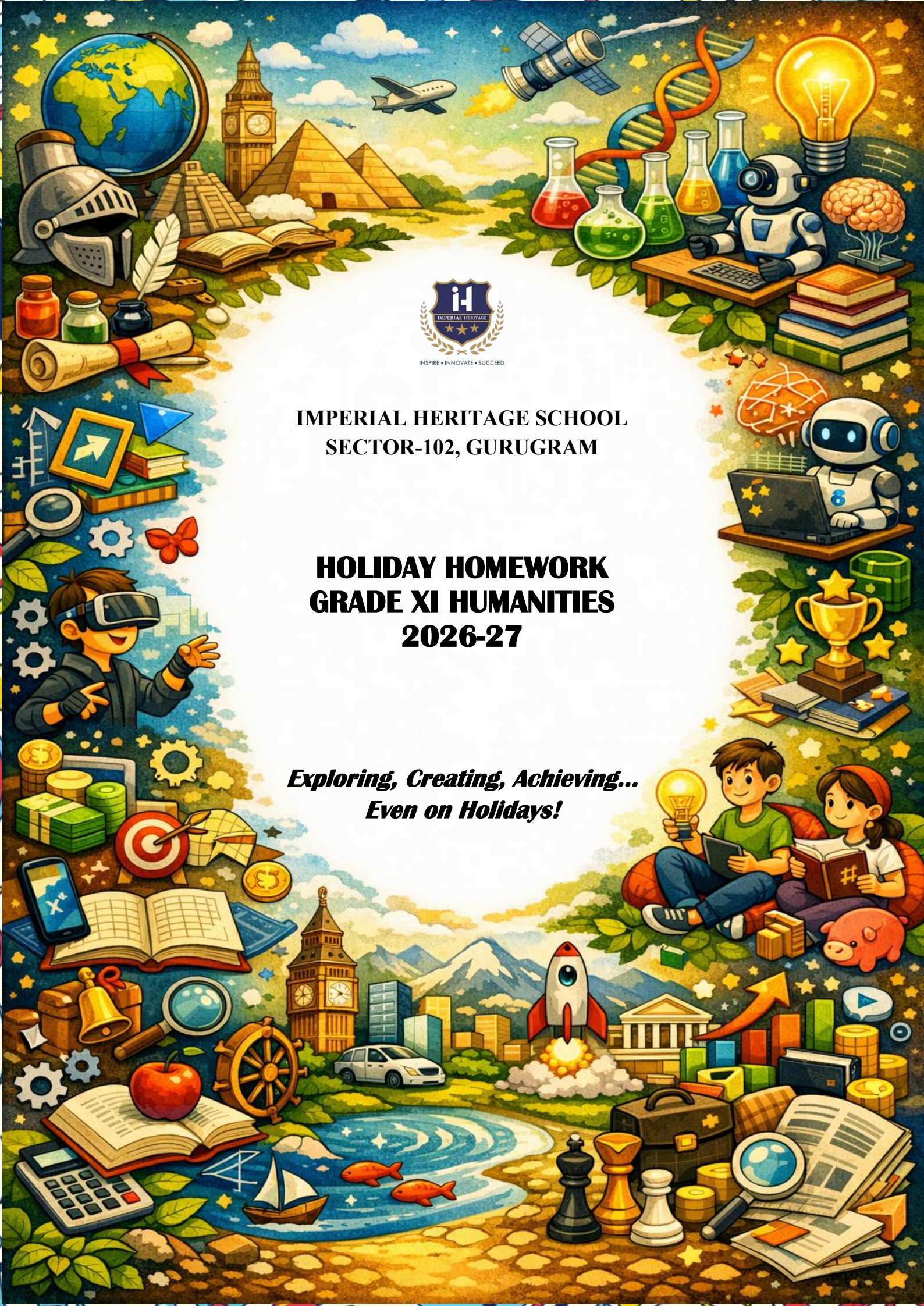




**IMPERIAL HERITAGE SCHOOL
SECTOR-102, GURUGRAM**

**HOLIDAY HOMEWORK
GRADE XI HUMANITIES
2026-27**

*Exploring, Creating, Achieving...
Even on Holidays!*



“Curiosity Never Goes on Vacation—and neither does the joy of learning.”

Dear Parents,

Warm greetings!

At Imperial Heritage School, we view learning as a continuous journey—one that extends far beyond the classroom walls. The purpose of holiday homework is not merely to keep students occupied, but to inspire them to explore, reflect, and grow independently. It is an opportunity for children to connect classroom knowledge with the world around them, while discovering their own unique ways of learning.

The Purpose Behind Holiday Homework

Holiday assignments are thoughtfully designed to:

- Sustain the rhythm of learning even during the break
- Encourage application of concepts in everyday life
- Develop responsibility, discipline, and effective time management
- Strengthen analytical thinking, creativity, and problem-solving abilities

Learning Through Projects

Each assignment is aligned with CBSE guidelines and focuses on experiential, project-based learning. These tasks are curated to ensure meaningful engagement, allowing students to bridge theory with practical understanding in a creative and enjoyable manner.

Assessment Parameters

Holiday homework will form a part of Internal Assessment and will be evaluated on:

- Content
- Presentation
- Relevance
- Creativity
- Originality
- Timely Submission

Kindly Note the Project/Practical written work assigned will be evaluated as CBSE project.

