



**KOTHARI INTERNATIONAL SCHOOL
PUNE
SESSION 2023-24
SUMMER VACATION HOMEWORK
CLASS: XII (SCIENCE)**

General Instructions

1. Write in clear and legible handwriting.
2. Complete all the homework in a separate subject notebook.
3. **DO NOT COPY AND PASTE FROM THE INTERNET.**
(Assignments will be rejected).
4. In case of reference from the internet, you may:
 - A. Read the content from the internet, if you wish and paraphrase
(Rewrite in your own words)
 - B. Mention the source of your information by providing the link
from the internet for the verification by the teachers.
5. Marks awarded will be counted in the final scores at the end of the session.
6. The Summer Vacation HW will be submitted immediately upon arrival to school after Summer Vacation.

For any assignment related query do post your question on the E-Mail ID of the respective subject teacher. List of Subject Teacher's E-Mail ID attached.

Note:

- ***Complete all your assignments on time and submit them on the day you join school.***

ENGLISH

Task 1- Project Work

Make a project on a topic of your choice, related to any of the themes from the prescribed text books with clear objectives and do research giving bibliography. The guidelines have been shared in class and on Campus Care. Also refer to the link below for the project portfolio.

https://cbseacademic.nic.in/web_material/CurriculumMain23/SrSec/English_core_SrSec_2022-23.pdf (Refer to pages 15-17) The Project-Portfolio must include the following:

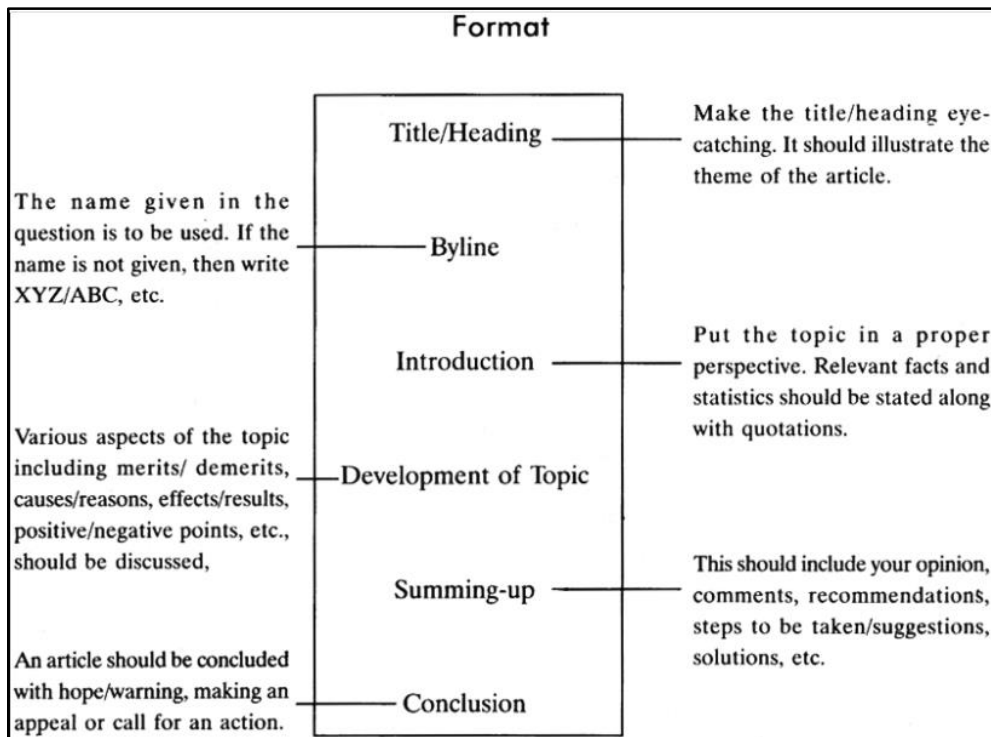
- Cover page, with title of project, school details/details of students.
- Statement of purpose/objectives/goals
- Action plan for the completion of assigned tasks.
- Materials such as scripts for the theatre/role play, questionnaires for interview, written assignments, essays, survey-reports and other material evidence of learning progress and academic accomplishment.
- The 800-1000 words essay/Script/Report.
- Student/group reflections.
- Photographs that capture the positive learning experiences of the student(s).
- List of resources/bibliography.

Task 2 - for Portfolio (A4 Sheet)

Article Writing- An article is written for a specific purpose in a structured format to inform or persuade the readers. You need to write an article in 150 words on any two of the topics given below:

- a. The role of youth in development of a country
- b. The New India
- c. Hazards of Polythene Bags

Here is a sample of the format.



Task 3 for Portfolio

Conduct an interview with an eminent personality and write down the questions along with his/her responses. Or watch a ted talk of your favourite speaker and enumerate the significant points on an A4 sheet. Give a synopsis of the speech and why you chose this personality.

