

VIKAS BHARATI PUBLIC SCHOOL
CLASS – XII (SCIENCE)
HOLIDAY HOMEWORK
2026-27

ENGLISH CORE

SHARP Insights

1. Complete all assignments from module number 2 and 3
2. Do comprehension passage assignment no. 1-5 from module 1
3. Make quiz sheet /flowchart/mind map of at least four chapters two from each (**Flamingo and Vistas**)
4. Prepare review of any one chapter from your course books for **speaking assessment** to be held after summer break.(5marks)

CHEMISTRY

(1) Prepare a project involving scientific investigations.

A few suggested Projects -

1. Study of the presence of oxalate ions in guava fruit at different stages of ripening.
2. Study of quantity of casein present in different samples of milk.
3. Preparation of soybean milk and its comparison with the natural milk with respect to curd formation, effect of temperature, etc.
4. Study of the effect of Potassium Bisulphate as food preservative under various conditions (temperature, concentration, time, etc.)
5. Study of digestion of starch by salivary amylase and effect of pH and temperature on it.
6. Comparative study of the rate of fermentation of following materials: wheat flour, gram flour, potato juice, carrot juice, etc.
7. Extraction of essential oils present in Saunf (aniseed), Ajwain (carum), Illaichi (cardamom).
8. Study of common food adulterants in fat, oil, butter, sugar, turmeric powder, chilli powder and pepper.

Note: Any other investigatory project related to chemistry can be chosen.

(2) Revise the chapters done before summer holidays and solve the assignments.

BIOLOGY

Make an interesting project based on scientific research .

Instructions for Making a Biology Project (Class 12)

1. Select any interesting topic from biology
2. Title Page- Write the project title.
Include your name, class, roll number, school name, and year.
3. Certificate- A page certifying that you completed the project under your teacher's guidance.
4. Acknowledgement
5. Index (Table of Contents)
6. Introduction- Write a brief introduction about your chosen topic.

7. Main Content- Explain the topic in detail with headings and subheadings.
Add relevant diagrams, charts, and pictures.
Include facts, data, and examples.
8. Observations / Findings- Mention any experiments, surveys, or key points you observed.
9. Conclusion
10. Bibliography- List the books, websites, and sources you used.
11. Presentation Tips- Use A4 size paper. Keep the handwriting neat . Use coloured pens for headings.
Stick pictures and diagrams cleanly. Keep margins on all pages.

PHYSICS

1. Do the assignment shared in the Class WhatsApp group.
 2. Revise chapters done in class.
 3. Complete the Practical File and Activity file with 8 experiments and 6 activities shared in class group, Project report (According to the topics shared in class groups)
- *Sequence for Making a Project is as follows
1. Title Page- * Write the project title.
* Include your name, class, roll number, school name, and year.
 2. Certificate
* A page certifying that you completed the project under your teacher's guidance.
 3. Acknowledgement
* Thank your teacher, school, and anyone who helped.
 4. Index (Table of Contents)
* List all the sections with page numbers
 5. Introduction of the Project
 6. Aim and Apparatus
 8. Index (Table of Contents)
* List all the sections with page numbers.
 9. Theory- * Explain the topic in detail with headings and subheadings.
* Use simple language.
* Add relevant diagrams and pictures.
 10. Circuit/ Observations / Findings
 11. Conclusion
 12. Precautions
 13. Sources of error
 14. Bibliography
List the books, websites, and sources you used.

MATHEMATICS

Chapter 5: Continuity and Differentiability

Chapter 6: Application Of Derivatives

Chapter 3: Matrices

Chapter 4: Determinants

Revise all the above chapters thoroughly and prepare well for the upcoming UT exam.

Also: Complete the lab manual shared in the class group.

Complete the assignments of these chapters shared in the class group.

INFOMATICS PRACTICES

Subject: Informatics Practices

Marks: 5 Marks

Purpose: Project Work

Group Size: Individual or groups of 2-3 students

Assignment: Project work

As per the CBSE curriculum for Class XII Informatics Practices (2026-27), each student or group must develop a complete project. The summer holidays are the ideal time to identify your problem, gather data, and begin development.

Important Note:

The project must be developed using Python (Pandas, Matplotlib) and/or MySQL. All data, images, and resources used must be properly referenced to avoid plagiarism. Copying from the internet or peers without attribution is a serious violation and will be penalised.

Project Ideas:

Choose a real-world problem. Here are some suggested ideas:

#	Project Title	Description
1	Student Performance Analyser	Analyse exam results using Pandas; visualise subject-wise/class-wise performance with Matplotlib bar graphs and line plots.
2	Local Shop Sales Management	Visit a local shop; record sales data in CSV; analyse monthly revenue, top products using DataFrames; generate charts.
3	COVID-19 / Health Data Analysis	Use open data (data.gov.in) to analyse health statistics; plot trends over time; derive insights using groupby and aggregation.
4	School Library Management System	Design a MySQL database to manage books, members, and issue records; write SQL queries for reports and aggregation.

