

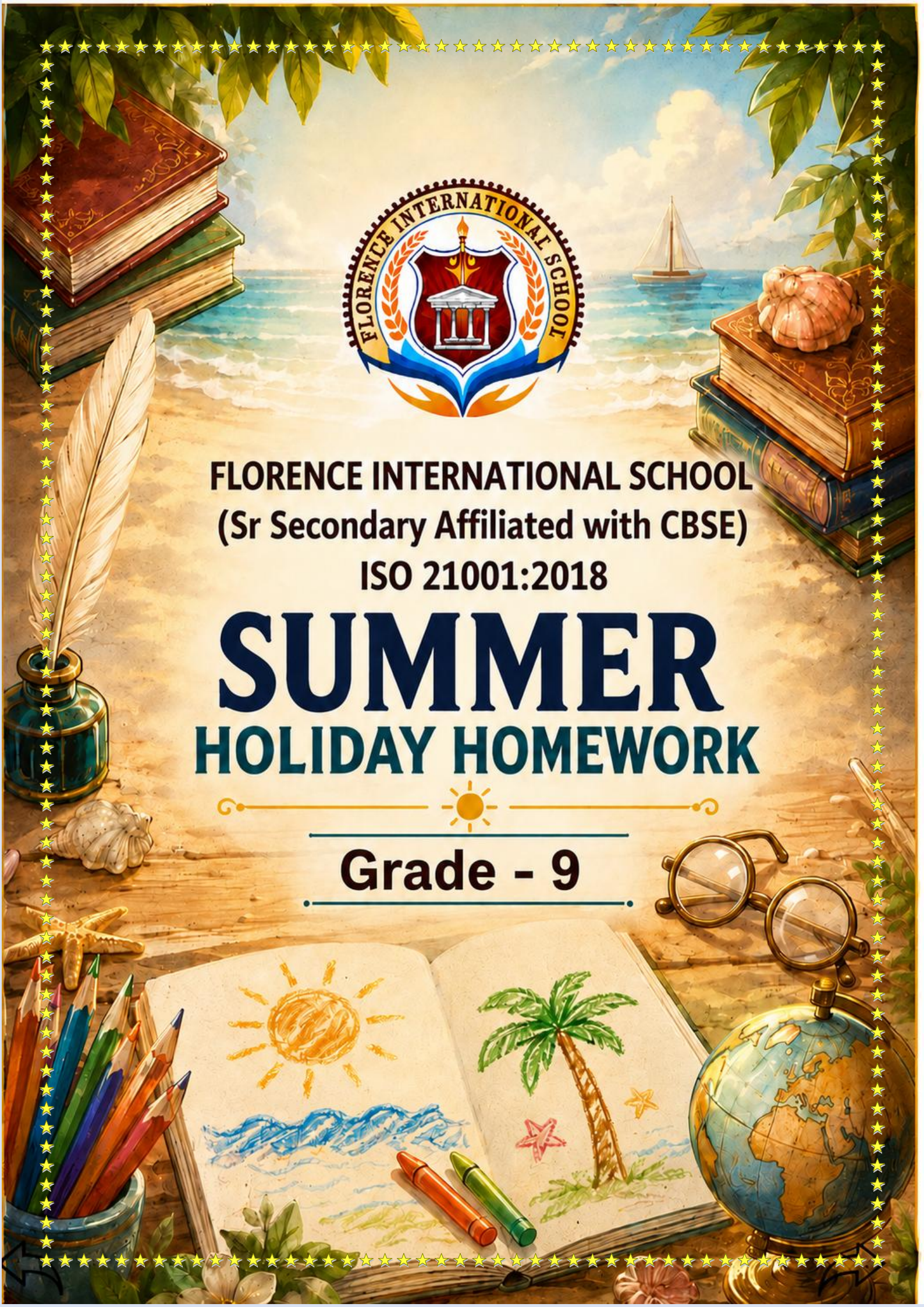


FLORENCE INTERNATIONAL SCHOOL
(Sr Secondary Affiliated with CBSE)
ISO 21001:2018

SUMMER

HOLIDAY HOMEWORK

Grade - 9



ENGLISH

GENERAL INSTRUCTIONS

1. Complete all work neatly in a separate English school notebook /file.
2. Use coloured sheets, drawings, and creative presentation wherever required.
3. Attempt all answers in your own words.
4. Focus on creativity, critical thinking, and language accuracy.

SECTION A – POETRY ENRICHMENT

Attempt Any Two Poems from *Kaveri*

For Each Poem, Complete the Following:

1. About the Poet

- Brief introduction of the poet
- Writing style
- Famous works (50–60 words)

2. Write the summary in 80–100 words.

3. Theme and Message

- Central idea of the poem
- Moral/social message (80–100 words)

4. Poetic Devices

Identify and explain any FIVE poetic devices used in the poem:

Examples:

- Alliteration
- Metaphor
- Simile
- Imagery
- Repetition
- Personification
- Enjambment
- Symbolism

5. Critical Analysis

- What emotions does the poem create?
- How is the poem connected with real life?
- What lesson did you learn from the poem?

6. Creative Response

Choose ANY ONE:

- Draw an important scene from the poem
- Write an alternative title with a reason
- Compose 6–8 original lines inspired by the poem
- Create a comic strip based on the poem



★ **SECTION B – PROSE CHAPTER ANALYSIS**

★ Attempt Any Two Chapters from *Kaveri*

★ For Each Chapter, Do the Following:

★ **1. Chapter Summary**

★ Write the summary in 100–120 words.

