

SAINIK SCHOOL REWARI
SUMMER VACATION HOMEWORK

CLASS : XI
SESSION : 2024-25

COMPUTER SCIENCE

Create a project work based on number system conversion. In which include any sample 05 numbers conversion in each category of following :

- (a) Decimal to Binary
- (b) Decimal to Octal
- (c) Decimal to Hexadecimal
- (d) Binary to Decimal
- (e) Octal to Decimal
- (f) Hexadecimal to decimal
- (g) Binary to Octal
- (h) Binary to Hexadecimal
- (j) Octal to Binary
- (k) Hexadecimal to Binary

MATHEMATICS

1. Solve 30 objective type questions from NDA Pathfinder Book of the following chapters:
 - (a) Sets
 - (b) Relations & Functions
 - (c) Trigonometric Functions
 - (d) Linear Inequalities
 - (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) Linear Inequalities
 - (e) Statistics

Do the following activities in a separate 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.

PHYSICS

1. Solve the previous years NDA questions from NDA PATHFINDER BOOK related to the first three chapters of Physics.
2. Prepare the Notes of the first three Chapters in the Notebook.
3. Solve NCERT Numericals of the first three Chapters in the Notebook.
4. Prepare an article on the New Emerging Technology with the help of Internet.
5. Make a PPT on the topic of Physics of your choice.

BIOLOGY

1. Prepare a project on any one topic
 - (a) Various types of biological classification
 - (b) Economic importance of Algae/Fungi
2. Prepare a list of biologists and their contribution, who got Noble prize in medicine in last five years.

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3. To solve all the questions asked in NEET 2024 from the chapter 1, 2 and 3.
4. Prepare a chart on A4 Sheet about various human diseases, their causal organism and their symptoms.
5. To solve UPSC (NDA) questions of biology asked in last 10 years in the notebook.

CHEMISTRY

1. Solve NCERT questions of Unit I and Unit II in notebook.
2. Solve Chemistry questions of previous 10 years NDA question papers in notebook.
3. 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.
 - (e) Carbon and its compounds.
 - (f) Oxidation and Reduction.
 - (g) Metals and Non Metals
4. Prepare notes of following class XI chemistry chapters by using PPT and YouTube link from school website:
 - (a) Some basic concepts of Chemistry
 - (b) Structure of Atom
5. Practice extra numerical problems of unit I and unit II and learn the important laws and definitions of these units.

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. Write five new words of your choice daily in your notebook, with their meaning in English and write down a sentence on your own with them. Maintain record of words date-wise without fail.
4. Read English Newspaper daily and write ten Classified Advertisements and five Posters on different issues/ topics.
5. Write a Speech on "Is Peer Pressure Beneficial or Not". (150-170 words).