Guidelines for Students

- **Be Authentic:** Your work should reflect your own ideas and efforts.
- **Plan Ahead:** Break tasks into small parts and complete them gradually.
- **Follow Instructions:** Read each guideline carefully before beginning.
- **Maintain Neatness:** Clear, organized work always creates a strong impression.
- **Think Creatively:** Present your work in an innovative and engaging manner.
- **Read Daily:** Cultivate the habit of reading to expand your imagination and language skills.
- **Practice Mathematics:** Consistency is key—regular practice leads to mastery.
- **Seek Guidance, Not Substitution:** Parents may guide, but students must complete the work independently.
- **Prioritize Quality:** Focus on depth, clarity, and meaningful content.

A Fresh Thought for Our Learners

“Where Questions Bloom”

When holidays stretch like open skies,
Let wonder wake and questions rise.
Not all learning lives in books,
It hides in paths and curious looks.
In silent thoughts, in things you make,
In every risk you choose to take,
In colours mixed or stories spun,
In problems solved just for the fun.

A restless mind, a seeking heart,
That’s where true journeys always start.
So learn, explore in your own way—
Let curiosity lead each day.

Submission Date: 6th July, 2026

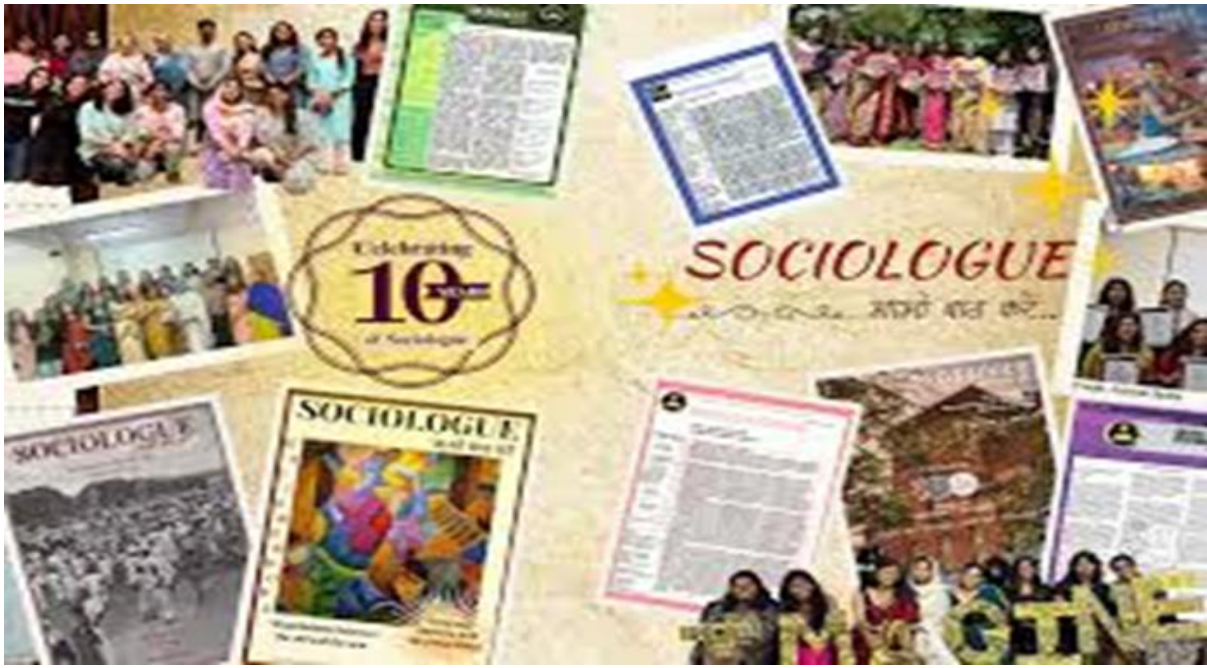
We eagerly await the thoughtful and creative work our students will present. May this vacation be a time of joyful discovery, meaningful experiences, and personal growth. Wishing you all a safe, refreshing, and enriching summer break!

Warm regards,

**Ms. Neelu Sharma
Principal**

SOCIOLOGY

“The goal of sociology is to understand the laws of social phenomena.” -August Comte



I- PROJECT WORK GUIDELINES

Students are required to prepare a Sociology project during the holidays. Follow the steps given below carefully to complete your project in a systematic and meaningful way.

Project work will help students:

- By undertaking this project, students will be able to:
- Understand key concepts, theories, and perspectives of sociology in real-life contexts.
- Relate classroom learning to everyday social issues such as inequality, globalization, culture, and social change.
- Learn basic research methods such as observation, surveys, interviews, and data collection.
- Analyse social phenomena objectively and develop reasoned arguments based on evidence.
- Recognize and appreciate diversity in terms of caste, class, gender, religion, and region.
- Present ideas clearly through written reports, charts, graphs, and oral presentations.
- Become more sensitive to social issues and develop a sense of responsibility towards society.

STEP 1: SELECTION OF TOPIC

- Students must select a social issue as the topic for their research work.
- The topic should be relevant to contemporary society.
- Selection of the topic must be done only after taking approval from the subject teacher.

STEP 2: PREPARATION OF ROUGH DRAFT

Prepare a rough draft of your project in the following order:

1. Index

- List all the sections of your project along with page numbers.

2. Acknowledgement

- Write a short note expressing gratitude to your teacher, school, and anyone who helped you in completing the project.

3. Introduction

- Introduce your topic clearly.
- Explain what the issue is and why it is important in society.

4. Statement of Purpose

- State the objectives of your study.

