



**IMPERIAL HERITAGE SCHOOL**

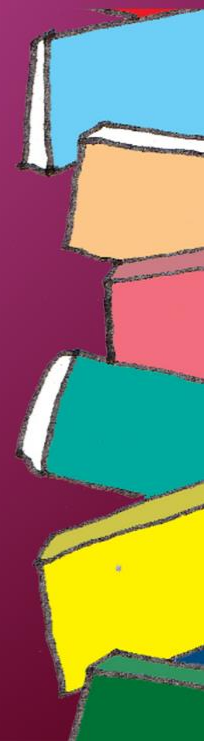
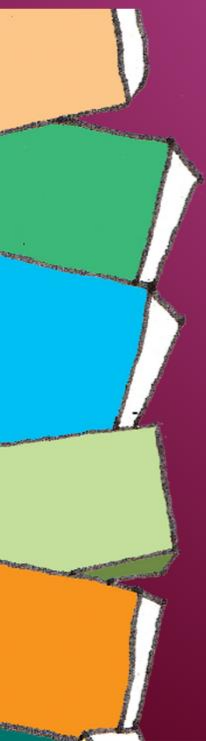
**SECTOR-102, GURUGRAM**

**SESSION 2024-25**

**HOLIDAY  
HOMEWORK**

**GRADE  
XI-SCIENCE**

**DON'T LOSE  
FOCUS**



**"Celebrate the magic of summer vacation, where every day holds the promise of adventure and every moment is a memory in the making."**

**Dear Parents  
Greetings!**

**Summer vacation is a time to escape the confines of the classroom and immerse ourselves in the wonders of the world around us. Whether it's exploring exotic destinations, embarking on outdoor adventures, or simply enjoying the freedom of lazy days spent with friends and family, summer vacation is a cherished time filled with possibilities.**

**Summer Vacation is the time for the children to explore their multitude interest and indulge in various activities and projects which would lead to their all-round development. We have designed the Holiday Homework in such a way that their creative and hidden talents are surfaced and they will also be able to develop skills like relating, thinking, concluding, inferring etc. With a little creativity and an open mind, the possibilities for a fulfilling summer vacation are endless.**

**As we reflect on the memories made and the experiences shared during our summer adventures, let us carry the spirit of vacation with us into the new school year. Let us approach each day with a sense of curiosity and wonder, eager to learn and grow from the world around us. And let us never forget the joy and freedom that summer vacation brings, reminding us of the endless opportunities that await us each and every day.**

**So here's to summer vacation – may it be filled with laughter, adventure, and unforgettable memories that will last a lifetime.**

**Summer parenting can be both rewarding and challenging, as it often involves balancing work, childcare, and making the most of the season's opportunities for fun and relaxation.**

**Here are some vital suggestions for navigating summer parenting:**

- **Create a Schedule:** While summer is a time for relaxation, having a schedule can help maintain consistency and structure for both you and your children. Include time for activities, chores, meals, and downtime.
- **Plan Engaging Activities:** Keep your children active and engaged with a variety of activities such as outdoor sports, yoga, exercise, arts and crafts, nature walks, swimming, and visits to local parks or museums.
- **Encourage Independence:** Use the summer as an opportunity for your children to develop independence and responsibility. Allow them to make choices, take on age-appropriate tasks, and solve problems on their own.
- **Limit Screen Time:** While it's tempting to let children spend hours on electronic devices, set limits on screen time and encourage other forms of entertainment and learning, such as reading, imaginative play, and outdoor exploration.
- **Maintain Learning:** Incorporating learning activities into your child's routine. This can include reading a book, writing practice in the languages, taking dictation, reading dictionary for new words, practicing math skills etc.
- **Model Self-Care:** Show your children the importance of self-care by prioritizing your own well-being. Make time for relaxation, exercise, meditation, hobbies, and spending quality time with family and friends.
- **Communicate Openly:** Keep the lines of communication open with your children, and encourage them to express their feelings, concerns, and ideas. Listen actively, validate their emotions, and work together to find solutions to any challenges that arise.



