलत हैं
(ख) कथन (A) सही है तथा कारण (R) उसकी गलत व्याख्या करता है
(ग) कथन (A) गलत है तथा कारण (R) सही है
(घ) कथन (A) तथा कारण (R) दोनों सही हैं तथा कारण (R) कथन (A) की सही व्याख्या करता है।

(iv) 'बुनियाद ही पुख्ता न हो, तो मकान कैसे पायेदार बने' कथन से आशय है -

- (क) नींव मजबूत न हो तो मकान कैसे मजबूत हो सकता है
(ख) अगर जमीन अच्छी नहीं हो तो मकान नहीं बनाया जा सकता
(ग) अगर समय रहते मेहनत न की जाए तो अच्छे भविष्य की कल्पना कैसे की जा सकती है
(घ) किसी काम बुनियाद सही से न रखी जाए तो काम कैसे सफल हो सकता है

(v) गद्यांश के आधार पर लेखक के निजी जीवन की छाप मिलती है कि वे थे -

- (क) मस्तीखोर व पढ़ाकू (ख) मस्तीखोर व गैरजिम्मेदार
(ग) बेहद गंभीर व गैरजिम्मेदार (घ) बड़ों का सम्मान करने वाले

2. बड़े भाई साहब ने जिंदगी के अनुभव और किताबी ज्ञान में से किसे और क्यों महत्पूर्ण कहा है ?

3. भाई साहब के फेल होने और खुद के अव्वल आने पर लेखक के मन में क्या-क्या विचार आए?

4. कबीर जी की साखियाँ जीवन के लिए अत्यंत उपयोगी हैं। प्रस्तुत पाठ में दी गई कबीर जी की साखियों से जिन जीवन - मूल्यों

की झलक मिलती है, उनका उल्लेख कीजिए।

5. दीपक दिखाई देने पर अधियारा कैसे मिट जाता है ? साखी के सन्दर्भ में स्पष्ट कीजिए

6. निम्नलिखित मुहावरों का अर्थ लिख क्र वाक्य प्रयोग करें

प्राण सूखना, हंसी खेल होना, आंखें फोड़ना, गाढ़ी कमाई, जिगर के टुकड़े टुकड़े होना, दबे पांव आना

Mathematics

1. If $\text{HCF}(6, a) = 2$ and $\text{LCM}(6, a) = 60$, then find a .
2. Find HCF and LCM of 18 and 45 and verify the relationship.
3. Prove that $7 - 2\sqrt{2}$ is irrational.
4. Show that 8^n can not end with the digit zero for any natural number n .
5. In a seminar, the number of participants in Hindi, English and Mathematics are 60, 84 and 108 respectively. Find the minimum number of rooms required if in each room the same number of participants is to be seated and all of them being in the same subject.
6. Name the polygon formed by the coordinates $A(-1, -2)$, $B(4, 3)$, $C(2, 5)$, $D(-3, 0)$.
7. The line joining the points $(2, 1)$ and $(5, -8)$ is trisected at the points P and Q . If point P lies on the line $2x - y + k = 0$, find the value of k .
8. If the distance between the points $(4, k)$ and $(1, 0)$ is 5, then what can be the possible values of it?
9. Find distance between $A(10 \cos \theta, 0)$ and $B(0, 10 \sin \theta)$.
10. In figure, ABC is a triangle coordinates of whose vertex A are $(0, -1)$. D and E respectively are the mid-points of the sides AB and AC and their coordinates are $(1, 0)$ and $(0, 1)$ respectively. If F is the mid-point of BC , find the areas of $\triangle ABC$ and $\triangle DEF$.

SCIENCE

Q1. The given equation represents the reaction of sodium metal with water.

Sodium + Water Sodium hydroxide + Hydrogen

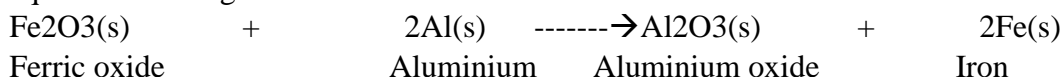
Which of the following chemical equations represents a complete balanced chemical equation for the given word equation?