5	Weather Data Visualisation	Download weather data for your city; analyse temperature/rainfall trends; plot using Matplotlib with proper labels and legends.
6	E-Waste Awareness Dashboard	Collect data on electronic waste; create an awareness report with visualisations; integrate Societal Impact unit concepts.
7	Neighbourhood Survey Analysis	Design a survey; collect responses; analyse using Pandas; plot demographics and responses to draw meaningful conclusions.
8	Stock Market Trend Analysis	Download publicly available stock data; use Pandas to find moving averages; visualise price trends using line and bar plots.

Mandatory Components to Include:

Complete the following by the end of the summer break:

1. Identify a real-world problem or topic for your project.
2. Identify your group members (if working in a group of 2-3).
3. Collect or download your dataset (CSV file or create a MySQL database).
4. Write the Problem Statement (1 paragraph explaining what you are solving).
5. Prepare the Synopsis — a 1-page document outlining: Title, Objective, Dataset Source, Tools/Libraries Used, Proposed Output.
6. Begin coding: Import dataset, perform basic Pandas operations (head, tail, describe, shape).
7. Create at least 2 visualisations (one line/bar chart, one histogram).

Complete Project Structure:

- Cover Page — Title, Class, Section, Roll Numbers, School Name
- Certificate — Signed by teacher
- Acknowledgement
- Abstract / Synopsis (1 page)
- Introduction — Background and motivation
- Problem Statement — Clearly defined objective
- System Requirements — Hardware and software used
- Dataset Description — Source, fields, number of records
- Python Code with Comments — All programs with explanation
- SQL Queries (if applicable) — With output screenshots
- Output / Results — All charts, tables, and outputs with explanation
- Analysis & Insights — What did you learn from the data?
- Conclusion — Summary of findings and future scope
- References — Properly cited in APA or MLA format

Technical Requirements:

- Language / Tools: Python 3.x, Pandas, Matplotlib, MySQL (optional)
- Minimum programs: 15 Python programs using Pandas + 4 Matplotlib visualisations
- If using SQL: Minimum 15 SQL queries must be included in the practical file
- Data source: Open data portals (data.gov.in, Kaggle, etc.) or self-collected surveys
- Code must be commented and explained in the project report
- All visualisations must have proper title, axis labels, and legends

PHYSICAL EDUCATION

Prepare a project with topics

- 1- SAI khelo India fitness test for all categories
- 2- Yoga mentioning all five lifestyle diseases with two asanas for each disease along with asana picture, procedure, benefits and contraindications
- 3- Rikli and Jones senior citizen fitness test
- 4- Any one game/sport of your choice recognised by I.O.A mentioning
 - Historical development
 - Layout
 - Techniques
 - Skills
 - Terminologies
 - Rules regulations
 - Arjuna awardees

PSYCHOLOGY

1. Revision Work

Revise and complete notes, assignments, and exercises for:

Chapter 1

Chapter 2

2. Psychological Testing -Practical File

Complete the practical file work as instructed, titles of write-up:-

- Introduction to psychological testing
- CFIT
- MPI
- SCQ
- SCAT
- AISS

3. Case Profile

Prepare a case profile by interviewing an adolescent.

Write up on Introduction to case study

Guidelines for case profile:

- Take consent before conducting the interview
- Maintain confidentiality
- Use the format shared in class

ECONOMICS

Complete Economics Project File on the assigned topic.
Strictly follow Project Instruction PDF while completing Project.

MARKETING

- 1) Complete the Project File as directed in the Project Guidelines shared in the Marketing Group.
- 2) Prepare for the upcoming assessment in the month of July.

YOGA

Practical file

1. Yogic Practices for Lifestyle Disorders

Prepare therapeutic yogic practices for the following:

a) Obesity

- Tadasana
- Trikonasana
- Pawanmuktasana
- Kapalbhathi
- Benefits & contraindications

b) Diabetes

- Mandukasana
- Ardha Matsyendrasana
- Vakrasana
- Pranayama practices

c) Asthma

- Bhujangasana
- Matsyasana
- Anulom Vilom
- Bhramari

d) Hypertension

- Shavasana
- Vajrasana
- Meditation
- Deep breathing exercises

e) Back Pain

- Bhujangasana
- Makarasana

- Shalabhasana

f) Anxiety and Stress

- Yoga Nidra
- Meditation
- Bhramari Pranayama

Pranayama

Include:

- Meaning of Pranayama
- Types
- Benefits & precautions

Important Pranayama:

- Anulom Vilom
- Kapalbhata

- Bhramari
- Ujjayi
- Sheetal

Shatkarma

Brief explanation of:

- Jal Neti
- Sutra Neti
- Kapalbhata
- Trataka

Project file

Surya Namaskar

Include:

- 12 postures with names
- Procedure
- Breathing pattern
- Benefits
- Precautions