



IMPERIAL HERITAGE SCHOOL

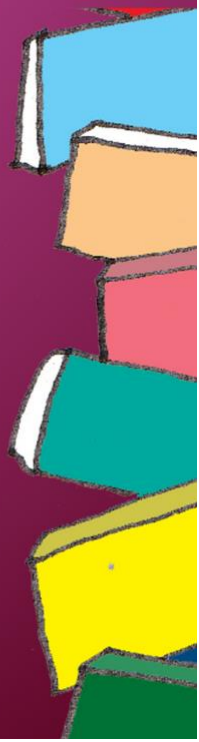
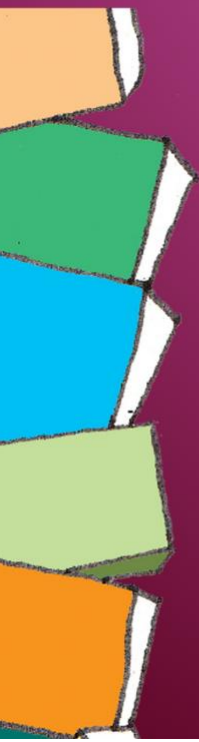
SECTOR-102, GURUGRAM

SESSION 2024-25

**HOLIDAY
HOMEWORK**

**GRADE
XII-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:

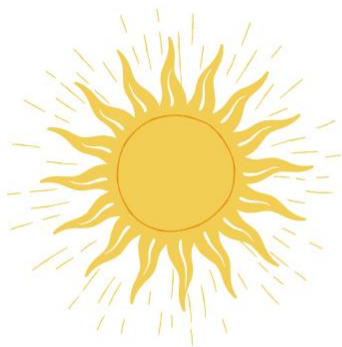
- **Originality of the work will be appreciated.**
- **Schedule your time for activities so that there is no piling up for the last moment.**
- **Read the instructions for each subject carefully.**
- **Holiday Homework is a part of subject enrichment and will be assessed as per the given parameters.**
- **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
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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



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 - Breaking the Chains: Ending Child Servitude

Integrated Chapter - Lost Spring (Flamingo)

Objective - Creating a project on child servitude is an impactful way to raise awareness about this pressing issue and advocate for the rights and well-being of children. 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.

- Presentation should be neat.
- Project must showcase your creativity.
- Student findings should be his/her original work.

II. SUGGESTED READING

‘Silas Marner’ by George Eliot 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/1_Silas%20Marner,%20by%20George%20Eliot%20-%20Class%20-%20XII.pdf



CHEMISTRY

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



• Investigatory Project

S.No.	Name of Student	Project topic
1.	Baani Sidhu	Study of the effect of Potassium Bisulphate as food preservative under various conditions (temperature, concentration, time, etc.)
2.	Naqi Ali	Comparative study of the rate of fermentation of following materials: wheat flour, gram flour, potato juice, carrot juice, etc.
3.	Saundarya Bhatti	Study of digestion of starch by salivary amylase and effect of pH and temperature on it.
4.	Nidhish	Study of common food adulterants in fat, oil, butter, sugar, turmeric power, chilli powder and pepper.
5.	Saksham Swami	Study of the presence of oxalate ions in guava fruit at different stages of ripening
6.	Harshita Singh	Study the acidity of different samples of tea leaves
7.	Hanshika Jindal	Study of the effect of Potassium Bisulphate as food preservative under various conditions (temperature, concentration, time, etc.)
8.	Paridhi Sharma	Extraction of essential oils present in Saunf (aniseed), Ajwain (carum), Illaichi (cardamom)
9.	Anant Sharma	Preparation of soybean milk and its comparison with the natural milk with respect to curd formation, effect of temperature, etc.

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
- Fifth-Content of the Project
- Last page-bibliography

References for Investigatory Project:

NCERT Chemistry Book, Pradeep's New Course Chemistry, Wikipedia,

Comprehensive chemistry lab manual.