### Smart tips for Homework Assignments:

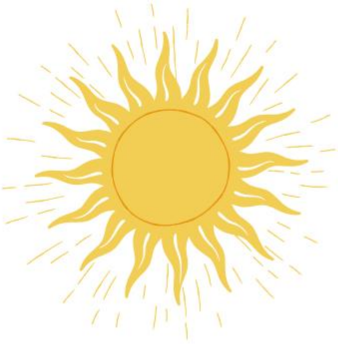
- Originality of the work will be appreciated.
- Schedule your time for activities so that there is no piling up for the last moment.
- Read the instructions for each subject carefully.
- Holiday Homework is a part of subject enrichment and will be assessed as per the given parameters.
- A beautiful handwriting makes a good impression. Submit your work neatly.
- Parents are requested to only guide their children while doing their assignments.
- Please maintain the quality of work done.
- Present your assignments creatively

### Rubrics to assess Holiday Assignments:

Content	Presentation	Relevance	Creativity	Originality	On-time Submission
---------	--------------	-----------	------------	-------------	--------------------

Let us all feel the summer vibes with a poem written by 'Christina Rossetti' ...

#### SUMMER EMBRACE



In the golden glow of a sun-kissed day,  
Summer arrives in its splendid display.  
School doors close, and children cheer,  
As vacation whispers, "The time is here!"

No more pencils, no more books,  
Just endless days with curious looks.  
From sandy shores to mountain peaks,  
Adventure awaits, with no time to be meek.

Underneath a cerulean sky so vast,  
Memories are made, moments that last.  
Splashing in rivers, climbing trees,  
Chasing fireflies in the evening breeze.

Ice cream cones and lemonade stands,  
Footprints left in soft, warm sands.  
Picnics in parks, laughter in the air,  
Summer vacation, beyond compare.

From dawn till dusk, and into the night,  
The world is ours, an endless delight.  
With friends by our side, and dreams in our heart,  
Summer's embrace, never to depart.

So, let's dance in the sun, and sing with glee,  
For summer vacation sets us free.  
In this season of joy, let's make our stand,  
Embracing the magic of sun-kissed land.



Happy  
holidays

Wishing all of you a very joyful, safe and fun packed summer break.  
Happy Holidays!

Best Regards  
Ms. Neelu Sharma  
Principal

## Holiday Homework

Practical work plays a crucial role in education by promoting deeper understanding, practical skills development, holistic development, and engagement across all subjects. Practical work provides a hands-on approach that allows students to understand theoretical concepts better. It enables students to apply what they have learned in the classroom to real-life situations.

The below mentioned projects are designed to align with the CBSE curriculum framework and guidelines, aiming to provide students with meaningful learning experiences, fostering critical thinking skills, encouraging creativity, and facilitating the application of knowledge in real-world contexts.



**Please Note:** The practical work/projects will be assessed under Internal Assessment as per the specific parameters outlined by the CBSE across different subjects.



# ENGLISH

## I. CBSE ASL BASED PROJECT

### **Topic - Bridging the Divide: Understanding Intergenerational Conflict**

#### **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 documentary on the given topic and do a 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. Project must showcase your creativity.
5. Student findings should be his/her original work.

## **II. 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](https://cbseacademic.nic.in/web_material/doc/novels/2_The%20Invisible%20Man,%20by%20H.%20G%20-%20Class%20-%20XII.pdf)



## **PHYSICS**

***“Every project is an opportunity to learn, to figure out problems and challenges, to invent and reinvent.”***

Investigatory projects are part of obligatory assignment involving purely experimental procedures. An Investigatory Project uses the scientific method to study and test an idea about how something works. It involves researching a topic, formulating a working theory (or hypothesis) that can be tested, conducting the experiment, and recording and reporting the results. The concept of Investigatory Projects was developed to engage students actively in the scientific process, enhancing their skills and interest in science and technology. Their aim is to instill research skills, promote innovation, and develop scientific character among high school students. It is important that the project must provide a fairly accurate idea of the topic. While preparing it one must focus on the current research and previous work should be given minimal reference.

The following should be the elements of the Investigatory Project:

1. Cover page
2. Certificate
3. Declaration
4. Acknowledgement
5. Index
6. Aim
7. Introduction
8. Theory and Principle
9. Formula
10. Diagram
11. Applications
12. Conclusion
13. Bibliography



### List of Physics Investigatory Projects

S.No.	Name of Student	Project topic
1.	Anangsha	To study the formation of standing waves in strings and organ pipes.
2.	Bhumika	To study the Projectile motion and find its trajectory Time of flight, Maximum height, Horizontal range.
3.	Harsh	To study Pascal's law and its applications.
4.	Rajarshi	To study the law of conservation of angular momentum and its applications.
5.	Rhytham	To Study the Hooke's Law and three modulus of elasticity
6.	Rishav	To study the effect of detergent on surface tension of water
7.	Shaurya	To study Bernoulli's theorem and its applications.
8.	Utsav	To study S.H.M. and calculate expression for its time period and Total Energy.

