SUMMER HOLIDAY HOMEWORK

GRADE – XII SCIENCE

GENERAL INSTRUCTIONS

- **Compulsory Submission**: Holiday homework is mandatory for all students.
- **Submission Deadline**: Submit your homework on or before 1st July 2025.

ENGLISH

Interview-Based research:

Example:

• Students can choose a topic on which to do their research/ interview, e.g., a student can choose the topic: "Evolving food tastes in my neighbourhood" or "Corona pandemic and the fallout on families." Read the available literature.

• The student then conducts interviews with a few neighbours on the topic. For an interview, with the help of the teacher, student will frame questions based on the preliminary research/background.

• The student will then write an essay/ write up / report etc. up to 1000 words on his/her research and submit it. He / She will then take a viva on the research project. The project can be done in individually or in pairs/ groups

PHYSICS

Write the below listed practical in your practical file:

1. To study various factors on which internal resistance / EMF of the cell depends.

2. 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.

3. 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.

4. 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.

5. 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.

6. 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 a incandescent lamp (of fixed power) used to 'illuminate' the LDR.

7. To Study of the Concept of Full Wave Rectifier and their application in daily life.

8. To Study the Magnetic Force on the Current-Carrying Conductor

9. To study the magnetic force between two parallel current-carrying conductors by experimenting with magnetic field lines surrounding them.

CHEMISTRY

Investigatory Project

An investigatory project to be done on any one of the topics listed below:

- Study of the presence of oxalate ions in guava fruit at different stages of ripening.
- Study of quantity of casein present in different samples of milk.
- Preparation of soybean milk and its comparison with the natural milk with respect to curd formation,
- effect of temperature, etc.
- Study of the effect of Potassium Bisulphate as food preservative under various conditions (temperature, concentration, time, etc.)
- Study of digestion of starch by salivary amylase and effect of pH and temperature on it.
- Comparative study of the rate of fermentation of following materials: wheat flour, gram flour, potato juice, carrot juice, etc.
- Extraction of essential oils present in Saunf (aniseed), Ajwain (carum), Illaichi (cardamom).
- Study of common food adulterants in fat, oil, butter, sugar, turmeric power, chilli powder and pepper.
- Content of cold drinks available in the market
- Determination of caffeine in tea samples
- Dyeing of Wool, Silk and Cotton in Malachite Green

Guidelines:

The work should have Index page, Introduction of the project, observation table for experiment conducted, Result and Conclusion.

Photographs and Result table to be done once the investigatory project is performed in the Laboratory.

The project file should be typed on MS WORD only. No printouts of PPT will be accepted. Font size should be 12 and Font style Times New Roman.

BIOLOGY

INVESTIGATORY PROJECT

Guidelines:

1. Select your topic under a sub – theme which completely maps with the sub–theme.

2. Source information on your project.

3. Work plan.

4. Make and test your hypothesis - design experiments to test your hypothesis.

5. Recording your data and observations.

6. Consult your guide (teacher / parent/ research scholar).

7. Calculations to draw conclusions.

8. Summarize results and derive conclusions.

9. Take photographs.

10. Define utility and further scope of Project.

11. Cost feasibility.

Topics for Investigatory Project:

1. Malaria

2. Development of Foetus

3. Medicinal Plants and their uses

4. Cancer

MATHEMATICS

Write the 10 listed activities of mathematics practical in your mathematics activity file.

PHYSICAL EDUCATION

Practical-1: Fitness tests administration (SAI Khelo India Test)

- Age group 5 to 8 years (3 pages)
- Age group 9 to 18 years (5 pages)

Practical-2: Procedure for yoga Asanas Benefits & Contraindication for each lifestyle disease (4 Asans for each)

- Asans for Obesity (2 pages)
- Asans for Hypertension (2 pages)
- Asans for Asthma (2 pages)
- Asans for Diabetes (2 pages)
- Asans for Back Pain (2 pages)

Practical-3: Any one game of your choice. (Basketball, Football and volleyball)

- Labelled diagram of field & equipment with specification (2 pages)
- Brief history (1 page)
- Basic fundamental Rules (5 to 7 pages)
- Any 10 Basic fundamental Skills of chosen sports (5 pages)
- Any 10 famous personality of chosen sports (5 pages)

Guidelines:

- Fix large and color pictures of illustration on every page of file.
- Cover your file.

PSYCHOLOGY

Practical Work: It introduces students to the real-world application of psychological principles and tools through structured observation, testing, and interpretation. Students will build skills in data collection, analysis, and reflective thinking.

Submission: Each student is required to submit their own practical file. Group submissions are not allowed.

Components of the File:

A. Case Profile Development

- Choose one individual from your environment (friend, sibling, cousin, neighbour, etc.)
- Use appropriate methods like interviews, observation, and informal use of psychological tools.
- The profile should include:

1. Background Information
2. Social, emotional, and behavioural observations
3. Personality traits and coping patterns
4. Strengths and concerns
5. Ethical considerations (consent, confidentiality)

B. Psychological Test Administration (Five Tests)

Each psychological test entry in the file must follow the format below. Students will administer five different psychological tests (test names will be discussed and selected in class based on availability and appropriateness). You are required to follow the below given format for each test:

Standard Format for Each Psychological Test Entry:

1. Problem Statement / Aim of the Practical [*Clearly state what the test aims to assess (e.g., "To assess the level of emotional intelligence in an adolescent using the XYZ scale.")]*
2. Introduction [*Include a detailed explanation of the psychological concept the test is based on — for example, personality, intelligence, aptitude, attitude, etc.]*
3. Objectives of the Practical [*List the specific goals of conducting this test (e.g., understanding the participant's strengths, identifying psychological patterns, etc.)]*
4. Preliminary Information of the Subject [*Age, gender, educational background, and any other relevant information (without disclosing identity)]*
5. Material Required [*Mention the test name, questionnaire/tools used, stopwatch (if needed), pen/pencil, etc.]*
6. Details of the Test [*Provide basic information about the test: author, year of construction, type (verbal/non-verbal), number of items, scoring method, etc.]*
7. Precautions to Ensure Relevant Results [*List essential precautions: quiet environment, clear instructions, test-taker comfort, no interruptions, etc.]*
8. Procedure to Follow for Conduction of Test [*Step-by-step process, including how you instructed the subject, timing, and how the test was carried out.]*
9. Introspective Report from the Subject [*A short report (written in their words or paraphrased) describing how the subject felt before, during, and after taking the test.]*
10. Scoring and Result [*Show the scoring process briefly and mention the subject's raw score and/or percentile.]*
11. Interpretation of the Result [*Interpret the score in the context of the test (e.g., "The subject has above-average emotional intelligence as per the XYZ scale."])*

12. Discussion of the Result [*General inferences drawn from the outcome, possible influencing factors, and what the results may suggest about the subject.]*
13. Conclusion [*Summarize the learning from this test administration and reflect briefly on the process.]*
14. References Utilised [*Mention any source used — test manual, textbook, online references, classroom material, etc.]*

Presentation Format for the Complete File:

1. Cover Page – Name, Roll No., Class, School, Year
2. Index
3. Section 1: Case Profile (detailed write-up)
4. Section 2: Five Psychological Tests (each following the structure above)
5. Final Reflection Page (optional but encouraged)

Important Notes:

1. All five tests will be finalized and discussed in class before the vacation.
2. Ensure the file is neat, legible, and ethically written (no real names or private details).
3. This file forms the basis of your internal marks and Practical Exam preparation.
4. You will be required to administer and interpret two of the five tests during the Practical Examination.