PHYSICS

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 project must provide fairly accurate idea of the topic. While preparing it one must focus on the current research and previous work should be given minimal reference.

List of Physics Investigatory Project

S.No.	Name of Student	Project topic
1.	Baani Sidhu	To study the variations in current flowing in a circuit containing an LDR because of a variation in (a) The power of the incandescent lamp, used to 'illuminate' the LDR (keeping all the lamps at a fixed distance). (b) The distance of an incandescent lamp (of fixed power) used to 'illuminate' the LDR.
2.	Naqi Ali	To investigate the relation between the ratio of (i) output and input voltage and (ii) number of turns in the secondary coil and primary coil of a self-designed transformer.
3.	Saundarya Bhatti	To study various factors on which the internal resistance/EMF of a cell depends
4.	Saksham Swami	To investigate the dependence of the angle of deviation on the angle of incidence using a hollow prism filled one by one, with different transparent fluids
5.	Harshita	To study the factor on which the self-inductance of a coil depends by observing the effect of this coil, when put in series with a resistor/ (bulb) in a circuit fed up by an A.C. source of adjustable frequency.
6.	Hanshika Jindal	To find the refractive indices of (a) water (b) oil (transparent) using a plane mirror, an equiconvex lens (made from a glass of known refractive index) and an adjustable object needle.

7.	Paridhi Sharma	To estimate the charge induced on each one of the two identical Styrofoam (or pith) balls suspended in a vertical plane by making use of Coulomb's law.
8.	Anant Sharma	To find the refractive indices of (a) water (b) oil (transparent) using a plane mirror, an equiconvex lens (made from a glass of known refractive index) and an adjustable object needle.
9.	Nidhish	To study the earth's magnetic field using a compass needle -bar magnet by plotting magnetic field lines and tangent galvanometer.



Guidelines for the Project:

The investigatory project should contain following points in proper order 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

BIOLOGY

BIOLOGY INVESTIGATORY PROJECT

In this activity, we wish you to make a detailed project on any one of the given topics providing key facts and information on the pointers as mentioned below:

Haemophilia

Content to be covered:

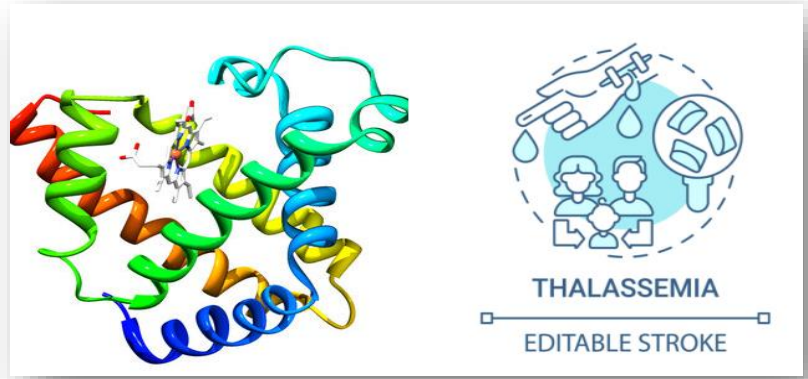
- Scientific discovery and other historical aspects (emphasis on European Royalty)
- Signs and symptoms
- Genetical aspects
- Types and incidences
- Diagnosis (before and after pregnancy and post birth)
- Treatment and management
- Recent researches and advances in line of treatment
- Case study



Thalassemia

Content to be covered:

- Signs and symptoms
- Aspects of inheritance
- Types
- Diagnosis
- Treatment and management, prevention
- Recent researches and advances in line of treatment
- Case study



Polycystic Ovarian Syndrome



Content to be covered:

- Signs and symptoms
- Clinical features (adolescence and reproductive age)
- Menstrual dysfunction
- Epidemiology
- Pathophysiology
- Gonadotropin secretion, insulin secretion and hyperandrogenism
- Androgen biosynthesis
- Weight and energy regulation
- Diagnosis
- Goals of treatment
- Case study

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 where ever necessary to make the project informative.
- Apart from the above-mentioned content, project should include the following:
 - Cover page
 - Acknowledgments (Thanks giving to those who helped you in understanding the concept of the project).
 - Bibliography (all the sources of information where you gathered the information from? examples: books, internet links etc.)