### References for Investigatory Project:

NCERT Physics Book, Pradeep's New Course Physics, Wikipedia, Physics lab manual.

## CHEMISTRY

Investigatory projects in chemistry serve several important purposes that contribute to both the academic and practical aspects of learning.

### **List of Chemistry Investigatory Projects**

S.No.	Name of Student	Project topic
1.	Anangsha Ghosh	Checking the bacterial contamination in drinking water by testing sulphide ion
2.	Harsh	Investigation of the foaming capacity of different washing soaps and the effect of addition of Sodium carbonate on it
3.	Shaurya Bhatia	Study of the methods of purification of water
4.	Utsav Saroha	Study the acidity of different samples of tea leaves.
5.	Bhumika	Study the acidity of different samples of tea leaves
6.	Rytham kataria	Study of acidity of fruit and vegetable juices.

7.	Rajarshi	Study of the methods of purification of water
8.	Rishav	Study the effect of acids and bases on the tensile strength of fibers.

**Project report should comprise minimum 10-12 pages :**

- First page of the project should display the
- Name of the topic
- Name, School Name, Submitted by, Submitted to
- Second page - Acknowledgment
- Third page- certificate
- Fourth page- Index of the Project
- Content of Project
- Last page-bibliography

### **References for Investigatory Project:**

NCERT Chemistry Book, Pradeep's New Course Chemistry, Wikipedia, Comprehensive chemistry lab manual.

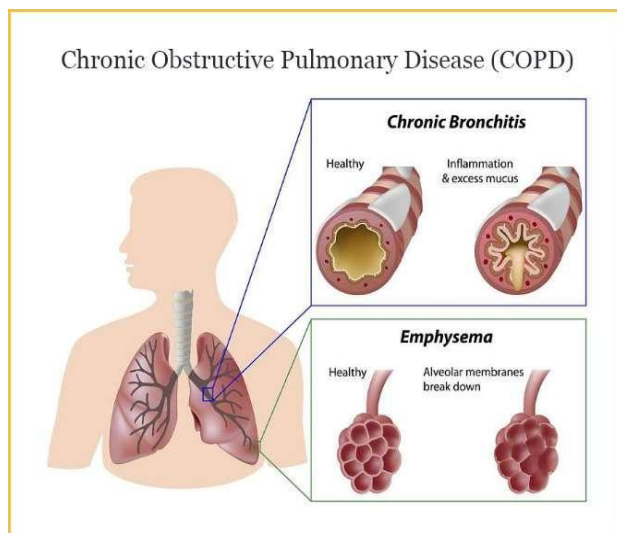
- Revise chapter 1 and 2

## **BIOLOGY**

### **ACTIVITY 1: INVESTIGATORY PROJECT**

In this activity, we wish you to make a detailed project on 'Chronic Obstructive Pulmonary Disease (COPD)' providing key facts and information on the pointers: causes, general and advanced symptoms, how lungs are affected, airway obstruction, connection with cigarettes smoking and irritants, risk and complications, diagnosis, treatment and management, COPD and diet, link between COPD and cancer.

You also need to throw a light on reported rise in respiratory illnesses (specially COPD) in Delhi-NCR mentioning the underlying causes. Use ICT tools, and compare and contrast the air quality of Manipur and Haryana and reported rise in respiratory illnesses (specially Chronic Obstructive Pulmonary Disease).



### **Note:**

- Make a file of your choice with A4 size sheets only (sheets can be colourful or plain).
- Use illustrative pictures (printout or drawing) and data wherever necessary to make the project informative.
- The project should include the following:
  - Cover page
  - Acknowledgments (Thanksgiving to those who helped you in understanding the concept of the project).
  - Certificate
  - Index
  - Bibliography (all the sources of information where you gathered the information from? examples: books, internet links etc.)



## **ACTIVITY 2: ART INTEGRATED PROJECT:**

In this activity, we wish you to make a detailed poster (using chart paper) on 'Five Kingdom Classification' incorporating flow charts, drawings/ pictures of underlying organisms mentioning their characteristic traits/features.