★ **2. Character Sketch**

★ Write about one major character:

- ★ • Personality traits
- ★ • Important actions
- ★ • Strengths and weaknesses
- ★ • Values learnt

★ **3. Critical Analysis**

★ Answer the following:

- ★ • What social issue or moral value is highlighted in the chapter?
- ★ • Which incident affected you the most and why?
- ★ • How does the chapter connect with present-day society?

★ **4. Creative Activity**

★ Choose ANY ONE:

- ★ • Newspaper report based on the chapter
- ★ • Interview with a character
- ★ • Diary entry of the protagonist
- ★ • Alternative ending
- ★ • Conversation between two characters

★ **SECTION C – LANGUAGE AND WRITING SKILLS**

★ **1. Vocabulary Builder**

- ★ • 15 difficult words from poems
- ★ • 15 difficult words from chapters

★ Write:

- ★ • Meaning
- ★ • Synonym
- ★ • Antonym
- ★ • Sentence formation

★ **2. Writing Skills (Attempt ANY TWO)**

★ **Persuasive Essay**

- ★ 1. Can artificial intelligence replace teachers?
- ★ 2. Is technology bringing people closer or making them isolated?
- ★ 3. Should plastic bags be completely banned?
- ★ 4. Is every citizen responsible for protecting the environment? (120–150 words each)

★ **SECTION D – SPOKEN ACTIVITY (Prepare any one)**

- ★ • Importance of Nature
- ★ • Human Emotions in Poetry
- ★ • Lessons from Inspirational Poems



- Courage and Determination
- Importance of Education
- Role of Family and Friendship

Grammar Section

Q1. Fill in the blanks with the correct form of the verbs given in brackets.

1. By the end of this month, the authorities _____ (complete) the renovation work.
2. The students _____ (discuss) the project when the teacher entered the room.
3. She _____ already _____ (submit) the assignment before the deadline.
4. If people _____ (follow) traffic rules properly, many accidents can be avoided.
5. The train _____ (leave) before we reached the station yesterday.
6. At this time tomorrow, we _____ (travel) to Jaipur.
7. He _____ (work) in this company since 2018.
8. While the children _____ (play) outside, it suddenly started raining.
9. I _____ never _____ (witness) such a breath-taking performance before.
10. The Earth _____ (move) around the Sun.

Q2. Identify the tense used in the following sentences.

1. She has been preparing for the examination since morning.
2. The players had left before the rain started.
3. We shall be attending the conference tomorrow.
4. He writes articles for the school magazine.
5. The baby is crying loudly.

Q3. Fill in the blanks with suitable determiners.

1. _____ students in the class completed the assignment on time.
2. There is hardly _____ water left in the bottle.
3. She did not make _____ mistake in the report.
4. _____ child deserves proper education and care.
5. I have visited this museum _____ times before.
6. He bought _____ European painting at the exhibition.

Q4. Choose the correct determiner.

1. There are _____ chairs in the auditorium.
 - a) much
 - b) many
 - c) little
 - d) less
2. _____ of the participants was selected for the final round.
 - a) Each
 - b) Much
 - c) Little
 - d) Several
3. I do not have _____ information about the event.
 - a) many
 - b) several
 - c) any
 - d) few

3. We _____ obey the rules of the school.

- a) should
- b) may
- c) could
- d) might

Q8. Change the following sentences into indirect speech.

1. Rohan said, "I have completed my project."
2. The teacher said to the students, "Do not waste your time."
3. She said, "I was reading a novel yesterday."
4. Father said to me, "Will you attend the meeting tomorrow?"
5. The doctor said, "Take this medicine regularly."
6. They said, "We are planning a trip to Shimla."
7. The coach said to the players, "Practice regularly if you want to win."

Q9. Editing

Each line contains one error. Identify the error and write the correction.

Sentence Error Correction

1. She does not trust strangers easily. | _____ | _____ |
2. The boys were playing in the ground. | _____ | _____ |
3. My friend has completed the assignment. | _____ | _____ |
4. Neither the students nor the teacher was present. | _____ | _____ |
5. He doesn't understand the importance of discipline. | _____ | _____ |

हिंदी परियोजना कार्य

1. नारी शक्ति: (Women Empowerment) Roll number 1-5
2. भारतीय संस्कृति और परंपरा: (Indian Culture and Traditions) Roll number 6-10
3. आधुनिकता और परंपरा: (Modernity and Tradition) Roll number 11- 15
4. Social media aur humari zindagi (सोशल मीडिया और हमारी जिंदगी) Roll number 16-20
5. सांस्कृतिक विविधता (Cultural diversity) Roll number 21-25
6. युवाओं की भूमिका (Role of youth) 26 - above

नोट -

- प्रैक्टिकल फ़ाइल सही फ़ॉर्मेट में होनी चाहिए।
- 1. कवर पेज (प्रोजेक्ट का शीर्षक, विषय, छात्र का नाम, कक्षा और सेक्शन, रोल नंबर, स्कूल का नाम, शिक्षक का नाम, सत्र (जैसे, 2026-27))
- 2. आभारोक्ति (Acknowledgement) एक छोटा सा धन्यवाद नोट लिखें।
- 3. उद्देश्य (Objectives) बताएँ कि आप क्या सीखना चाहते हैं।

5. यह कहानी केवल पशुओं की नहीं, बल्कि मनुष्यों के जीवन पर भी लागू होती है—कैसे? उदाहरण देकर समझाइए।

