DAV PUBLIC SCHOOL, KAILASH HILLS

**SUMMER HOLIDAY HOME WORK 2025-2026**
**CLASS- XII A**

## ENGLISH

### LITERATURE

Practice the Assertion reasoning questions . Do the case based and competency based
questions given in the question bank for the following chapters in your English notebook.

1. The Last Lesson
2. Lost Spring
3. Deep Water
4. Indigo
5. The Rattrap

### WRITING SKILLS

Practice the questions given in the question bank for the following topics:

1. Notice
2. Job application

## MATHEMATICS

1.Complete the assignment of the following chapters for the question bank provided to you:

a. Relations and functions
b. Inverse Trigonometry
c. Matrices
d. Determinants
e. Linear programming
f. Probability

2. Complete the activities in your practical file which were conducted in the class as part of your practicals which carries 10 marks.

## PHYSICS

Revise Chapters

*Electric Charges and Fields
*Electric Potential and Capacitance
*Current Electricity

and do questions of these chapters from the Question bank in the assignment register.

Prepare an investigatory project for board Practicals. The project should have observations/working model. The project should be from class XII syllabus.

## CHEMISTRY

Do complete chapter notes ,NCERT exercise question,and assignment.
Ch-1 Solution
Ch-6 Haloalkane and Haloarenes

Prepared investigatory project from class 12 syllabus.
Do complete practical file (20 experiment) from cbse syllabus class 12

Do practice chapter wise previous years question form in my assignment.

## BIOLOGY

**A**. Select a topic for your **project** and prepare a report on it. (Discuss your topic before preparing a report.)
The topic can be selected from any recent development in the field of Biology or any concept/phenomenon of Biology that you are interested in studying at a greater depth.

(Eg.Lac culture, Makhana cultivation, Hydroponics, GM crop, Covid Vaccines, Bioplastics, any disease with a case study etc).

Points to be included in report :

- Topic heading/cover sheet
- Index (List of Content)
- Introduction (Brief description of your topic and reason for selecting it)
- Background knowledge related to topic
- Detailed information (in a sequential manner)

If it is an investigatory project involving an experiment/data collection, then include the following: Aim, Materials required, Procedure, Observations, Result, and Precautions.

Or

Place/Institute visited, objective behind visit, people/Experts met, information collection (in form of interview/questionnaire), observations done (Photos supporting your descriptive account), analysis of data, conclusion drawn.

- A brief note on understanding developed through this project.
- Bibliography (Name of book (chapter), author of the book, specific WebPages referred)

Instructions :-

1. Use plain/ruled A4 size sheets for report writing.
2. Don't use sparkle pens or red/pink/green coloured pens.
3. Use pictures, drawings, graphs, concept maps to make your content catchy and interesting. Pictures pasted must be relevant and related to the topic.
4. Report has to be written by hand only.
5. Don't spiral bind your report before discussing it with me after vacations.

**B**. Revise the following chapters for **PT1** and complete the assignment of the following chapters from the Question Bank provided to you.

- **Ch**-Sexual Reproduction in Flowering Plants,
- **Ch**- Human Reproduction,
- **Ch**- Microbes in Human welfare,
- **Ch**- Human health and diseases

## COMPUTER SCIENCE

1.Complete the assignment of the following chapters for the question bank provided to you:

A. Review of Python Basic for class XI.

B. Function in class XII

2. **Instructions:** Complete the following exercises in your holiday notebook. Ensure your code is well-commented and the output is clearly shown where applicable.

**Part 1: Review of Python Basics (from Class XI)**

1. **Data Types and Operators:**
    - Write a Python program that takes two numbers as input from the user and performs the following operations, printing the result of each:
        - Addition
        - Subtraction
        - Multiplication
        - Division (both float and integer division)
        - Modulo
        - Exponentiation
    - Also, demonstrate the use of at least two comparison operators on these numbers, printing the boolean result.
2. **Control Flow:**
    - Write a Python program that takes an integer as input from the user and checks if it is positive, negative, or zero. Print an appropriate message.
    - Write a Python program to print all even numbers between 1 and 20 (inclusive) using a `for` loop.
    - Rewrite the above program using a `while` loop.
3. **Strings:**
    - Write a Python program that takes a string as input from the user and performs the following:
        - Prints the length of the string.
        - Prints the string in uppercase.
        - Prints the first and last characters of the string.
        - Checks if the substring "ing" is present in the string and prints "Present" or "Absent".

4. **Lists:**

    - Create a list of 5 of your favorite fruits.
    - Write a Python program to:
        - Print each fruit in the list.
        - Add a new fruit to the end of the list.
        - Remove the fruit at index 2.
        - Print the updated list.