### **MATH**

#### **Benefits of math project work:**

Incorporating of math project into the upper elementary stage assists children with conceptualizing the fundamental ideas, theorems, and principles, as well as the underlying method required in solving them.

#### **A. Attempt any two of the following projects.**

- SETS
- RELATIONS AND FUNCTIONS
- TRIGONOMETRY

#### **Guidelines to be followed for the project:**

- i) Title
- ii) Definition and types
- iii) Objectives
- iv) Content and investigation
- v) Your personal view
- vi) Represent with graphs and pictures.
- vii) References
- ix) Each project required a minimum 10 pages.

#### **B. NCERT: Do all examples of Chapters 1, 2 & 3.**

#### **C. NCERT Exemplar and other reference books: Do 10 questions daily of chapters 1,2 & 3.**

## **ARTIFICIAL INTELLIGENCE**

### **1. IBM Skills Build Certification/any other industry certification:**

- Visit this website and Sign Up yourself.

<https://skillsbuild.org/learners>

- Do any one Certification Course and Save your Certificate which is to be placed in your Practical File.

### **2. CAPSTONE PROJECT:**

Create an AI Project Cycle Booklet for an AI model based on any one or more SDGs. Find the solution and make the Problem Statement Template for the same.

Note: Problem definition, The Users, Brainstorming and Design stages must be completed in the (IBM) Log Book which can be downloaded from CBSE Website.

Link for the same is given below:



#### **Project Implementation Guide:**

[https://cbseacademic.nic.in/web\\_material/Curriculum21/publication/srsec/IBM-CBSE\\_AI\\_Project\\_Guide.pdf](https://cbseacademic.nic.in/web_material/Curriculum21/publication/srsec/IBM-CBSE_AI_Project_Guide.pdf)

## **Project Log Book:**

[https://cbseacademic.nic.in/web\\_material/Curriculum21/publication/srsec/IBM-CBSE\\_AI\\_Project\\_Logbook.pdf](https://cbseacademic.nic.in/web_material/Curriculum21/publication/srsec/IBM-CBSE_AI_Project_Logbook.pdf)

- 3. BOOTCAMP/ INTERNSHIP/OTHER STARTUPS:** Register yourself in any Bootcamp during Summer Vacations and get the Certificate which will again be a part of your Practical File.

## **4. PRACTICAL FILE**

**Note:** The following to be included in Practical File

- **one certification (IBM Skills Build /any other industry certification)**
- **at least one activity from each unit**
- **one participation certificate of bootcamp/internship**

- ✓ Categorize the given applications into the three domains.
- ✓ IBM Skills Build – Introduction to AI
- ✓ Identify ten companies currently hiring employees for in specific AI positions.
- ✓ Note down the technical skills and soft skills listed by any two companies for the specific AI position.
- ✓ Python programs using operators, data types, control statements (Level 1)
- ✓ Python programs on Numpy, Pandas, Scikit-learn (Level 2)
- ✓ Create an empathy map for a given scenario.
- ✓ Project Abstract Creation Using Design Thinking Framework.
- ✓ Python programs to demonstrate the use of mean, median, mode, standard deviation and variance.
- ✓ Python programs to visualise the line graph, bar graph, histogram, scatter graph an pie chart using matplotlib.
- ✓ Calculation of pearson correlation coefficient in MS – Excel.
- ✓ Demonstration of Linear regression in MS – Excel / using python program.
- ✓ Demonstration of k – Nearest Neighbour using python program.
- ✓ Demonstration of k – means clustering using python program.
- ✓ (Sample programs for regression, classification and clustering along with the dataset is in this link.)  
<https://drive.google.com/drive/folders/1WNGoiJB2OQaCeL1eoHm0JxMpVdrpbrKT?usp=sharing>
- ✓ Create a chatbot on ordering ice-creams using any of the following platforms:
  - a. Google Dialogflow
  - b. Botsify.com
  - c. Botpress.com
  - d. Any other online platform
- ✓ Python program to demonstrate the working of a chatbot.
- ✓ Python program to summarise the given text.
- ✓ Summarize your insights and interpretations from the video "Humans need not apply."
- ✓ Comparative study of AI policies (that involve examining guidelines and principles) established by various organizations and regulatory bodies.
- ✓ Understanding ethical dilemma using
  - a. Moral machine
  - b. Survival of the best fit