MATHEMATICS

Benefits of Maths 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 given projects.

- RELATIONS AND FUNCTIONS
- INVERSE TRIGONOMETRY FUNCTIONS
- MATRIX & DETERMINANTS

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 projects required minimum 10 pages.

B. NCERT: Do all examples of Chapters 1 , 2, 3 & 4.

NCERT Exemplar and other reference books: Do 10 questions daily of chapters 1,2,3 & 4.

COMPUTER SCIENCE

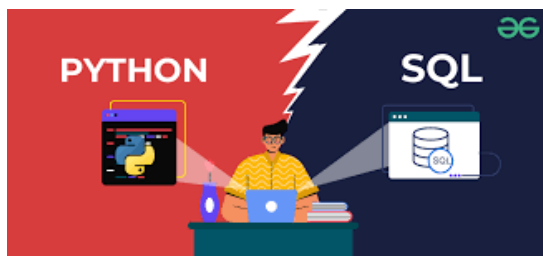
1. REPORT FILE:

- Minimum 15 Python programs.
- SQL Queries – Minimum 5 sets using one table / two tables.
- Minimum 4 programs based on Python – SQL connectivity.

2. PROJECT WORK: The aim of the class project is to create something that is tangible and useful using Python file handling/ Python-SQL connectivity.

Students are encouraged to visit local businesses and ask them about the problems that they are facing. For example, if a business is finding it hard to create invoices for filing GST claims, then students can do a project that takes the raw data (list of transactions), groups the transactions by category, accounts for the GST tax rates, and creates invoices in the appropriate format. Students can be extremely creative here. They can use a wide variety of Python libraries to create user friendly applications such as games, software for their school, software for their disabled fellow students, and mobile applications, of course to do some of these projects, some additional learning is required; this should be encouraged. Students should know how to teach themselves. The students should avoid plagiarism and violations of copyright issues while working on projects.

Create the documentation in MS Word for the final project based on Python and SQL for your project.
(Work in Group of 2 members)



Guidelines:

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

2. Daily practice 5 programs of Python and maintain a word doc for the same and to be uploaded on MS Teams.

For Project Work

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

PSYCHOLOGY

Instructions:

1. Development of Case Profile.
2. Submission Date of case profile: 2nd July,2024

Importance of Practicals in Psychology

Practicals in psychology are intended to provide students with requisite knowledge and skills in psychological tools and techniques to gain an understanding of human behaviour.

Case Profile guidelines

The students are required to undertake one compulsory case profile during this academic year as per CBSE guidelines. Developing a case profile would primarily involve the use of qualitative techniques such as interview, observation & psychological tests.

Objective of the project: → During the course of preparing a case profile, the students would gain a first-hand experience in the use of these qualitative techniques.

Students may consider preparing a case profile on either of the mentioned below:

1. An individual who has excelled in areas like: Sports, Academics, Music etc.
2. Prepare a case profile of individuals having special needs like learning disability, autism, Down's syndrome etc.
3. Prepare a case profile of those with interpersonal social problems, i.e. poor body image, obesity, temper tantrums, substance abuse, not getting along with peers, withdrawn, etc

Format of Case Profile

A format for case presentation covering broad aspects is given below. It is suggested that the case be developed in a narrative format along the following points:

1. **Cover Page:** Case study [Heading in capital bold letters], your name, class and section, board, roll no. and name of the school
2. **Acknowledgement by the student**
3. **Certificate**
 - School logo
 - This is to certify that [your name] of class XII -A [your class and section] has completed this case study under my supervision and this case study may be considered as a part of the practical exam of 2024-25 conducted by CBSE.
[Teacher's signature]
4. **Index**
5. **Introduction to case study (HEADING)**
 - a. What is psychology, History of Psychology, Psychological Assessment