5. Methodology

- Explain how you collected information.
- Sources may include:
 - Newspapers
 - Magazines
 - Internet articles
 - Interviews/Questionnaire

6. Presentation of Evidence

- Collect relevant data such as:
 - News reports
 - Case studies
 - Statistics
- Summarize the information in your own words.
- Explain how each piece of evidence is related to your topic and why it is significant.

STEP 4: QUESTIONNAIRE PREPARATION

- Prepare a questionnaire based on your topic (20 questions).
- Questions should be:
 - Clear and relevant
 - A mix of objective and descriptive types
- The questionnaire should help in collecting primary data.

STEP 5: SURVEY IN SOCIETY

- Conduct a small survey in your neighbourhood/society using your questionnaire.
- Try to collect responses from at least 20-25 people.
- Ensure:
 - Respectful communication
 - Honest data collection
 - No forcing of responses

STEP 6: DATA ANALYSIS

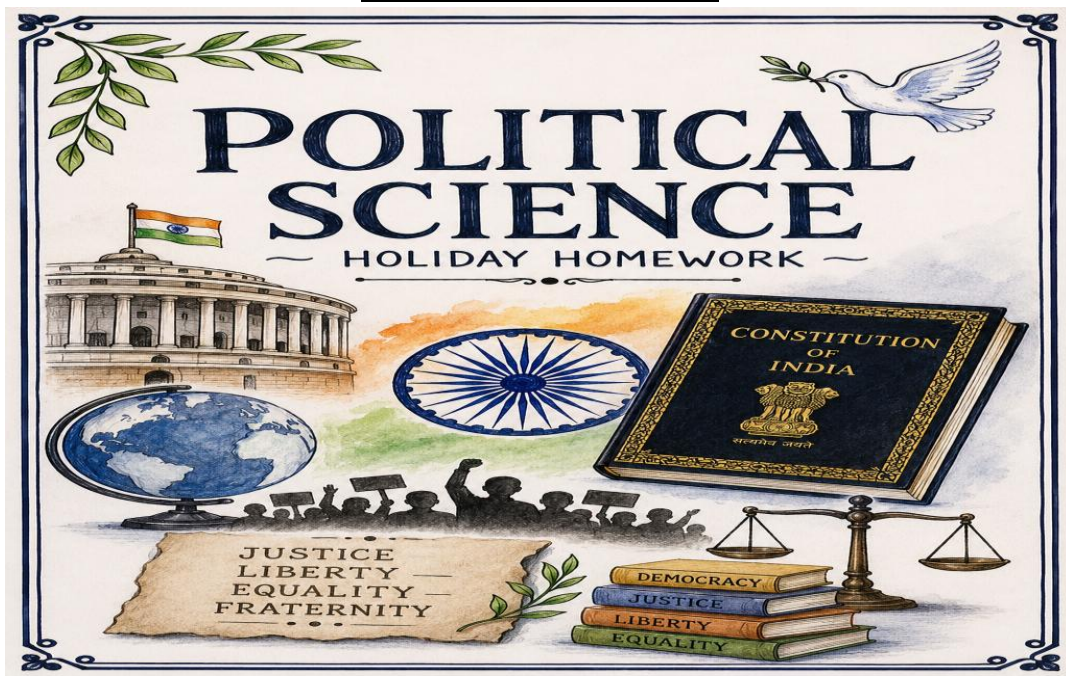
- Organize the collected data in a systematic manner.
- You may use:
 - Tables
 - Charts/graphs (optional)
- Analyse the responses by:
 - Identifying patterns and trends
 - Comparing different responses
 - Interpreting what the data suggests about your topic

IMPORTANT INSTRUCTIONS

- Choose a social issue that allows meaningful research and analysis.
- Write neatly and present your work in a well-organized manner.
- Use your own words; avoid copying directly from sources.
- Maintain clarity in data presentation and analysis.
- Support your project with real-life examples and current data wherever possible.

II- Complete the Holiday HW Worksheet uploaded on ERP. Q/As to be done in the notebook.

POLITICAL SCIENCE



I- PROJECT WORK GUIDELINES

Students are required to prepare a project on any one topic from the list given below. The topic must be selected carefully and approved by the subject teacher.

SUGGESTED TOPICS

1. Making of the Constitution
2. Elections in India
3. Working of the Indian Judiciary System
4. Social Justice: Are Ethics Followed in Indian Politics
5. Human Rights Act and its Implementation in India
6. Political Impact on Indian Legislation

STEP 1: TOPIC SELECTION

- Choose any one topic from the list.
- Get approval from your teacher before starting the work.

STEP 2: RESEARCH WORK

- Collect information from:
 - NCERT books
 - Newspapers and magazines
 - Reliable internet sources
- Focus on:
 - Key concepts
 - Recent developments
 - Real-life examples

STEP 3: PROJECT CONTENT

Your project should include:

1. Cover Page (Topic, Name, Class, Section, Roll No.)
2. Index
3. Acknowledgement
4. Introduction (Overview of the topic)
5. Objectives of the Study
6. Main Content/Explanation
7. Case Studies/Examples
8. Conclusion (Your analysis and opinion)
9. Bibliography