रैदास के पद

1. रैदास के पदों में 'मन की शुद्धता' को इतना महत्व क्यों दिया गया है? अपने शब्दों में उदाहरण सहित समझाइए।
2. "मन चंगा तो कठौती में गंगा" — इस पंक्ति का गहरा अर्थ क्या है? क्या यह आज के जीवन में भी लागू होता है? तर्क सहित लिखिए।
3. रैदास ने बाहरी आडंबरों (जैसे तीर्थ, पूजा-पाठ) की बजाय आंतरिक भक्ति पर ज़ोर क्यों दिया है? अपने विचार व्यक्त करें।
4. रैदास के अनुसार सच्ची भक्ति किसे कहा जा सकता है? क्या केवल पूजा करना ही भक्ति है? अपने उत्तर को स्पष्ट करें।
5. क्या आप मानते हैं कि केवल अच्छे कर्म ही व्यक्ति को महान बनाते हैं? रैदास के विचारों के आधार पर अपने मत को स्पष्ट कीजिए। "ईश्वर हर जगह है" — इस विचार को रैदास के पदों के आधार पर समझाइए और इसका महत्व बताइए।

रचनात्मक लेखन

"सच्ची मित्रता और समानता" विषय पर अपने विचार लिखिए (दोनों पाठों से प्रेरणा लेकर)।

SOCIAL SCIENCE

Roll No. 1-7: Climate Journalists 🌤️

- Make a "Weather Diary" for 10 days
- Record temperature, humidity, and rainfall
- With reference to the Indian climate pattern

OR

Inside India's Election Machine"

Very interactive and real-life based

Include:

- Step-by-step election process
- EVM vs ballot paper comparison
- Model voter ID card (you can design one)
- Fake vs fair voting awareness
- Mini mock election results page

Roll No. 8-13

Globalization: How the World is Connected"

Include:

- Meaning of globalization
- MNCs (like Apple, Samsung, etc.)
- Cultural exchange (food, fashion, music)
- Pros and cons

- India's role in the global market

creativity - Use pictures, drawings, data analysis, bar graphs, and so on.

Roll No. 14-19

Make a beautiful journal writing on the evolution of money from the ancient period to the modern period, consisting of the following information:

- Commodity money
- Metallic money
- Paper money
- Digital money

creativity - images, drawings, and cutouts can be used for better illustration.

Roll No. 20-25

India in Crisis: How a Disaster Becomes a Turning Point"

Include:

- One major disaster (Kerala Floods / Odisha Cyclone / Nepal Earthquake impact on India)
- Government response vs public response
- Role of NDMA and NGOs
- Before–after analysis with images
- Your own "improvement plan."

creativity - originality, facts, newspaper cutting, Mitigation strategies need to be included.

. Roll No. 26 onwards

.Smart India 2050: Future Cities Project"

Include:

- Future transport (metro, drones, EVs)
- AI in cities
- Water recycling systems
- 3D sketch of future city
- Your innovations

creativity - pictures, sketches, miniatures, 3d images need to be included.

Working models

1. Smart Village Model

Concept: A modern village using technology, renewable energy, and clean facilities.

Materials Required:

- Cardboard base / thermocol sheet
- Clay or playdough (houses, trees, people)

- Small LED lights (solar street lights)
- Small solar panel (optional but impressive)
- Ice cream sticks (fences, huts, wells)
- Matchboxes (houses)
- Green paper / artificial grass
- Cotton (clouds, water tanks)
- Mini water pump or blue paper (irrigation canal)
- Toy vehicles / tiny figurines
- Fevicol / glue, scissors, sketch pens

<https://youtu.be/qdTlj6o2p8Q?si=TCaqqXPjdlR-w-oq>

2. Earthquake-Resistant Building Model

Concept: Shows how buildings survive earthquakes using engineering design.

Materials Required:

- Foam board / thick cardboard base
- Ice cream sticks/straws (building frame)
- Rubber bands (shock absorption demo)
- Sponge pieces (base isolation system)
- Fevicol / glue gun
- Scale ruler
- Small weights (to test stability)
- Thread/wire (reinforcement bars concept)
- Toy building or handmade structure
- Plastic tray or shaking platform

<https://www.youtube.com/watch?v=WyePQZs7evU>

3. Sustainable Transport City Model

Concept: Eco-friendly transport system (metro, cycle lanes, electric vehicles).

Materials Required:

- Cardboard base
- Colored paper (roads, cycle tracks, metro lines)
- Matchboxes / small cartons (buildings)
- Toy cars, buses, and metro trains

- Straws or sticks (street poles)
- Cotton (pollution clouds – optional for contrast)
- Small LED lights (traffic signals)
- Battery-operated mini lights (stations)
- Green felt paper (parks and trees)
- Thread (rail tracks or cable cars)

https://www.youtube.com/results?search_query=sustainable+transport+city+working+model

4. Parliament & Election Working Model

Concept: Shows the voting system and the functioning of Parliament.

Materials Required:

- Cardboard (Parliament building backdrop)
- Small paper boxes (MP seats)
- Mini name tags (Prime Minister, Speaker, MPs)
- Ballot box (small decorated box)
- Paper slips (ballots/voting cards)
- Colored marbles or beads (vote counting)
- Charts showing “Election process steps.”
- Marker pens/sketch pens
- Mini flags (India flag)
- Pins or Velcro strips (for movable members)

https://www.youtube.com/results?search_query=election+working+model+school+project

5. Smart City / Green City Model

Concept: Clean, technology-driven city with greenery and sustainability.