**Part 2: Functions**

5. **Defining and Calling Functions:**

    - Define a function called `calculate_area` that takes the length and width of a rectangle as arguments and returns its area. Call this function with sample values and print the result.
    - Define a function called `is_even` that takes an integer as an argument and returns `True` if it's even, and `False` otherwise. Call this function with different numbers and print the returned value.
6. **Types of Arguments:**

    - Define a function `greet` that takes a name as a positional argument and a greeting message with a default value "Hello". Call this function in at least two different ways (one using the default message and one providing a custom message).
7. **Return Values:**

    - Write a function called `square_and_cube` that takes a number as input and returns both its square and its cube as a tuple. Call this function and print the returned tuple.

**Submission:** Please submit your completed notebook with the code and outputs on the first day after the holidays.

## HOME SCIENCE

1. Complete the assignment of the following chapters from the Question Bank provided to you:

I) Work, Livelihood and Career

II) Clinical Nutrition and Dietetics

III) Public Nutrition and Health

IV) Food Processing and Technology

v) Food Quality and Food Safety

vi) Consumer Protection and Education

2. Prepare the Practical file & Project file as per the requirements of final examination for 5 marks each. The practical file should be handwritten keeping in mind the guidelines and topics discussed already & given in class.
3. Make a note of key words given to remember the definitions in each chapter. Revise with the help of mind maps drawn for all chapters completed. This will help you to be confident that the entire chapter is covered.

## ARTIFICIAL INTELLIGENCE

**Students must choose one real-life problem** and prepare a report following the AI Project Cycle as defined by CBSE.

· **Cover First Three Points Only(Title Of The Project, Problem Scoping And Data Acquisition)**

📝 **Report Format (CBSE-Suggested Format):**

**1. Title of the Project**

- Creative name reflecting the problem.

**2. Problem Scoping**

- Define the problem clearly.
- Set goals and performance parameters.
- Identify stakeholders.
- List 4Ws (Who, What, Where, Why).

**3. Data Acquisition**

- Mention whether the data was collected (survey, forms) or sourced from the internet (Kaggle, UCI).
- Include sample entries.

**4. Data Exploration**

- Use basic data visualization (bar graph, pie chart).
- Describe patterns, trends, or correlations found.

**5. Modelling (optional for basic projects)**

- Apply a simple AI model (Decision Tree, Teachable Machine, etc.).
- Or describe a rule-based approach.

**6. Evaluation**

- Was the goal achieved?
- What are the limitations?
- Suggestions for improvement

📚 **Example Topics:**

| Theme | Sample Project |
|---|---|
| Education | AI chatbot for exam tips |
| Health | Predicting mental stress from student survey |
| Environment | Suggesting eco-habits based on input |
| Smart Home | Voice-controlled light/AC simulation using Scratch or Python |
| Career | Career recommendation system |
| Disease Prediction System . | Predict diseases like diabetes or heart disease from symptoms or medical data |

| | |
|---|---|
| AI Plant Doctor . | Identify plant diseases from leaf images using image recognition |
| Biology Concept Tutor Bot | An AI chatbot that answers class 12 biology concept questions. |
| Habit Tracker for Health Monitoring | Use data input to track sleep, water intake, exercise & provide tips. |

**Instructions: Complete the following two points of your AI Project Report 1. Title of the Project**

- Think of a **real-life problem** around you that can be solved using AI (examples: stress, pollution, career confusion, waste management, etc.).
- Create a **creative title** for your project that reflects the problem.

**Example Titles:**

- “MindEase: Student Stress Predictor”
- “GreenBuddy: AI Assistant for Eco-Friendly Habits”
- “CareerGuide: Smart Career Suggestion System”

## ✅ 2. Problem Scoping

Fill in the following sections:

### a. Problem Statement

Write 2–3 lines explaining what the problem is and why it is important to solve.

### b. Goals and Performance Parameters

What do you want your project to achieve?
How will you measure its success?

### c. Stakeholders

List the people who are affected by the problem or will benefit from your AI solution.

### d. 4Ws (Fill this table):

| 4W | Answer |
|---|---|

| | |
|---|---|
| Who | (Who is facing the problem?) |
| What | (What exactly is the problem?) |
| Where | (Where is the problem seen? Home, school, city?) |
| Why | (Why is it important to solve this problem?) |

**3. Data Acquisition**

Answer the following questions:

**a. How will you get your data?**

Choose one:

- Collected using a survey, Google Form, or interviews
- Taken from a public source (like Kaggle, UCI, etc.)

**b. Describe the data briefly**

- What kind of questions or data points are included?
- Add a small **sample table** (2-3 rows) showing what the data looks like.

**Example:**

| Name | Sleep Hours | Mood Level (1–5) | Screen Time | Stress Level |
|---|---|---|---|---|
| A | 5 | 2 | 6 hrs | High |
| B | 8 | 4 | 2 hrs | Low |