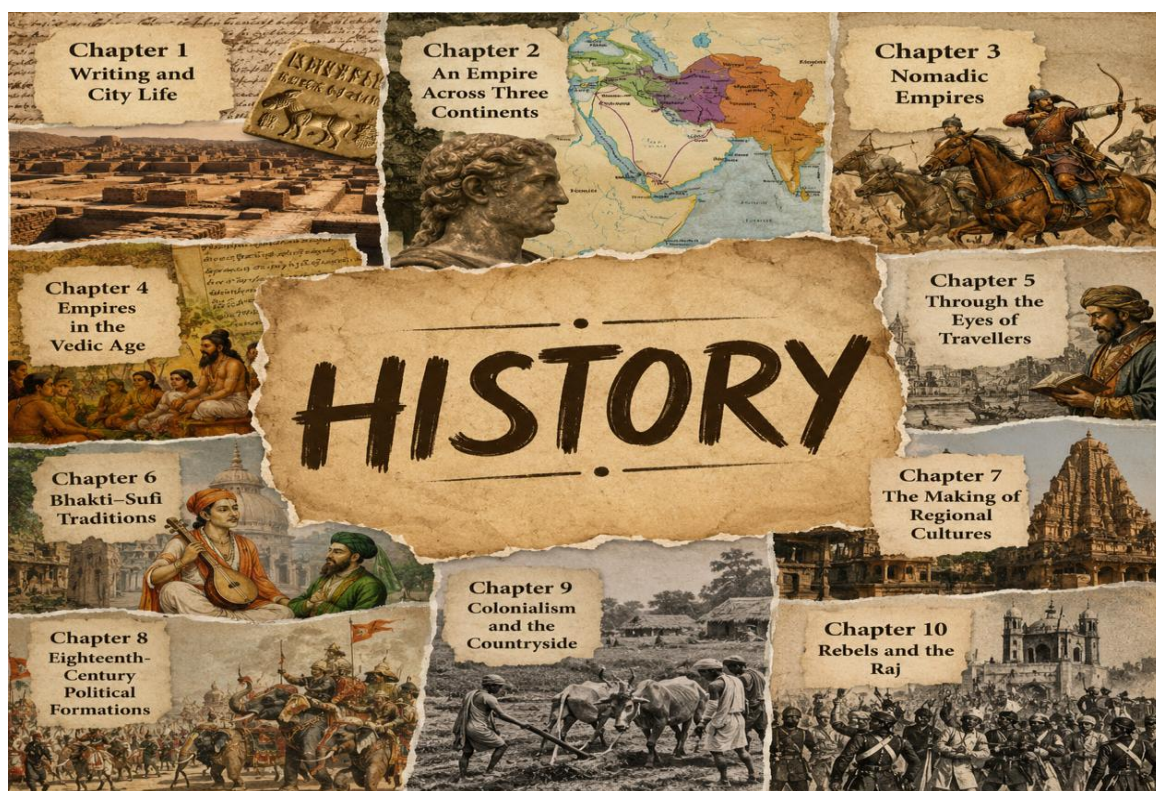
INSTRUCTIONS

- Write in your own words.
- Use headings and subheadings.
- Include current examples wherever possible.
- Maintain neatness and proper presentation.

II- Complete the Holiday HW Worksheet uploaded on ERP. Q/As to be done in the notebook.

HISTORY

“The more you know about the past, the better prepared you are for the future.” —
Theodore Roosevelt



CHOOSE ANY ONE TOPIC FROM THE LIST GIVEN BELOW OR ANY OTHER YOU FIND INTERESTING AND WORTH RESEARCHING FOR. • MINIMUM NO. PAGES: 30-35

POINTS TO BE KEPT IN MIND WHILE PREPARING THE PROJECT

1. Use A4 size sheet (one side ruled)
2. Use Blue/black ink to write your project.
3. Design the cover page that reflects your topic.
4. Write the topic of the project, Name, Class, Roll no. on the cover page in bold.
5. The project work should have min. 15 pages including the cover page.
6. Be ready/prepared for viva based on your project topic.
7. Avoid use of plastic covers. 8. Make the project very neat and presentable.

Project to include:

- Project synopsis
- Data/Statistical analysis
- Map work.
- Visual/overall presentation
- Analysis
- Explanation and interpretation
- Bibliography

TOPICS FOR PROJECTS (anyone)

1. Facets of Industrialization in the sixteenth- eighteenth centuries.
2. Crusades: causes; rationale; events; outcomes; Holy Alliance
3. Ancient History in depth: Mesopotamia
4. Greek Philosophy and City States
5. Contributions of Roman Civilization
6. The spirit of Renaissance: Manifestation in art; Literature; Sculpture; Influence on Trading
7. Community; Social Fabric; Philosophy; Political Values; Rational Thinking; Existentialism
8. Aspects of Development -South American States /Central American States
9. Different schools of thoughts- Realism: Humanism: Romanticism
10. Piecing together the past of Genghis Khan
11. Myriad Realms of Slavery in ancient, medieval, and modern world
12. History of Aborigines – America /Australia
13. Facets of Modernization – China /Japan/Korea

PSYCHOLOGY

Project File



Instructions:

1. Syllabus covered to be revised (Chapter 1, 2 & 3).
2. Summer project file to be completed.
3. Submission Date of project: 3rd July

Outline of the Project File

The students are required to undertake one compulsory project during this academic year as per CBSE guidelines. The project would involve the use of different methods of enquiry and related skills.

The objective of this project is to familiarize the students with:

- The Goals of Psychological Enquiry
- Steps involved in Conducting Scientific Research
- Some important methods: Observation, Experimental, Co -relational study, Interview, Case study, Psychological tools: Tests and Questionnaires
- Analysis of data and its representation (such as Pie-charts, bar-diagram, cumulative frequencies)
- Learning Ethical issues in the study of psychological processes

Students can take up any of the topics mentioned below:

- I. Contact a psychologist amongst several professionals in the field, who fits into one of the categories and interview the person.
Have a list of questions prepared beforehand. Possible questions could be: (i) what kind of qualification or skills is necessary for your particular job? (ii) Which

college/university would you recommend for the study of this discipline? (iii) Are there many jobs available today in your area of work? (iv) What would a typical day at work be like for you? (v) What motivated you to enter this line of work?