Materials Required:

- Thermocol base or thick cardboard
- Artificial grass / green paper
- Small LED Street lights
- Solar panels (mini craft version)
- Matchboxes/clay houses
- Toy cars, metro, buses
- Waste segregation bins (colored bottle caps/boxes)

- Cotton (clouds, water cycle display)
- Small water tank or blue plastic sheet (lake/river)
- Paper trees / miniature plants
- Ice cream sticks (roads, bridges)

https://youtu.be/XS8hU1X8j0s?si=MhK35oATmYQ7_IYz

Worksheet based on conceptual understanding

◆ Section A – Multiple Choice Questions (MCQs)

1. Social Science mainly helps us to:
 - a) Learn only history
 - b) Understand society and its functioning
 - c) Study mathematics
 - d) Learn languages
2. Democracy is based on:
 - a) Military rule
 - b) Hereditary rule
 - c) Rule of the people
 - d) Dictatorship
3. Which of the following is NOT a factor of production?
 - a) Land
 - b) Labour
 - c) Education board
 - d) Capital
4. The earliest civilisation among the following is:
 - a) Roman Civilisation
 - b) Indus Valley Civilisation
 - c) Greek Civilisation
 - d) Egyptian Civilisation

◆ Section B – Fill in the Blanks

1. Social Science helps us understand _____ and society.
2. In a democracy, the power lies with the _____.
3. The study of wealth and resources is called _____.
4. Harappan civilization developed around the river _____.

◆ Section C – True or False

1. Democracy allows equal participation of citizens. (_____)
2. Economics is only about money. (_____)
3. Early civilisations developed near rivers. (_____)
4. Social Science has no real-life importance. (_____)

◆ Section D – Very Short Answer Questions

1. What is Social Science?
2. Define democracy in one line.
3. Name the four factors of production.
4. What are early civilisations?

◆ **Section E – Short Answer Questions (3–4 Marks)**

1. Explain the importance of studying Social Science.
2. Write any three features of democracy.
3. What are the basic building blocks of economics? Explain briefly.
4. Why did early civilisations develop near river valleys?

◆ **Section F – Long Answer Questions (5 Marks)**

1. Explain the role of Social Science in understanding modern society with examples.
2. Describe the key features and importance of democracy in today's world.
3. Discuss the main factors of production in economics with examples.
4. Write a detailed note on early civilisations and their contributions to human development.

◆ **Section G – Case-Based Question**

Read the passage:

“Early humans settled near rivers because water was easily available. Fertile soil helped farming. Gradually, towns and cities developed.”

Answer:

1. Why did early humans settle near rivers?
2. What role did fertile soil play?
3. Name one early civilization.
4. What does this tell us about human development?

◆ **Section H – Activity-Based Questions**

1. Draw a diagram showing factors of production.
2. Make a flowchart of the features of democracy.
3. Mark any two ancient civilisations on a world map.
4. Create a poster on “The Importance of Social Science in Daily Life”.

Mathematics

1. Practical file

Roll no 1 to 5 - Coordinate Geometry

Roll no 6 to 10 - polynomial

Roll no 11 to 15 - Natural no, integers, and Rational no.

Roll no 15 to 20 - Irrational no.

Roll no 21 to 25 - Real no.

Roll no 26 to 29 - Introduction to Euclid's geometry: Axioms and Postulates.

And write a contribution of 5 Indian mathematicians in the field with their photos. (For all students in the same practical file)



★ **Note -**

- ★ 1. The practical file should be in proper format.
- ★ ° Cover page (Title of the file, subject, class,
- ★ 1. Use a paper folder or a handmade folder (Don't use plastic folders)
- ★ 2. Write neatly
- ★ 3. The practical file should consist of at least 20 pages.

★ 2. Make a Maths Formula Chart Book

★ Or prepare a Maths Magazine with:

- ★ Facts
- ★ Tricks
- ★ Short stories related to maths
- ★ Do lab manual activities 1 to 10.

★ **PART I: MULTIPLE CHOICE QUESTIONS**

★ 1. A strategic coordinate point begins at the origin (0, 0). If it shifts 3 units horizontally left along the x-axis and then 4 units vertically upwards parallel to the y-axis, establish its final placement vector.

- ★ (a) (3, 4) (b) (-3, 4) (c) (-3, -4) (d) (4, -3)

★ 2. An engineering surveyor notes that point K is restricted strictly to the horizontal x-axis and sits exactly 5 units to the left of the vertical baseline. Identify the exact coordinates of point K.

- ★ (a) (0, -5) (b) (5, 0) (c) (0, 5) (d) (-5, 0)

★ 3. Which of the following structured mathematical expressions completely qualifies as a true linear polynomial ?

- ★ (a) $3x^2 + 4$ (b) $3x + 4$ (c) $3/x + 4$ (d) $3\sqrt{x} - 1$

★ 4. A localized linear expression reads $p(x) = 2x - 8$. Determine the absolute numerical zero (root) of this structural polynomial expression.

- ★ (a) $x = -4$ (b) $x = 2$ (c) $x = 4$ (d) $x = 8$

★ 5. Find the unique coordinates of the midpoint dividing the structural segment anchored between endpoints A(-2, 8) and B(6, -2).

- ★ (a) (2, 3) (b) (4, 6) (c) (2, 5) (d) (4, 3)

★ 6. Perimeter of triangle with vertices (0,0), (2,0), (0,2) is:

- ★ (a) $4 + \sqrt{2}$ (b) $2 + \sqrt{2}$ (c) $4 + 2\sqrt{2}$ (d) 6

★ 7. The triangle formed by points (-1, 4), (2, -3), (6, 5) is:

- ★ (a) Equilateral (b) Isosceles (c) Right-angled (d) Scalene

★ 8. If the x-coordinate is twice the y-coordinate, then point is:

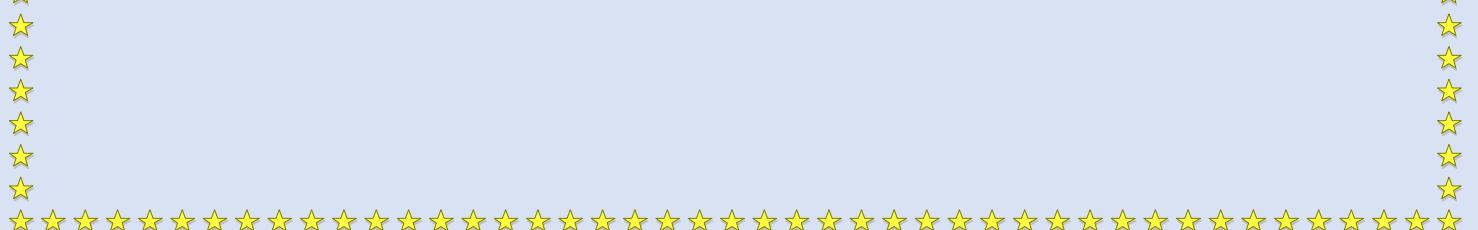
- ★ (a) (y, 2y) (b) (2y, y) (c) (y, y) (d) (2y, 2y)

★ 9. The perpendicular distance of the point (6, 2) from the x-axis is:

- ★ (a) 6 (b) 2 (c) 8 (d) 4

★ 10. The coordinates of a point lying on the x-axis at a distance of 5 units in the negative direction are:

- ★ (a) (0, 5) (b) (0, -5) (c) (-5, 0) (d) (5, 0)





★ **PART II: ASSERTION & REASONING**

- ★ **11.** Assertion (A): The geometric point $M(0, -4)$ resides directly along the horizontal baseline x -axis.
★ Reason (R): Any algebraic point whose horizontal x -coordinate parameter equals 0 lies natively on the vertical y -axis.
- ★ **12.** Assertion (A): The midpoint of the geometric segment running between points $C(-1, 2)$ and $D(3, 6)$ is calculated as $(1, 4)$.
★ Reason (R): The coordinate values of a segment's midpoint are established via the structured expressions: $x = (x_1 + x_2)/2$ and $y = (y_1 + y_2)/2$.

★ **PART III: VERY SHORT ANSWER QUESTIONS**

- ★ **13.** If a point is mapped inside Quadrant III, what can you definitively conclude regarding the respective signs of its x and y coordinate values?
- ★ **14.** Calculate the exact numerical zero of the linear polynomial expression structured as: $q(x) = 5x + 15$.
- ★ **15.** If the analytical origin $(0, 0)$ serves as the exact midpoint of a segment with one endpoint positioned at $A(-4, 3)$, find the coordinates of endpoint B .
- ★ **16.** Identify the structural degree of the unique constant polynomial expression $p(x) = 7$.
- ★ **17.** If $A(2, 4)$ is equidistant from $B(5, p)$ and $C(p, 6)$, find p .
- ★ **18.** Plot the points $L(-2, -2)$, $M(0, 0)$ and $N(2, 2)$. Are these collinear?

★ **PART IV: SHORT ANSWER QUESTIONS**

- ★ **19.** Consider three coordinate positions on a flat grid: $A(1, 2)$, $B(2, 4)$, and $C(3, 6)$. Prove analytically whether these three points are collinear.
- ★ **20.** The midpoint of a segment running between tracking endpoints $P(a, 4)$ and $Q(-2, b)$ is precisely recorded as $M(1, 5)$. Compute the individual values of constants a and b .
- ★ **21.** Find the coordinate point where the linear polynomial line mapping out the expression $y = 3x - 9$ cuts across the horizontal x -axis, and explain its connection to polynomial roots.
- ★ **22.** The vertices of a triangle are recorded on a grid as $X(0, 0)$, $Y(6, 0)$, and $Z(0, 8)$. Determine the exact coordinate parameters of the midpoint of its longest side (hypotenuse).
- ★ **23.** An algebraic expression is stated as: $P(x) = (k-2)x + 5$. Determine what specific value the constant parameter k cannot hold if this expression must remain classified as a linear polynomial.
- ★ **24.** Two vertices of a parallelogram are $(4, 3)$ and $(-2, 1)$, diagonals intersect at $(1, 2)$. Find other vertices.

★ **PART V: LONG ANSWER QUESTIONS**

- ★ **25.** An operational line segment is anchored securely between endpoints $A(-3, 4)$ and $B(6, -2)$. Find the coordinates of the points of trisection (the two distinct points dividing the segment into three equal parts).
- ★ **26.** A variable triangle has vertices distributed at $A(2, 3)$, $B(4, 7)$, and $C(6, -1)$. If point P is the exact midpoint of segment AB , and point Q is the exact midpoint of segment AC : Compute the structural coordinates of points P and Q .
- ★ **27.** Two distinct linear polynomials are mapped as expressions: $p(x) = 2x - 6$ and $q(x) = 4x - 20$.
1. Calculate the individual algebraic roots for both functions.
- ★ **28.** In a coordinate plane, $PQRS$ is a square. If P is at $(-3, 3)$ and R is at $(3, 3)$, find the





★ coordinates of the other two vertices Q and S (assuming the sides are parallel to the axes).

★ **PART VI: INTEGRATED CASE STUDY PROBLEMS (2 Items)**

★ **Q29 Case Study 1:** The Town Planning Map A city planner is designing a new park district. He uses a Cartesian plane to mark the locations of various utilities. The origin (0, 0) is the main entrance.

★ The Fountain (F) is located at (0, 3).

★ The Picnic Area (P) is at (4, 3).

★ The Restroom (R) is at (4, 0).

★ The Entrance (E) is at (0, 0).

★ Based on the above information, answer the following:

★ 1. What is the name of the geometric figure formed by joining the points E → F → P → R → E in order?

★ 2. What is the signs of the coordinates for a point if it were moved to the III quadrant?

