



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

**CLASS X WORKSHEET (OCTOBER)
ENGLISH**

Q1. The table below shows the average daily screen time (in hours) spent on smartphones, laptops, and televisions by teenagers and adults. Write an analytical paragraph in about 100–120 words, comparing the screen time of the two groups and discussing the notable differences.

Average Daily Screen Time (in hours)	Smartphone	Laptop	Television
Teenagers	5	2.5	3
Adults	3	4	2.5

Q2. Read the following extract and answer the following question-
Lines- “To seek peace, one should draw out the arrow of lamentation, complaint and grief.”

- Who is the speaker of the above lines?
- What does the ‘arrow’ symbolize here?
- What does Buddha advise to gain peace?
- What is the central idea conveyed through these lines?

Q3. “Valli was not at all afraid; she was enjoying everything.” Based on this line and your understanding of the story, describe Valli’s attitude and behaviour during her first bus journey.

Q4. Imagine you are Lomov. Describe one major challenge you faced while proposing to Natalya and how you tried to handle it.

Q5. Change the dialogue conversations into Indirect Speech-

a. Teacher: Why are you late today, Riya?

Riya: I missed the school bus, ma’am.

Teacher: Don’t you live nearby?

Riya: Yes, ma’am, but it started raining heavily.

Teacher: All right, but try to be on time tomorrow.

The teacher asked Riya _____. Riya replied respectfully that she _____ the school bus. The teacher then asked if she didn’t live nearby. Riya _____. The teacher agreed but advised her to try to be on time the next day.

b. Mother: Have you finished your homework?

Son: No, I’ll do it after dinner.

The mother _____. The son replied that he hadn’t and _____.

हिन्दी

1. तीसरी कसम' फ़िल्म को 'सैल्यूलाइड पर लिखी कविता' क्यों कहा गया है?
2. तीसरी कसम' फ़िल्म को खरीददार क्यों नहीं मिल रहे थे?
3. सर हिमालय का हमने न झुकने दिया', इस पंक्ति में हिमालय किस बात का प्रतीक है?
4. कवि ने 'कर चले हम फ़िदा' इस कविता में किस काफ़िले को आगे बढ़ाते रहने की बात कही है?
5. वज़ीर अली के अफ़साने सुनकर कर्नल को रॉबिनहुड की याद क्यों आ जाती थी?
6. सआदत अली कौन था? उसने वज़ीर अली की पैदाइश को अपनी मौत क्यों समझा?
7. कंपनी के वकील का कत्ल करने के बाद वज़ीर अली ने अपनी हिफ़ाज़त कैसे की?
8. लेखक ने जापानियों के दिमाग में 'स्पीड' का इंजन लगाने की बात क्यों कही है?
9. शुद्ध आदर्श की तुलना सोने से और व्यावहारिकता की तुलना ताँबे से क्यों की गई है?
10. गांधी जी में नेतृत्व की अद्भुत क्षमता थी; उदाहरण सहित इस बात की पुष्टि कीजिए।
11. विपदाओं से मुझे बचाओ, यह मेरी प्रार्थना नहीं' -कवि इस पंक्ति के द्वारा क्या कहना चाहता है?
12. आत्मत्राण' शीर्षक की सार्थकता कविता के संदर्भ में स्पष्ट कीजिए।
13. क्या कवि की यह प्रार्थना आपको अन्य प्रार्थना गीतों से अलग लगती है? यदि हाँ, तो कैसे?
14. खाद्य पदार्थों में लगातार मिलावट होता देखकर अपने राज्य के खाद्य-मंत्री को एक ईमेल लिखिए
15. गांधी जयंती के अवसर पर आपके विद्यालय ने स्वच्छता अभियान चलाने का निर्णय लिया है। इसके लिए सामने वाली बस्ती में साफ़-सफ़ाई करने के अलावा लोगों में स्वच्छता के प्रति जन-जागरूकता फैलाए जाने का निश्चय किया गया है। इसकी सूचना देते हुए एक सूचना आलेख तैयार कीजिए। आप अपने विद्यालय के हेड ब्वाय जयंत ।

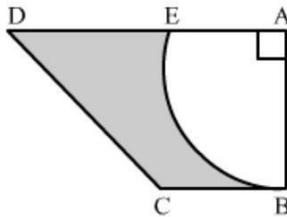
MATHEMATICS

- An A.P. consists of 60 terms. If the first and the last terms be 7 and 125 respectively, find 32nd term.
- Find the 9th term from the end (towards the first term) of the A.P. 5, 9, 13185.
- How many terms of the sequence 18, 16, 14.... should be taken so that their sum is zero?
- If $a = 2$ and $d = 5$, write the n th term.
- A school is constructing a row of benches for the annual function. The first row has 20 seats, the second row has 24 seats, the third row has 28 seats, and so on.

The seating arrangement forms an Arithmetic Progression.