➤ Write a report of your interview and include your specific reflection.

II. Either create a podcast or interview adolescents on the impact of social media on adolescent mental health

OR

The Influence of Social Media on Personal Relationships.

III. Social Media vs Reality Campaign

Create a mini awareness campaign (posters, video, or slides) showing how online content differs from real life and how that affects self-esteem

OR

Impact of Social Media on Body Image

Examine how social platforms influence body image and confidence among teenagers, possibly comparing different genders.

IV. Conduct a survey on ‘What is a more effective method for studying: digital study tools or traditional textbook review?’

➤ Follow your report with a possible hypothesis, key variables, data collection, analysis and observation.

General instructions to be followed for the project:

1. The questionnaire method is compulsory to use.
2. Both Open ended and close ended questions to be included.
3. Questionnaire should consist of Minimum 15 questions
4. Transcript of the Interview, if taken (face to face or telephonic) is compulsory.
5. Sample for data collection: Minimum 8 individuals.
6. Gender Ratio to be strictly maintained.

The format of the project is as follows:

Cover page: (i). Make the cover page creative using a descriptive image of your topic.

(ii). Write the Topic of your project, School Name, Your Full Name, Class & Section, Roll No.

Page 1: Certificate

Page 2: Acknowledgement

Page 3: Index (all headings right from introduction till references)

Page 4: Title of the Topic chosen for project

Page 5: Introduction

- 5.1: What is psychology
- 5.2: Goals of psychological enquiry
- 5.3: Steps in conducting scientific research
- 5.4: Methods in psychological enquiry (All 6 methods to be written in summarized form-one page on one method)
- 5.5: Ethics in Psychological Enquiry. (To be taken from class XI NCERT textbook)

Page 6: Introduction to the topic/Objective of the project

Page 7: Identification of data

- Name- XYZ
- Age-
- Gender-
- Class/Educational Qualification-
- Occupation (if adult)-
- Parents occupation -
- Size of the family- (no. of family members)
- No. of Siblings-

7.1: History (1-2 sides)

Page 8: Methodology (i.e. the method being used in data collection e.g. Survey research, Case study etc.)

8.1: Write about the 2 methods that you've taken- the process, how did you go about it, what did you observe or the answers that you got in interview/questionnaire

8.2: Tools used: (e.g.-questionnaire, interview schedule, observation schedule etc.)

- Introduction to Interview, advantages and disadvantages of interview method.
- Introduction to observation, advantages and disadvantages of observation method.

Page 9: Observation

Page 10: Results and data Analysis (using Graphical methods such as Pie-charts, Bar-diagram)

Page 11: Discussion and conclusion/Student's Reflection

In this, you must mention why you chose this topic, how you formed the rapport with your subject, your interpretation of the data collected, your experience of interaction with the subject and your understanding about the topic. (1-2 sides min)

Page 12: Bibliography (books and websites that you've referred to for making this project).

Appendix

- Attach the interview schedule
- Filled Questionnaires

Important Instructions:

- *The file must be hand-written.*
- *Remember to take the consent of the subject/participant first.*
- *Make the project aesthetically beautiful and neat.*
- *No cuttings, whiteners or over-writing.*

Use pictures or diagrams/graphs that you can find relevant to your topic.

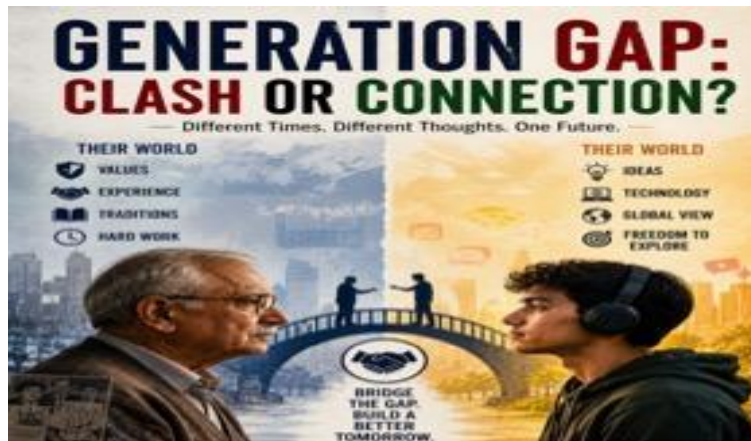
ENGLISH

I. CBSE ASL BASED PROJECT

Topic - Generation Gap: Clash or Connection?

Integrated Chapter - The Portrait of a Lady (Hornbill)

Objective - Creating a project on intergenerational conflict provides an opportunity to explore the dynamics, causes, and consequences of conflicts between different age groups within families, communities, and society. Here's a project outline:



Students will listen to podcasts/ interviews/radio or TV documentaries on the given topic and do thorough research on the same. Prepare a report including surveys, statistical data, graphs etc countering or agreeing with the speakers in 800 to 1000 words and submit.

Your project file should contain the following details:

1: Cover page

- Prepare a creative cover page giving relevant details of your project.

2: Index

- Make 3 columns – Serial no, topic, page no.

3: Statement of Purpose

- Write down at least five objectives of the given project.

4: Acknowledgement

- Sample to be provided by the teacher.

5: Certificate of Completion

- Sample to be provided by the teacher.

6: Action Plan

- Sample to be provided by the teacher.

7: Materials Used

- List down all the materials used by you in making of the project.