★ 3. Find the coordinates of a point K that lies exactly halfway between the Entrance (0, 0) and the Restroom (4, 0).

★ 4. If a Food Stall (S) is placed such that its abscissa and ordinate are equal and it lies in the I quadrant at a distance of 5 units from the y-axis, what are its coordinates?

★ 5. What is the perpendicular distance of the Picnic Area (P) from the y-axis?

★ **Q30. Case Study 2:** Industrial Manufacturing Cost Control Models [4 Mark(s)]

★ An industrial packaging plant configures its manufacturing operating expenses using linear polynomial equations. The baseline expenditure model for running a production line is given by the expression: $C(n) = 150n + 1200$, where 'n' represents the volume of batches processed, and 'C' represents the total cost in rupees. Engineers plot this operation on a coordinate grid where the batch volume 'n' is mapped to the horizontal axis, and total cost 'C' is mapped to the vertical axis.

★ Evaluate the operational model parameters by answering the following questions:

★ 1. Identify what structural geometric component the constant value '1200' represents when this cost polynomial is mapped onto a coordinate grid.

★ 2. Calculate the exact slope of this linear polynomial line and interpret what this value means in terms of factory operating expenses.

★ 3. If the plant sets a maximum budget ceiling for a single run at $C = 4200$ rupees, solve the polynomial relation to find the maximum batch volume 'n' that can be safely processed.

Chemistry

★ **Topic: Investigatory Project Work**

★ **🎯 Objective**

★ To develop a scientific attitude, analytical thinking, and practical skills through investigatory projects based on real-life chemistry applications.

★ **📌 Project Topics**

★ **1. Roll No. 21-22**

★ Preparation and study of true solution, suspension, and colloid

★ **2. Roll No. 23-24**

★ Investigation of crystallization process using copper sulphate/alum





★ **3. Roll No. 25-26**

★ Exploration of the Shortcut of Matter: Study of sublimation using camphor/ammonium chloride

★ **4. Roll No. 27-29**

★ The Secret Colours of Ink: A Journey through Chromatography.

★ **5. Roll No. 30-32**

★ The limit of Dissolving: Measuring the Saturation Points.



★  **Work Instructions**

- ★ • Prepare a **handwritten investigatory project file**.
- ★ • Use **A4-size ruled sheets**.
- ★ • Attach **relevant diagrams, tables, and graphs**.
- ★ • Include **real observations/photographs (if possible)**.
- ★ • Maintain **neatness and proper headings**.

★  **PROJECT FILE FORMAT**

★ Your project must include the following sections:

★ **1. Cover Page**

- ★ • Title of project
- ★ • Student name
- ★ • Class & Section
- ★ • Roll number
- ★ • School name



★ **2. Certificate**



★ **3. Acknowledgement**



★ **4. Index**



★ **5. Introduction**

- ★ • Basic theory of the topic
- ★ • Importance in daily life



★ **6. Aim**



★ **7. Materials Required**



★ **8. Theory:** Scientific explanation with chemical principles.



★ **9. Procedure:** Step-by-step method.



★ **10. Observations**



★ **11. Calculations (if applicable)**



★ **12. Result**



★ **13. Conclusion**



★ **14. Precautions**



★ **15. Bibliography**



Section C – Short Answer Questions:

Q12. Describe the process of separating a mixture of sand, salt, and water.

Q13. Explain chromatography and mention one of its applications.

Q14. Differentiate between evaporation and distillation based on:

Purpose

Recovery of liquid

Heating process

Section D – Case Study-Based Question

Q15. Case Study

A student was given a mixture of iron filings, sand, and salt. He first used a magnet to separate iron filings. Then he added water to the remaining mixture and filtered it. Finally, he evaporated the filtrate.

Answer the following questions:

1. Why was a magnet used first?
2. What remained on the filter paper after filtration?
3. What was present in the filtrate?
4. What did the student obtain after evaporation?

Section E – Long Answer Question:

Q16. Explain any five methods of separation of substances with suitable examples.

Physics

- 1 to 10 rolls no
- Circular motion
- 11 to 20
- Laws of motion
- 21 to 30
- Gravitational force and its effect

Section A	
1	Which of the following options is correct? 1. The force of gravity on a body is equal to the true weight of the body. 2. A person standing in an elevator moving downwards with constant acceleration finds his weight less than actual. a) Only (i) is correct. b) Neither (i) nor (ii) is correct. c) Both (i) and (ii) are correct. d) Only (ii) is correct.
2	The unit of momentum can be expressed as a) N - s b) kg s ² /m c) $\frac{N}{s}$

	d) kg m/s^2
3	Bags at the top of school van are tied using a string to avoid the effect of a) inertia b) force c) acceleration d) momentum
4	The increase in velocity acquired by a 10 kg mass in 5 seconds due to a force of 10 N is a) 500 m/s b) 5 m/s c) 1 m/s d) 10 m/s
5	If an object experiences a net zero unbalanced force, then the body: a) cannot remain at rest b) can remain at rest c) can be accelerated d) moves with constant velocity
6	Which of the following statements is not correct for an object moving along a straight path in an accelerated motion? a) It always goes away from the earth b) Its speed keeps changing c) A force is always acting on it d) Its velocity always changes
7	Two blocks made of different metals, identical in shape and size, are acted upon by equal forces which cause them to slide on a horizontal surface. The acceleration of the second block is found to be 10 times that of the first. What is the ratio of the mass of the second to the first? a) 1 : 1 b) 1 : 10 c) 1 : 5 d) 10 : 1
8	Assertion (A): When astronauts throw something in space, that object continues moving in the same direction and with the same speed. Reason (R): The acceleration of an object produced by a net applied force is directly related to the magnitude of the force, and inversely related to the mass of the object. 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.
9	Assertion (A): The first law of motion is also known as the law of inertia. Reason (R): Newton's first law of motion states that a body at rest will remain at rest, and a body in motion will continue in motion in a straight line with a uniform speed unless it is compelled by an external force to change its state of rest or of uniform motion. 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.
10	Assertion (A): While catching a fast - moving cricket ball, a fielder in the ground gradually pulls his hands backwards. Reason (R): The fielder increases the time during which the high velocity of the moving ball decreases to zero. 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.
11	The given image shows an effect of force that it can