PHYSICS

1. Write answers of all previous year questions of Electric field and charge chapter in your notebook.
2. Complete Lab manual of physics. Write twelve experiments and leave the reading part vacant.

CHEMISTRY

A. Make an investigatory project on any one of the following topics:

- 1) On green chemistry- Biodiesel and bio-petrol
- 2) On sterilisation of water using bleaching powder
- 3) On analysis of fertilisers
- 4) On measuring the amount of Acetic acid in vinegar
- 5) On determination of contents of cold drinks
- 6) To study the quantity of casein in milk
- 7) On presence of insecticides and pesticides in fruits and vegetables
- 8) On preparation of soyabean milk
- 9) On study of rate of fermentation of juices
- 10) Determination of caffeine in tea samples
- 11) Determination of content of toothpaste
- 12) Dyeing of wool, silk and cotton in malachite green
- 13) Effect of Potassium Bisulphite as a food preservative
- 14) Study the rates of fermentation of fruit or vegetable juices
- 15) To Study and Analyse the Foaming Capacity of the Soap
- 16) To Determine Which Antacid Could Neutralize the most Stomach Acid
- 17) To Study the Various Effects of Dye on Different Types of Fabric
- 18) To Study the Power of Enzymes and Biotechnological Applications
- 19) Does Water Temperature Cause Metal to Expand and Contract?
- 20) To Investigate the Methods of Preparation of Toilet Soaps **Things**

should be mentioned:

- a) Aim
- b) Apparatus required
- c) Chemicals used
- d) Principle
- e) Procedure
- f) Observation table
- g) Result
- h) Precautions

i) Bibliography

Where to Do - Make a file using A-4 size interleaf pages.

Matter should be handwritten only.

Rubrics Parameters:

1.Format 2. Neatness 3. Presentation 4. Use of resources.

B-Practice nomenclature from grade 11 chemistry textbook. Do your work on A-4 size ruled sheets.

10 questions -Write IUPAC names of Chemical structures

10 questions- Write structures of IUPAC chemical names
of compounds

BIOLOGY

1. Selection of topic:

Select any 1 of the topics of your choice from the suggested topics list given below for the project, or you work and read different chapters of your syllabus and also consult scientific literature, magazines, newspapers, internet, etc.

2. Planning of the project:

Collect all possible available information about the topic of the project. Prepare a rough outline of the experimental work of the project.

3. Experimentation for the project:

Plan and conduct the experimental work/survey/collecting information with precision so that you are sure to get correct results. Following points should be kept in mind while performing the experiments for the project work.

1. Collect data with honesty and utmost care. Record only your observations and data.
2. Repeat the experiment (if experimental based) several times and take the average of the results of all the experiments.
3. Compare your results with those available in the reference books.
4. Discuss your results in the light of available information about the project and draw out meaningful conclusions.
5. Make use of histograms, graphs, photographs, diagrams or models to support your observations and conclusions.
6. Give a list of books, magazines/journals and internet sites you have consulted during the course of your project.
7. Acknowledge the guidance, help and assistance rendered by your teachers, parents, neighbours and friends by expressing sincere gratitude and thanks to them in the beginning.

How to write:

Students are required to get their hand written project report on bond paper sheets and represent in the best possible manner. The project report should be written in the following sequence :(Can be changed as per the need)

1. Introduction – Information collected from various sources related to the topic.
2. Requirements – Materials required for experimental work.
3. Observations – Record your observations / data in the form of tables, histograms, graphs, photographs, etc.
4. Results / Conclusion – Give analysis of the data and compare your results with those available in the literature and draw conclusions.
5. References – Give the list of books, internet websites, magazines or journals you have consulted, for the project work.

TOPICS

1. To Study the Chromosomes and DNA Packaging.
2. To Study the Structure of the RNA and Its Functions.
3. To Study the Classification of the Drugs
4. To Study the effects of the Drug Addiction
5. To Study and determined the pH Tolerance of Microbes
6. Study of the Developments in Rice Genome Research.
7. To Study Hemophilia: Types, Symptoms, and Treatment.
- 8.To Study DNA Fingerprinting: Principles, Methods, and Applications

MATHEMATICS

1. Solve matrices chapter NCERT all questions (solved and unsolved questions)
2. Solve determinants chapter NCERT all questions (solved and unsolved questions)
3. Revise chapters limits and differentiation, straight lines and trigonometry from class 11th thoroughly.

ICT

1. Write a Java program that takes a number as input and prints its multiplication table upto 10.
2. Write a Java program to test if the first and the last element of an array of integers are the same. The length of the array must be greater than or equal to 2.
3. Write a Java program to display the following pattern.

```
A           A
 A           A
  A         A
   A       A
    A     A
     A   A
      A
```

4. Complete the project using JFrame as explained in class.
Think of a simple application like a login page, or election entry and make a project using JFrame. Use at least 3 different components.

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