Answer the following:

- Write the first term ($*a*$) and the common difference ($*d*$).
 - How many seats will there be in the 10th row?
 - How many seats will there be in the 25th row?
 - Find the total number of seats in the first 25 rows.
 - If 2000 students are to be accommodated, how many rows are required?
- The perimeter of a sector of a circle of radius 14 cm is 68 cm. Find the area of the sector.
 - What is the angle subtended at the centre of a circle of radius 10 cm by an arc of length 5π cm?
 - Area of a sector of a circle of radius 36 cm is 54π cm². Find the length of the corresponding arc of the sector.
 - Figure ABCD is a trapezium of area 24.5 cm, In it $AD \parallel BC$, $\angle DAB = 90^\circ$, $AD = 10$ cm, $BC = 4$ cm. If ABE is a quadrant of a circle. Find the area of the shaded region:



- The distribution below gives the weights of 30 students in a class. Find the median weight of the students.

Weight (in kg)	40 – 45	45 – 50	50 – 55	55 – 60	60 – 65	65 – 70	70 – 75
Number of Students	2	3	8	6	6	3	2

- A student noted the number of cars passing through a spot on the road for 100 periods each of 3 minutes and summarized it in the table given below. Find the mode of the data.

Number of cars	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
Frequency	7	14	13	12	20	11	15	8

- Consider the following distribution of daily wages of 50 workers of a factory.

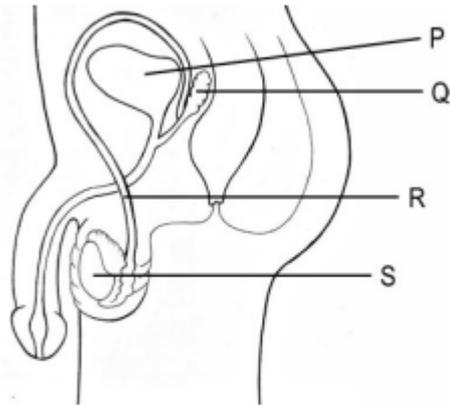
Daily wages (in Rs.)	500 – 520	520 – 540	540 – 560	560 – 580	580 – 600
Number of workers	12	14	8	6	10

Find the mean daily wages of the workers of the factory by using an appropriate method.

SCIENCE

Q1. Answer the following questions:

a. The diagram below represents the male human reproductive system.



Identify the part that is responsible for the secretion of testosterone.

1 P

2 Q

3 R

4 S

b. Plants produced through vegetative propagation are genetically identical to their parents.

What could be the biggest disadvantage of vegetative propagation?

c. The direction of the magnetic field around a current-carrying conductor can be determined using:

1. Fleming's Left-Hand Rule

2. Right-Hand Thumb Rule

3. Ampere's Law

4. Faraday's Law

d. The magnetic field lines around a current-carrying straight conductor form:

1. Concentric circles

2. Parallel lines

3. Radial lines

4. Elliptical lines

e. Which type of reproduction involves the fusion of gametes?

1. Asexual reproduction

2. Sexual reproduction

3. Vegetative propagation

4. Regeneration

f. How is regeneration different from fragmentation?

g. What could be the two most likely reasons for unicellular organisms to reproduce only through asexual reproduction?

h. Give two important advantages of AC over DC.

i. How does binary fission differ from multiple fission?

j. Define a solenoid. Compare the magnetic field produced by a solenoid with that of a bar magnet?

k. Draw the magnetic field lines around a bar magnet and a current-carrying straight conductor. How do they differ?

SOCIAL SCIENCE

Section A – Case-Based Questions

Q1. Read the passage and answer the questions:

In the 18th century, before factories were set up, textile production was carried out within domestic households. Merchants supplied raw materials and took finished goods for sale. However, with the invention of new machines, production moved to factories, and industrial cities grew rapidly.

- a. Explain how the shift from household production to factory system changed the lives of workers.
- b. Analyse how industrialisation impacted the urban landscape of Britain.
- c. How was industrialisation in India different from that in Britain?

Q2. Read the following excerpt and answer:

The print revolution not only transformed the lives of people, it also changed their relationship to information and knowledge. Ideas of enlightenment thinkers and reformers spread widely.

- a. How did print culture contribute to the spread of new ideas and democratic thinking?
- b. Evaluate how print culture became a powerful tool for reform movements in colonial India.
- c. “Print created the possibility of wide debate and discussion.” Substantiate the statement with examples.

Section B – Data Interpretation & Map Skills

Q3. Study the table and answer the questions:

Mineral	Leading Producing State	Uses	Major Challenges
Iron Ore	Odisha	Steel Industry	Depletion of high-grade ore
Bauxite	Jharkhand	Aluminium Industry	Environmental degradation
Coal	Chhattisgarh	Thermal Power	Pollution and displacement

- a. Identify one interrelationship between mineral availability and industrial location.
- b. Suggest two sustainable measures for mineral conservation.
- c. Which mineral is crucial for the automobile industry and why?