- a) Change the size of the object
- b) Move a stationary object
- c) Stop a moving object
- d) Change the shape of the object

12 Match the following with correct response.

(1) Force	(A) Newton
(2) Momentum	(B) Acceleration
(3) Unbalanced force	(C) Kg m/s
(4) Principle on rocket works	(D) Newton's third law of motion

- a) 1 - B, 2 - D, 3 - A, 4 - C
- b) 1 - D, 2 - A, 3 - C, 4 - B
- c) 1 - A, 2 - C, 3 - B, 4 - D
- d) 1 - C, 2 - B, 3 - D, 4 - A

Section B

13 A bullet fired against a glass window pane makes a hole in it, and the glass pane is not cracked. But on the other hand, when a stone strikes the same glass pane, it gets smashed. Why is it so?

- 14 Which of the following has more inertia:
1. A rubber ball and a stone of the same size?
 2. A bicycle and a train?
 3. A five-rupee coin and a one-rupee coin?

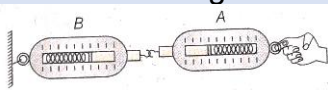
15 A hammer of mass 500 g, moving at 50ms^{-1} , strikes a nail. The nail stops the hammer in a very short time of 0.01 s. What is the force of the nail on the hammer?

16 Two persons manage to push a motor car of mass 1,200 kg at a uniform velocity along a level road. The same motor car can be pushed by three persons to produce an acceleration of 0.2ms^{-2} . With what force does each person push the motor car? Assume that all persons push the motor car with the same muscular effort.

17 An iron sphere of mass 1 kg is dropped from a height of 10 m. If the acceleration of sphere is 9.8ms^{-2} , calculate the momentum transferred to the ground by the ball.

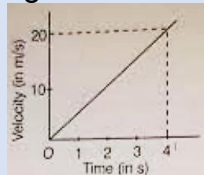
Section C

18 Look at the diagram below and answer the following questions:



1. When a force is applied through the free end of the spring balance A, then the reading on the spring balance A is 15 g - wt. What will be the measure of the reading shown by spring balance B?
2. Write the reasons for your answer.
3. Name the force that balance A exerts on balance B and the force of balance B on balance A.

19 The velocity - time graph of a ball moving on the surface of the floor is as shown in the figure. Calculate the force acting on the ball if the mass of the ball is 100 g.



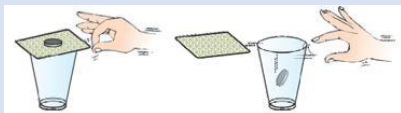
20 Give a reason for the following:

1. Road accidents occurring due to high speeds are much worse than accidents due to low speeds of vehicles.
2. When a motorcar makes a sharp turn at high - speed, the passenger tends to get thrown to one side.

Section D

21 **Read the passage and answer any four questions:**

All objects resist a change in their state of motion. Qualitatively, the tendency of undisturbed objects to stay at rest or to keep moving with the same velocity is called inertia. The first law of motion is also known as the law of inertia.



1. Newton's first law of motion says that a moving body should continue to move forever unless some external forces act on it. But a moving cycle comes to rest after some time if we stop pedaling it. Can you choose the correct reason for the stoppage of cycle?
 - a. Air resistance
 - b. The gravitational pull of the earth
 - c. The friction of the road
 - d. The heat of the environment

Choose the correct option:

- a. (III) and (IV)
 - b. (I) and (III)
 - c. (I) and (II)
 - d. (II) and (III)
2. Inertia is the property of a body by virtue of which, it cannot change by itself
 - a. its state of rest
 - b. its steady state of uniform motion
 - c. its direction of motion
 - d. all of the above
 3. 'When a hanging carpet is beaten with a stick, the dust particles start coming out of it'. This phenomenon can be best explained by making use of :
 - a. Newton's third law of motion

- b. Newton's law of gravitation
 - c. Newton's first law of motion
 - d. Newton's second law of motion
4. An athlete does not come to rest immediately after crossing the winning line due to the
- a. inertia of motion
 - b. inertia of rest
 - c. inertia of direction
 - d. None of the above
5. The speed of a car weighing 1500 kg increases from 36 km/h to 72 km/h uniformly. What will be the change in momentum of the car?
- a. 15000 kg km/h
 - b. 15000 kg m/s
 - c. 54000 kg m/s
 - d. 54000 g m/s

Biology

Roll No.10- A 3D model of a plant cell

Roll No 11- A 3D model of an animal cell

Roll no 12- A 3D model of an Eukaryotic cell

Roll no.13- A 3D model of a prokaryotic cell

Roll no.14-A 3D model of Mitosis

Roll no.15-Type of Joints

Roll no.16- Experiment showing Tot potency

Roll no.17- Investigating the effect of Light/ music on Plant growth

Roll no.18- Chart on Meristem and Permanent tissue

Roll no.19-Create a Herbarium file of Various plants.

Roll no.20- Create a Herbarium file of Various Animal species (Photos)

Note:

The model should be Clear.

A proper description should be given by the students on the allotted model.