8: Report

- Report to be written in approx.1000 words.

9: Student Reflections

- Share your views/conclusion on the given topic and write the learning outcomes

10: Evidence of your report

- Photographs and other pieces of evidence of the research to be pasted.

11: Bibliography

- Pen down the sources from where the information was accessed.

Note:

1. Make a file of your choice with A4 size sheets only.
2. Sheets can be colourful or plain.
3. Presentation should be neat.
4. The project must showcase your creativity.
5. Student findings should be his/her original work.

II. HOLIDAY HOMEWORK WORKSHEET

Complete the Holiday HW Worksheet uploaded on ERP. Q/As to be done in the notebook.

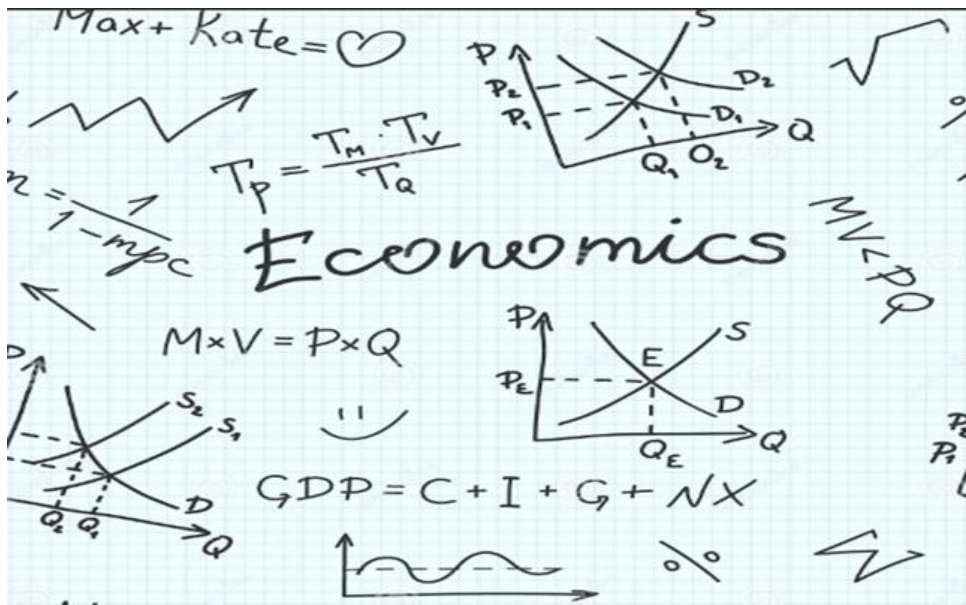
III. SUGGESTED READING

‘The Invisible Man’ by H.G. Wells is a long reading text prescribed by CBSE for extensive study. Please find the link below for online reading. Write the summary of the novel in 120-150 words and present it creatively with an illustration. Happy Reading!

https://cbseacademic.nic.in/web_material/doc/novels/2_The%20Invisible%20Man.%20by%20H.%20G.%20-%20Class%20-%20XII.pdf



ECONOMICS



Project (Option One) : What's Going Around Us

The purpose of this project is to –

- Enable the student to understand the scope and repercussions of various Economic events and happenings taking place around the country and the world.

Examples and suggestive topics:

- o “Flames of Inflation: How India Managed Rising LPG Prices without Burning Household Demand”
 - o “Glitter in Crisis: Rising Gold & Silver Prices and Their Ripple Effects on India’s Economy”
 - o “From Play to Pay: How the Rising Gaming Profession is Shaping India’s Economy”
 - o “India-EU Free Trade Agreement: A Boon or Threat to Indian Industries? (Called “mother of all deals”)
 - o “Middle East Conflict (2026) and Its Impact on Indian Economy”
 - o “Oil Price Shock 2026: Is India Too Dependent on Imported Energy?”
 - o “From Kirana to Quick Commerce: How 10-Minute Delivery is Changing India’s Economy”
 - o “Climate Change and Economy: Are Extreme Weather Events Slowing India’s Growth?”
- Provide an opportunity to the learner to develop economic reasoning and acquire analytical skills to observe and understand economic events.
 - Make students aware about the different economic developments taking place in the country and across the world.
 - Develop the understanding that there can be more than one view on any economic issues and to develop the skill to argue logically with reasoning.
 - Compare the efficacy of economic policies and their respective implementations in real world situations and analyse the impact of Economic Policies on the lives of common people.

· Provide an opportunity to the learner to explore various economic issues both from his/her day to day life and also issues which are of broader perspective.

Scope of the project:

Student may work upon the following lines:

- Introduction
- Details of the topic
- Pros and Cons of the economic event/happening
- Major criticism related to the topic (if any)
- Students’ own views/perception/ opinion and learning from the work
- Conducting survey and presenting the same in form of diagrams
- Any other valid idea as per the perceived notion of the student who is actually working and presenting the Project-Work.

II. Project (Option Two): Analyse any concept from the syllabus.

The purpose of this project is to –

- Develop interest of the students in the concepts of Economic theory and application of the concept to real life situations.
- Provide opportunity to the learners to develop economic reasoning vis-a-vis the given concept from the syllabus.
- Enable the students to understand abstract ideas, exercise the power of thinking and to develop his/her own perception
- To develop the understanding that there can be more than one view on any economic issue and to develop the skill to argue logically with reasoning
- Compare the efficacy of economic policies in real world situations
- To expose the student to the rigour of the discipline of economics in a systematic way
- Impact of Economic Theory/ Principles and concepts on the lives of common people

Scope of the project:

Following essentials are required to be fulfilled in the project. Explanation of the concept:

- Meaning and Definition
- Application of the concept
- Diagrammatic Explanation (if any)
- Numerical Explanation related to the concept etc. (if any)
- Students’ own views/perception/ opinion and learning from the topic.