### **Guidelines:**

- The Project File should contain proper cover page and Index. (You can use MS Word for the your documentation).
- Projects to be submitted on MS Teams.
- Assessment Rubrics:

### **For Project Work**

- Topic of the project
- Innovation: Degree of originality and creativity in the proposed AI solution.
- Problem Relevance : Clarity of idea and significance of the problem addressed by the AI solution.
- Cover Page

## **COMPUTER SCIENCE**

1. Start making your AI Practical File for Term-1. The practical file should contain min 10 practical questions and max 15 questions.
2. Daily practice 5 programs of Python and maintain a word doc for the same and to be uploaded on MS Teams.

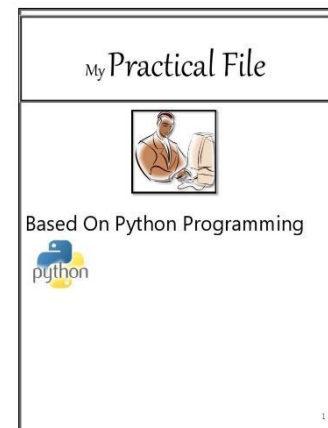
### **Guidelines:**

The Practical File should contain a proper cover page and Index. (You can use MS Word for your documentation).

### **For CS Practical File:**

Work will be assessed on the basis of:

- Neatness
- Cover Page design
- Variety of Programs



## **PSYCHOLOGY**

**I. Assignment 1: Prepare a project report on any one of the following three suggested topics. Instructions related to the research work has been uploaded on the ERP. Kindly refer to those instructions while preparing your report.**

1. Title: Understanding Stress: Exploring Causes, Effects, and Coping Strategies (PODCAST)
2. Title: Exploring the Stages of Human Development
3. Title: Exploring Psychological Themes in "The Shawshank Redemption"

**(PSYCHOLOGICAL MOVIE ANALYSIS)**





## **IMPORTANT GUIDELINES FOR WRITING THE PROJECT**

- 1. Students should use simple and good English while writing the report.**
- 2. The problem and objectives should be specific and clearly stated.**
- 3. The report should be in about 30-40 pages minimum.**

**The following should be included in the Project Report in the same sequence as given below:**

1. Title page: The Title of the report in block capitals, properly centered.

Full name of the candidate in capital letters

Name of the Institute, Year of Submission

1. Acknowledgment-to all those who have helped the student complete the project.
2. Certificate from the guide.
3. Table of contents, chapter wise with the appropriate page numbers.
4. Actual project content following the format uploaded on ERP.
5. Bibliography-It is important for students to list the Books.

## **RUBRICS FOR THE PRACTICAL WORK**

- **One Experiments (15)**
- **Experiments File (05)**
- **Project File (05)**
- **Viva Voce (05)**

**TOTAL- 30 MARKS**

## **DISTRIBUTION OF MARKS FOR THE PROJECT FILE (05 MARKS)**

<b>1. Content Knowledge</b>	<b>1 Mark</b>
<b>2. Research Skills</b>	<b>1 Mark</b>
<b>3. Critical Thinking</b>	<b>1 Mark</b>
<b>4. Organization and Presentation</b>	<b>1 Mark</b>
<b>5. Creativity and Originality</b>	<b>1 Mark</b>
<b>TOTAL</b>	<b>5 Marks</b>

**II. Complete Introduction to the Psychological Test in your Psychology Practical File. A format for the same has also been uploaded on the ERP.**

# PHYSICAL EDUCATION

## INSTRUCTIONS:

- 1) This project needs to be done on an A4 size sheet (white or colored).
- 2) These need to be compiled in a single file.

## TOPICS:

- 1) Draw a labelled diagram of the athletics 400 m track and field events with computations.
- 2) Compute the value of BMI of a family member in present it graphically. Take at least 5 responses.
- 3) Draw a labelled diagram of the field and equipment of any one game/sports of your choice.  
Game/Sports list -Football, Badminton, Chess, Cricket, Volleyball, Skating, Table Tennis, Taekwondo, and Basketball.
- 4) Write about the game's equipment; also mention its rule, terminologies & skills. And draw or paste pictures of the same.
- 5) Make a list of the current National Awardees in Sports and write the details about all the awardees.
- 6) Explain in detail any five yoga asanas, benefits, contraindication for improving concentration. Draw or paste pictures of the same.