Chapter: Cell – The Fundamental Unit of Life

Section A –

Multiple Choice Questions

1. Who discovered cells for the first time?

- a) Robert Brown
- b) Robert Hooke
- c) Schleiden
- d) Virchow

2. The basic structural and functional unit of life is:

- a) Tissue
- b) Organ

c) Cell

d) Nucleus

3. Which organelle is called the "powerhouse of the cell"?

a) Golgi apparatus

b) Ribosome

c) Mitochondria

d) Vacuole

4. Which structure controls all activities of the cell?

a) Cytoplasm

b) Nucleus

c) Cell wall

d) Lysosome

5. The cell membrane is:

a) Freely permeable

b) Impermeable

c) Selectively permeable

d) Rigid

6. Which organelle contains chlorophyll?

a) Plastid

b) Nucleus

c) Ribosome

d) Mitochondria

7.a) Both Assertion (A) and Reason (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.

Assertion (A): The nucleus is called the control centre of the cell.

Reason (R): The nucleus controls cellular activities and contains genetic material.

8. Assertion (A): Plant cells are generally more rigid than animal cells.

Reason (R): Plant cells possess a cell wall outside the cell membrane.

Section B-

Very Short Answer Questions

1. Define cell.

2. Write any two functions of the cell membrane.

3. Differentiate between prokaryotic and eukaryotic cells (any two points).

4. State two functions of the nucleus.

Section C-

Short Answer Questions

1. Differentiate between plant cells and animal cells.

2. Explain osmosis with an example.

3. Write the structure and function of mitochondria.

Section D-

Case Study

1) Riya observed a thin peel of onion under a microscope in the school laboratory. She noticed many rectangular box-like structures arranged closely together. Her teacher explained that cells are the basic structural and functional units of life. She also learned that different cells contain a cell membrane, cytoplasm and nucleus.

Answer the following questions:

i) Who first observed and named cells?

a) Robert Brown

b) Robert Hooke

c) Anton van Leeuwenhoek

d) Schleiden

ii) The basic structural and functional unit of life is:

- a) Tissue
- b) Organ
- c) Cell
- d) Organ system

iii) Which structure controls all activities of the cell?

iv) Name the jelly-like substance present between the cell membrane and nucleus.

2) Aman studied two types of cells under a microscope: one from an onion peel and another from human cheek cells. He observed that the plant cell possessed a cell wall and a large vacuole, while the animal cell lacked a cell wall.

Answer the following questions:

i) Which structure is present only in plant cells?

- a) Nucleus
- b) Cytoplasm
- c) Cell wall
- d) Cell membrane

ii) Which organelle is known as the "powerhouse of the cell"?

iii) What is the function of vacuoles in plant cells?

iv) Name the cell organelle responsible for photosynthesis.

Section E –

Long Answer Question

1. Draw a labelled diagram of a plant cell and explain the functions of any five cell organelles.

Computer

1. ELEMENTS OF COMMUNICATION

Material required: - chart paper, colours, and pencil

Procedure: - Make a chart showing the elements of communication in the communication process cycle.

2. Activity: Poster Making

Topic:

Barriers of Communication OR

7 Cs of Communication

3. Activity: Finger Placement Chart

Draw a keyboard layout and show:

Home row keys (ASDF; LKJ)

Finger positions

✎ Label each finger:

Left pinky, ring, middle, index

Right pinky, ring, middle, index

Section A – Multiple Choice Questions

1. Communication is the process of:

- a) Sleeping
- b) Exchanging information
- c) Cooking
- d) Writing only

2. Which of the following is non-verbal communication?

- a) Speaking
- b) Writing
- c) Facial expressions
- d) Reading

3. The receiver is the person who:



- ★ a) Agriculture
- ★ b) IT industry
- ★ c) Sports
- ★ d) Transport

★ 15. Which machine is mainly used in IT work?

- ★ a) Refrigerator
- ★ b) Computer
- ★ c) Fan
- ★ d) Television

★ **Section B – Short Answer Questions**

- ★ 1. Define communication.
- ★ 2. What is verbal communication?
- ★ 3. Write any two barriers to communication.
- ★ 4. What is active listening?
- ★ 5. State any two advantages of effective communication.
- ★ 6. What is written communication?
- ★ 7. Give any two examples of visual communication.
- ★ 8. Define non-verbal communication.
- ★ 9. State two advantages of written communication.
- ★ 10. What is visual communication?
- ★ 11. Define Information Technology.
- ★ 12. What is ITeS?
- ★ 13. Write any two uses of IT in education.
- ★ 14. What is BPO?
- ★ 15. Name any two IT-enabled services.

★ **Section C – Long Answer Questions**

- ★ 1. Explain the communication cycle with a diagram.
- ★ 2. Differentiate between verbal and non-verbal communication.
- ★ 3. Explain the importance of communication skills in daily life.
- ★ 4. Differentiate between oral and written communication.
- ★ 5. Explain the role of IT in modern society.
- ★ 6. Explain the importance of the ITeS industry in India.

★ **Section D – Application-Based Questions**

- ★ 1. Riya is giving a presentation in class, but students sitting at the back cannot hear her because of the loud noise outside.
 - ★ Identify the barrier to communication.
 - ★ Suggest two ways to improve communication.
- ★ 1. Aman does not maintain eye contact while speaking to others. Which communication skill is missing?
 - ★ 2. How can he improve it?
- ★ 3. A company wants to send an important notice to all employees and keep a permanent record of it. Which method of communication should be used? Give two reasons for your answer.
- ★ 4. Ravi works in a call centre where he helps customers solve their problems over phone calls. Which industry does Ravi work in?
 - ★ Explain the role of call centres in customer service.