• Effect on PPC due to various government policies	• Invisible Hand (Adam Smith)
• Opportunity Cost as an Economic Tool (taking real life situations)	• Effect of Price Change on a Substitute Good (taking prices from real life visiting local market)
• Effect on Equilibrium Prices in Local Market (taking real life situation or recent news)	• Effect of Price Change on a Complementary Good (taking prices from real life visiting local market)
• Solar Energy, a Cost-Effective Comparison with Conventional Energy Sources	• Bumper Production- Boon or Bane for the Farmer
• Any other newspaper article and its evaluation on basis of economic principles	• Any other topic

Marking Scheme :

Marks are suggested to be given as –

S. No.	Heading	Marks Allotted
1.	Relevance of the topic	3
2.	Knowledge Content/Research Work	6
3.	Presentation Technique	3
4.	Viva-voce	8
	Total	20 Marks

MATHEMATICS

PART A - Write the following activities in your Practical file.

1. To find the number of subsets of a given set and verify that if a set has n number of elements, then the total number of subsets is 2^n .
2. To verify that for two sets A and B , $n(A \times B) = pq$ and the total number of relations from A to B is 2^{pq} , where $n(A) = p$ and $n(B) = q$.
3. To distinguish between a Relation and a Function.
4. To verify the relation between the degree measure and the radian measure of an angle.
5. To verify that the graph of a given inequality of the form $ax + by + c < 0$, $a, b > 0$, $c < 0$, say $5x + 4y - 40 < 0$, represents only one of the two half planes.

PART B - Attempt the following projects as per the allotment.

Topic – Relations and Functions (For odd roll numbers)

Title - “Understanding Real Functions Through Graphs and Real-Life Applications”

In mathematics, a function is a relation that assigns each element of a set (domain) to exactly one element of another set (range). Functions are widely used in science, engineering, and everyday problem-solving to describe relationships between quantities.

Objective of this task is to study different types of real functions, understand their behaviour, draw their graphs, and explore their importance in real-life situations.

Instructions: You are required to study and analyze the following real functions:

- Identity Function
- Modulus Function
- Greatest Integer Function
- Signum Function

For each function, you must:

1. Define each function clearly.
2. Write its domain and range.
3. Draw neat graphs.
4. Write at least 2 real-life applications for each function.
5. Conclusion.

You can add 4–5 lines mentioning “*Which function did you find most interesting and why?*” (Optional)

Topic: Trigonometric Functions (For even roll numbers)

Title: “Exploring Trigonometric Functions Through Graphs and Real-Life Applications”

Trigonometric functions relate angles to ratios of sides of a triangle. The main functions are sine, cosine, and tangent. These functions have a wide range of application in sound waves and vibrations, Alternating current (AC electricity), Height and distance calculations, and Circular motion (wheels, planets).

In this task, students will explore trigonometric functions and understand how changes in equations affect their graphs. Students will also relate these functions to real-life applications such as sound waves, electricity, and motion.

Instructions: You are required to study and analyze the following trigonometric functions:

- $\sin f_0x$
- $\sin f_02x$
- $2\sin f_0x$
- $\sin f_0(x/2)$

For each function, you must:

1. Identify its domain and range
2. Determine its amplitude and period
3. Show graphical representation.
4. Compare it with the basic sine function on the basis of amplitude, period, graph shape.
5. Explain at least one real-life application.

Assessment Criteria:

- Accuracy of concepts
- Clarity of explanations
- Presentation and neatness.
- Connection to real-life applications

PART C (To be done in Practice Notebook)

1. Do all examples of Chapters 1, 2, 3, 4 and 5.
2. Do 5 questions daily of chapters 1, 2, 3, 4 and 5 from NCERT Exemplar and other reference books.
3. Do the revision assignment uploaded on ERP.

ARTIFICIAL INTELLIGENCE

Activity 1: AI Around Us (To be done on A3 Sheet)

Identify any 10 AI-enabled applications used in daily life.

Example:

- Voice Assistants
- Face Unlock
- Recommendation Systems
- Chatbots

Write:

- Name of application
- How AI is used
- Benefits

Activity 2: Creative Work (To be done on A3 Sheet)

Create a mind map on: “Applications of NLP.”

Examples:

- Google Translate
- Voice Assistants
- AI Chatbots
- Spam Detection
- Text Summarization

Activity 3: IBM Certification (<https://skillsbuild.org/students>)

Click the link given above and choose any 4 Courses related to your curriculum. Get the certification and add it to your Practical file.

Activity 4: Python Programs

(Practical File work to be done in the online Google Word File and share that file directly on kanchan.chowdhary@imperialheritageschool.com)

Input & output (Screenshot) both to be included in the file.

1. Write a program to add multiple rows in one go to a CSV file.
2. Write a program to demonstrate a 2D array
3. Write a programme to create a numpy array by taking values from the user through `np.empty()`.
4. Write a programme to create a data frame using dictionaries of lists or arrays
5. Write a program to select a specific element from the data frame.
6. Program to add the column at specific position in the data frame.
7. Program to fill the missing values in the data frame.
8. Program to print the first 10 values of the separated data into X&Y in the iris data set.
9. Write a program to split the data of the iris data set into training set and testing set
10. Write a program to evaluate the matrices of the iris data set.
11. Create a simple Python code to display the parts of speech.
12. Create a simple chatbot using Python.
13. Create a simple Python code to demonstrate the use of the nested if statement
14. Create a Python code of a list and include all the slicing categories in it.
15. Create a programme to write data to a CSV file row by row.