- A. $2\text{Na(s)} + \text{H}_2\text{O} \rightarrow 2\text{NaOH(aq)} + \text{H}_2\text{(g)}$
- B. $\text{Na(s)} + 2\text{H}_2\text{O} \rightarrow \text{NaOH(aq)} + 2\text{H}_2\text{(g)}$
- C. $2\text{Na(s)} + 2\text{H}_2\text{O} \rightarrow 2\text{NaOH(aq)} + \text{H}_2\text{(g)}$
- D. $2\text{Na(s)} + 2\text{H}_2\text{O} \rightarrow 2\text{NaOH(aq)} + \text{H}_2\text{(g)}$

Q2. Identify the chemical equation which represents a complete balanced equation for the reaction of barium chloride with sodium sulphate to produce barium sulphate and sodium chloride.

- A. $\text{BaCl}_2\text{(aq)} + \text{Na}_2\text{SO}_4\text{(aq)} \rightarrow \text{BaSO}_4\text{(s)} + 2\text{NaCl(aq)}$
- B. $\text{BaCl}_2\text{(aq)} + \text{Na}_2\text{SO}_4\text{(aq)} \rightarrow 2\text{BaSO}_4\text{(s)} + 2\text{NaCl(aq)}$
- C. $2\text{BaCl}_2\text{(aq)} + \text{Na}_2\text{SO}_4\text{(aq)} \rightarrow 2\text{BaSO}_4\text{(s)} + \text{NaCl(aq)}$
- D. $\text{BaCl}_2\text{(aq)} + \text{Na}_2\text{SO}_4\text{(aq)} \rightarrow \text{BaSO}_4\text{(s)} + \text{NaCl(aq)}$

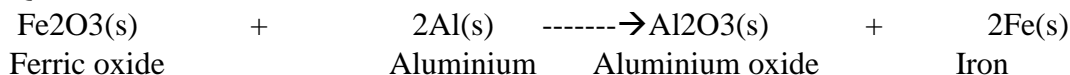
Q3. Ferric oxide reacts with aluminium to produce aluminum oxide and iron. The balanced chemical equation for the given reaction is



Which of the following substances is oxidized in the given reaction?

- A. Al_2O_3 B. Fe_2O_3
- C. Al D. Fe

Q4. The reaction:



is an example of a—

- A. combination reaction B. double displacement reaction
- C. decomposition reaction D. displacement reaction

Q5. Write balanced chemical equations for the following word equations:

A. Calcium hydroxide + Carbon dioxide Calcium carbonate + Water

Skeletal equation: _____

Balanced equation: _____

B. Zinc + Silver nitrate Zinc nitrate + Silver

Skeletal equation: _____

Balanced equation: _____

Q6. Define (a) CFC (b) Bio-magnification (c) Ecosystem

Q7. Explain 10% law using a schematic diagram.

Q8. What will happen if we kill all organisms in one trophic level?

Q9. DDT that was sprayed in minute amount on crops was detected in high concentration in man. Explain this phenomenon with an aquatic food chain.

SOCIAL SCIENCE

I. Multiple choice questions.

1. Which one of the following was not a demand of the Sri Lankan Tamils?
 - i. Recognition of Tamils as an official language
 - ii. Regional autonomy
 - iii. Equality of opportunity in jobs
 - iv. Reservation of seats in Parliament
2. Sri Lankan Tamils refers to which of the following?
 - i. Tamil Muslim
 - ii. Tamil native of the country
 - iii. Tamil whose forefathers came from India
 - iv. Tamil Hindu
3. Which of the following is an example of horizontal sharing of power?
 - i. Power sharing between different states
 - ii. Power sharing between different organs of the government
 - iii. Power sharing between different levels of the government
 - iv. Power sharing between different political parties
4. Division of powers between higher and lower levels of government.
 - i. Horizontal distribution
 - ii. Parallel distribution
 - iii. Vertical division
 - iv. Diagonal division
5. The community government in Belgium is elected by which of the following group.
 - i. People belonging to one language community
 - ii. All the citizens
 - iii. All the community leaders
 - iv. All the leaders
6. The word 'ethnic' signifies which of the following concept.
 - i. Different religions
 - ii. Social division on shared culture
 - iii. A violent conflict between opposite groups
 - iv. A careful calculation of gain and loss
7. Belgium shifted from a unitary form of government to:
 - i. Democratic
 - ii. Federal
 - iii. Authoritarian
 - iv. none of the above
8. Which types of government does the Belgium have?
 - i. Federal
 - ii. Communist
 - iii. Unitary
 - iv. Central
9. In federalism, power is divided between various constituent units and:
 - i. Central authority
 - ii. states
 - iii. Both (i) and (ii)
 - iv. None of the above
10. Which countries follow the unitary system of government?
 - i. Belgium, Spain and India
 - ii. USA Japan and Belgium
 - iii. United Arab Emirates, China and Sri Lanka
 - iv. France, Germany and India
11. In federal system, central government cannot order the:
 - i. Principal
 - ii. Local government
 - iii. State government
 - iv. None of the above
12. A system of government in which power is divided between a central authority and various constituent unit of the country is called
 - i. Federalism
 - ii. Communalism
 - iii. Socialism
 - iv. Democracy
13. State government has powers of its own for which it is not answerable to the:
 - i. Central government
 - ii. Judiciary
 - iii. Both (i) and (ii)
 - iv. None of the above
14. Which country is an example of coming together federation?
 - i. Belgium
 - ii. USA
 - iii. Sri Lanka
 - iv. India