- b. Explain case study method; advantages and disadvantages of this method (3-4 sides)
- c. Objectives of the case study
- d. Data Collection:

While collecting data, following techniques of Data Collection are used

- Interview (What is interview method)
- Observation (What is observation method)
- Psychometric Tests (What is psychometric tests) [Class XI book]

6. INTRODUCTION ABOUT THE TOPIC (Eg. Depression/Anxiety)

- Signs and symptoms
- Causes
- Diagnosis
- Treatment

7. CASE PROFILE (of the subject) 1 page

My case is NAME----- . He/she is years old and is a student of----- school He/she is (nature, likes, dislike) Habits, interests, and talents. I chose him/her as my case for following reasons

- 2-3 reasons (know them well or stays near my home or study in same school or observed behaviour that was .. therefore observing him/her was very convenient.

8. Identification of Data —

Biographical data

- Name - photo
- Age
- Gender
- Height
- Weight
- Number of siblings
- Birth order
- Educational Qualification
- Occupation: Student/
- Place of education
- Date of birth
- Place of birth
- Any diagnosed problem/illness (in the past/present)
- Any professional help taken (past and present), giving a brief history of the problem, attitude towards counselling (indicating the motivation to seek help, etc.) — Personal History [Paragraph about the subject's general life, talk about school/college life, what she/he wants to do in future, any particular change in life, attitude about life, schooling, friends etc.] —

➤ Family History

- Family Tree
- Family arrangement: Joint family/ nuclear family with number of members in the house
- Family details -**Father**
 1. Name of the father:
 2. Age:
 3. Educational Qualification:
 4. Occupation:
 5. Designation:
 6. Attitude towards patient:

Mother

1. Name of the mother:
2. Age:
3. Educational Qualification:
4. Occupation:
5. Designation:
6. Attitude towards patient:

Sibling 1

1. Name:
2. Age:
3. Educational Qualification:
4. Occupation:
5. Designation:
6. Attitude towards patient: —

Rapport Building-1 page (what is rapport building, how you created rapport building) —
Interview with the subject

• **Summary of the interview:** [your observation and conclusion of the interview]

— Interview with the Father • Subject`s relation with his/her father [your observation]

— Interview with the Mother • Subject`s relation with his/her mother [your observation]

— Interview with Sibling • Subject`s relation with his/her sibling [your observation]

— Interview with Significant others: [One friend and one teacher]

9. Medical History

- Subject:
- Father:
- Mother:
- Siblings:

10. Assessment methods

- Interview
- Psychological Test (if applicable)
Name of any test that you have chosen
- Aim
- Introduction- 2-3 lines
- Methodology-why the test is used, age criteria (4-5 lines)
- Instructions
- Scoring and interpretation
- Result
- Conclusion
- Introspective / behavioural report (before the test, during the test, after the test) —
 - Conclusion of the Case Study (including conclusion of both tests) 1 page:
Also write about the behavioral observation that you have done through interview with the subject and significant others.
If there is discrepancy in test scores and your observation, then write it and the reasons. Suggest strategies if the subject has high anxiety or emotionally unstable.

11. Subject`s Experience-1 page

12. Qualitative data (any photo during interview etc.)

13. Bibliography • NCERT Class XII Psychology Book

- NCERT Class XI Psychology book
- www.wikipedia.com
- <http://www.simplypsychology.org/case-study.html>
- Psychology Test manual

PHYSICAL EDUCATION



INSTRUCTIONS:

1. This project needs to be done on an A4 size sheet. And can take plain or colored sheets.
2. These need to be compiled in a single file.

TOPICS:

1. Draw a labeled diagram of the athletics 400 mt 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 labeled 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.