Activity 5: Do the revision assignment in the notebook uploaded on ERP.

COMPUTER SCIENCE

Activity 1: “Why Python is Popular?” (To be done on A4 Sheet)

Create a Poster on:

Include:

- Features of Python
- Applications of Python
- Python logo and slogans
- Real-life uses of Python

Activity 2: Python Treasure Hunt (To be done on an A3 Sheet)

Instructions: Students must solve the following clues and write answers.

- I store text inside quotes. Who am I?
- I am used to taking input from the user.
- I repeat tasks multiple times.
- I help in decision-making in Python.
- I join two strings together.
- I check conditions, True or False.
- I help to access characters in a string.
- I stop the loop immediately.
- I convert text into uppercase.
- I am used to displaying output on the screen.

Activity 3: Mini Coding Challenge (to be done in Practical File)

Create Small Python Programs for:

- Student Grade Calculator
- Password Checker
- ATM PIN Verification
- Number Guessing Game
- Word Counter
- Multiplication Quiz

Activity 4: Python Programs

(Practical File work to be done in the online Google Word File and share that file directly on kanchan.chowdhary@imperialheritageschool.com)

Input & output (Screenshot) both to be included in the file.

1. Input a welcome message and display it.
2. Input two numbers and display the larger / smaller number.
3. Input three numbers and display the largest / smallest number.
4. Generate the following patterns using nested loops:

Pattern-1	Pattern-2	Pattern-3
*	12345	A
**	1234	AB
***	123	ABC
****	12	ABCD
*****	1	ABCDE

5. Write a program to input the value of x and n and print the sum of the following series:

$$\triangleright 1 + x + x^2 + x^3 + x^4 + \dots x^n$$

$$\triangleright 1 - x + x^2 - x^3 + x^4 - \dots x^n$$

$$\triangleright x + \frac{x^2}{2} + \frac{x^3}{3} + \frac{x^4}{4} + \dots \frac{x^n}{n}$$

$$\triangleright x + \frac{x^2}{2!} + \frac{x^3}{3!} + \frac{x^4}{4!} + \dots \frac{x^n}{n!}$$

6. Determine whether a number is a perfect number, an Armstrong number or a palindrome.
7. Input a number and check if the number is a prime or composite number.
8. Display the terms of a Fibonacci series.
9. Compute the greatest common divisor and the least common multiple of two integers.
10. Count and display the number of vowels, consonants, uppercase, and lowercase characters in string.
11. Input a string and determine whether it is a palindrome or not; convert the case of characters in string.
12. Find the largest/smallest number in a list/tuple
13. Input a list of numbers and swap elements at even locations with the elements at the odd locations.
14. Input a list/tuple of elements, search for a given element in the list/tuple.
15. Create a dictionary with the roll number, name, and marks of n students in a class, and display the names of students who have marks above 75.
16. Consider the string str1= "Green Revolution". Write a program to implement the following:
- To display the last four characters.
 - To display the starting index for the substring 'vo'.
 - To check whether the string contains 'vol' or not.
 - To repeat the string 3 times.
17. Write a program that reads a string and then prints a string that capitalizes every other letter in the string. Like 'school' will become 'sChOoL'.
18. Count the number of vowels in the string mentioned: "Darjeeling Tea has a strong flavour".
19. Write a program that reads the email ID of a person in the form of a string and ensures that it belongs to the domain @abc-academy.ac.in.
20. Write a program to accept 10 numbers and find the maximum value entered by the user. It should display the maximum number after accepting 10 values.

Activity 5: Do the revision assignment in the notebook uploaded on ERP.

PAINTING

1. Still life drawing with colour pencil shading
2. Landscape painting with water colour
3. Portrait sketch
4. Flowers painting
5. Varli art
6. Madhubani art

PHYSICAL EDUCATION

The students are supposed to make a project file as per the details given below.

Instructions:

- This project needs to be done on one side of ruled paper and the other side of the plain paper provided in your Lab Manual (physical education practical file).
- The Lab Manual has to be covered with a brown paper cover sheet.
- Inside the Lab Manual, you may use coloured pens, but keep it colourful without making it too flashy, a clean and professional look is best.

Cover Page of the Project:

On white paper, it has to be pasted outside on the brown paper cover and should be printed neatly and clearly as mentioned below: -

Title (e.g., "Physical Education Practical File-048")

Session: 2026-27 (Academic Year)

School Name:

Your Name:

Class and Section:

Roll No: (For XI Class, Class roll number only)

Second Page: Index

- You have to complete the Index according to the details given in your Lab Manual. No page should be left blank in the Index.

Inside the File – Topics:

- Write all fitness test administrations with details, including pasted coloured pictures (SAI Khelo India Test / H.P.E. Tests) and Brockport Physical Fitness Test also.
- Write the procedure for Asanas, their benefits, and contraindications for any two Asanas for each lifestyle disease (obesity, diabetes, asthma, hypertension, and back pain), with coloured pictures ($2 \times 5 = 10$; at least 10 yoga postures).
- Write about any one of the following: the IOA (Indian Olympic Association) sport/game of your choice. Include a labelled diagram of the field and equipment, along with rules, terminologies, and skills associated with the game. And paste the coloured photograph of related sports equipment.

NOTE: - No black & White photos allowed in physical education Lab manual (practical file).