



**SUMMER VACATION HOMEWORK**  
**CLASS – XI**  
**SESSION – 2023-24**

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**BIOLOGY**

1. Prepare a project on any one topic
  - (a) Various types of Biological Classification proposed
  - (b) Economic importance of Algae/Fungi
2. Solve all Questions of NCERT Textbook Exercise from Chapter-1,2, 3 and 4.
3. Write down important terms and definitions of Chapter 1,2,3 and 4.
4. Prepare a list of Biologists and their contributions , who got Noble price in Medicine in last five years on A4 size paper.
5. Solve UPSC (NDA) questions asked in last ten years in the notebook.
6. Solve all the questions of Biology asked in NEET Exam-2023 from Chapter 1,2,3 and 4 in the Notebook.
7. Prepare a chart on A4 Paper about various Human Diseases , their cause and symptoms.

**COMPUTER SCIENCE**

1. Use google search engine and find the differences of following issue with respect to C++ and Python language:
  - (a) True HLL
  - (b) Compatibility
  - (c) Data type
2. Use internet and prepare the merit & demerit of different python version available.
3. Compile the at least two case history of following security issues in IT:-
  - (a) Pharming and Defacement?
  - (b) Phishing and spoofing
4. Write a short note on Paging in Operating System
5. Write short note after doing research from different sources about the all kind of NoSQL database.
6. What is Python really? You can (and are encouraged) make comparisons to other technologies in your answer.

## **PHYSICS**

1. Solve UPSC NDA questions of Physics of previous 5 years in the notebook.
2. Prepare the notes of the chapters Units and Measurements, Motion in a Straight line and Motion in Plane in the notebook.
3. Solve NCERT Exercises of chapters Units and Measurements, Motion in a Straight line and Motion in Plane in the notebook.
4. Prepare the Concept Map of the topics- Projectile Motion, Product of two Vectors.
5. Study the Biography of Nobel Prize Laureate of Physics of past two years.
6. Prepare a scientific essay on the latest technology in the world.
7. Analyze the events happening in daily life which are related to Physics.

## **MATHEMATICS**

1. Solve 30 objective type questions from NDA Pathfinder Book of the following chapters:
  - (a) Sets
  - (b) Relations & Functions
  - (c) Trigonometric Functions
  - (d) Complex Numbers and Quadratic Equations
  - (e) Statistics
2. Learn formulae of sets, Relations & Functions, Trigonometric functions and Complex Numbers and Quadratic Equations. Also make a pocket Diary on formulae of above topics.
3. Solve the following chapters of NCERT and make mind map of following chapters:-
  - (a) Sets
  - (b) Relations & Functions
  - (c) Trigonometric Functions
  - (d) Complex Numbers and Quadratic Equations
  - (e) StatisticsDo the following activities in an activity file:
4. To find the number of subsets of a given set and verify that if a set has  $n$  number of elements, then the total number of subsets is  $2^n$ .
5. To verify that for two sets  $A$  and  $B$ ,  $n(A \times B) = pq$  and the total number of relations from  $A$  to  $B$  is  $2^{pq}$ , where  $n(A) = p$  and  $n(B) = q$ .
6. To represent set theoretic operations using Venn diagrams.
7. To plot the graphs of  $\sin x$ ,  $\sin 2x$ ,  $2\sin x$  and  $\sin 2x$ , using same coordinate axes.

## **CHEMISTRY**

1. Solve NCERT questions of Unit 1 and Unit 2 in notebook.
2. Learn and write all the definitions, terms, mathematical derivation of unit 1 and 2.
3. Solve chemistry questions of previous 05 years NDA question papers in notebook.
4. Prepare mind maps of following NDA chemistry topics:
  - (a) Matter and its classification

- (b) Laws of chemical combinations and Mole Concept.
  - (c) Structure of atom.
  - (d) Acid, base and salts.
5. Learn and draw a well labelled complete periodic table(A3 Sheet)
  6. Prepare a report on the following topic: Nobel Laureates in Chemistry of last two years: Their life and works.
  7. Write Chemical composition of any ten materials used in our day to day life example soaps, paste, paints, cold drinks, honey etc.

### **ENGLISH**

1. Write a comprehensive account of your relationship with your grandparents as presented in the story "The Portrait of a Lady".
2. Write down a critical appreciation of the poem " A Photograph".
3. Design a poster as an appeal for conserving water as most parts of India are facing serious problems and have been hit by drought. Write an Article on " ". (150-170 words)
4. Read at least two works of fiction/non fiction of your choice and write their review.
5. Cut out 5 clippings of Classified Ads under the heads –
  - For sale
  - To-let
  - Situation vacant
  - For matrimonial
  - Pets / kennels