II. Answer the following question.

1. How are the huge cattle population in India fed on very few percentages of pasture land?
2. What is bad land?
3. What was the importance of the Rio de Janeiro Earth Summit of 1992?
4. Why is the equitable distribution of resources essential?
5. Why are human beings considered as essential components of resources?
6. What is resource development?
7. Why can't resource be a free gift of nature? Give reasons to support of answer.

8. Why does soil type vary from region to region?
9. What are the advantages of the increasing area under the forest?
10. Which economic activities over utilizes soil?
11. Mention the development goal of any landless rural labourer.
12. 'Money in your pocket may not buy all the goods and services you need to live well'. Is it true or not? Explain.
13. What are the main criteria used by the World Bank in classifying different countries?
14. What are the limitations of the criterion, if any?
15. What should India do, to become a developed country? Give one suggestion.
16. Why average income is taken into consideration instead of total income while making comparisons between countries?
17. Why do different people have different goals for development?
18. Correct the following statement and rewrite:
 1. In 2000 the National Rural Employment Guarantee Act was implemented.
 2. Sahara Airlines and BSES are examples of the public sector.
 3. Profit-making is the main motive of public sector enterprises.
19. What is the main criterion used by the World Bank in classifying different countries?
20. Which age group of children is included for calculating the Net Attendance Ratio?
 1. 14yrs - 15yrs
 2. 6yrs – 10yrs
 3. 7yrs – 11yrs
 4. 5yrs – 9yrs
21. Different persons have different as well as conflicting notion of a country's development. A fair and just path for all should be achieved is known as _____.
22. The total income of the country divided by its total population is called _____.

ARTIFICIAL INTELLIGENCE

1. Which of the following is NOT a phase in the AI project cycle?
 - A) Data Collection
 - B) Model Building
 - C) Marketing Strategies
 - D) Evaluation
2. What is the first step in the AI project cycle?
 - A) Model Deployment
 - B) Data Collection
 - C) Problem Definition
 - D) Feedback Loop
3. AI systems can operate without human oversight and still remain ethical.
 - True
 - False
4. Bias in AI systems can occur due to biased data.
 - True
 - False
5. Explain the importance of the 'Data Collection' phase in the AI project cycle.
6. Describe what happens during the 'Evaluation' phase of an AI project.
7. What is meant by 'ethical AI'? Describe two principles that should guide the ethical development of AI technologies.
8. Identify one potential ethical issue in AI development and suggest a way to mitigate it.
9. What is Natural language processing? Explain any two real-life applications of NLP.
10. What do you understand by statistical data?
11. What is a computer virus? Explain its types.
12. What is utility software?

INFORMATION TECHNOLOGY

I. Multiple Choice Questions (MCQs):

1. Which of the following is **not** a type of style in Writer?
 - a) Paragraph Style
 - b) Character Style
 - c) Slide Style
 - d) Page Style
2. Which menu is used to create a Table of Contents?
 - a) Insert
 - b) Format
 - c) Tools
 - d) References
3. What is the default extension of a LibreOffice Writer document?
 - a) .docx
 - b) .txt
 - c) .odt
 - d) .pdf
4. Which option is used to update a Table of Contents?
 - a) Refresh Data
 - b) Reload Page
 - c) Update Index/Table
 - d) Redraw List
5. What is the use of a **template** in Writer?
 - a) To copy a document
 - b) To send a file
 - c) To create a pre-designed document
 - d) To delete a document
6. What are styles in Writer? Why are they useful?
7. List any two types of styles available in Writer. Explain with examples.
8. Explain the steps to create a Table of Contents in Writer.
9. What is the difference between character style and paragraph style?
10. What is the difference between a template and a normal document in Writer?