Q4. On the outline map of India (to be attached by the student):

- Mark and label one Iron and Steel Plant.
- Mark a major Coalfield.
- Mark one centre of Cotton Textile Industry.
- Identify one area rich in Bauxite deposits.

Section C – HOTS Questions

Q5. Industrialisation required huge energy resources and raw materials.

- a. Examine how mineral and energy resources supported the growth of manufacturing industries.
- b. Evaluate the environmental consequences of rapid industrialisation in modern times.

Q6. Compare the role of technology in:

- The Industrial Revolution (18th–19th centuries)
- The Information Revolution (20th–21st centuries)

What similarities and differences can you identify in terms of impact on society, labour, and communication?

Q7. India aims to achieve sustainable industrial growth while conserving resources.

- a. Propose three policy measures that could ensure environmentally sustainable industrialisation.
- b. How can modern print and media culture be used to raise awareness about sustainable resource use?

Section D – (Essay Type)

Q8. “Industrialisation, while bringing economic progress, also widened social inequalities.”

Discuss the statement with reference to both **19th-century Europe** and **colonial India**, and suggest how modern industries can learn from these experiences to ensure **inclusive growth**.

ARTIFICIAL INTELLIGENCE

1. **The main goal of NLP is to:**
 - a) Teach humans computer language
 - b) Enable computers to understand human language
 - c) Create new programming languages
 - d) Improve hardware speed

2. **Which of the following is not an application of NLP?**
 - a) Chatbots
 - b) Speech Recognition
 - c) Image Classification
 - d) Machine Translation

3. **The process of dividing text into individual words or phrases is called:**
 - a) Parsing
 - b) Tokenization
 - c) Lemmatization
 - d) Clustering

4. **Which NLP task is used to determine the emotion of a text?**
 - a) Sentiment Analysis
 - b) Tokenization
 - c) POS Tagging
 - d) Syntax Parsing

5. **The process of converting speech into text is known as:**
 - a) Speech Synthesis
 - b) Text Generation
 - c) Speech Recognition
 - d) Word Embedding

6. Explain the difference between **Syntax** and **Semantics** in NLP.
7. What is Natural Language Processing (NLP)?
8. Name two main components of NLP.
9. Mention any two real-world applications of NLP.
10. What is the goal of NLP?
11. Define “Tokenization” in NLP.
12. What is “Stemming” in NLP?
13. What is “Lemmatization”? How is it different from stemming?
14. What do you mean by “Sentiment Analysis”?
15. What is “Machine Translation”? Give one example.
16. Define “Speech Recognition.”
17. Name any two challenges faced in NLP.
18. What is the role of Machine Learning in NLP?
19. Name two popular NLP libraries or tools.
20. What is a “Chatbot”? How does it use NLP?
21. Define “Named Entity Recognition (NER).”
22. What is “Stop Words Removal” and why is it important?
23. How does NLP help in language translation?
24. Give one example of NLP application used in daily life.
25. What role does **Machine Learning** play in NLP?

INFORMATION TECHNOLOGY

- 1.** Workplace safety is essential in an organisation because it helps —
 - a)** Avoid accidents and injuries
 - b)** Increase productivity
 - c)** Improve the work environment
 - d)** All of the above

- 2.** The security department is not responsible for —
 - a)** Personal safety
 - b)** Computer system and equipment safety
 - c)** Electrical safety
 - d)** Personal belongings

- 3.** The health of an employee refers to the state of —
 - a)** Physical well-being only
 - b)** Physical, mental and social well-being
 - c)** Mental well-being only
 - d)** Social well-being only

- 4.** Which of the following can cause hazards while using computers?
 - a)** Poor sitting posture or long sitting duration
 - b)** Drinking water at workplace
 - c)** Taking breaks between work
 - d)** Proper lighting

- 5.** Poor ventilation, poor lighting, and poor housekeeping are examples of —
 - a)** Office rules
 - b)** Good workplace habits
 - c)** Workplace hazards
 - d)** Electrical maintenance

- 6.** Ergonomics deals with —
 - a)** Designing and arranging things for comfortable working
 - b)** Controlling temperature
 - c)** Managing files and folders
 - d)** Operating machines safely

- 7.** The function of a safety guideline checklist is to —
 - a)** Teach new employees
 - b)** Ensure a safe and secure workplace
 - c)** Increase profit
 - d)** Record attendance

- 8.** Which of the following causes air pollution in an organisation?
 - a)** Using a centralised air conditioner
 - b)** Overuse of vehicles and dust generation
 - c)** Drinking filtered water
 - d)** Maintaining gardens

- 9.** Repetitive movement of muscles or poor wrist posture can lead to —
 - a)** Headache
 - b)** Eye strain
 - c)** Occupational Overuse Syndrome (OOS)
 - d)** Stress

10. The first step in handling accidents and emergencies is to —

- a)** Wait for others to respond
- b)** Run away from the site
- c)** Attend to the injured person immediately
- d)** Fill an incident report