SUMMER HOLIDAYS
Homework

ROOP VATIKA SCHOOL
AFFILIATED TO CBSE, NEW DELHI

PREFACE

Dear Parents and Students,

Summer vacation is around the corner, bringing with itself a much-needed respite from hectic school days. We hope that you will thoroughly enjoy the vacations and make the most
of this summer. While it is indeed important that you relax and refresh yourselves, it is also important that you exercise your minds.

Keeping this in mind, we have designed various exciting activities to keep the students engaged and active during the summer vacation. These fun projects/ assignments would enhance learning skills, help understand concepts better, and make for a great crash course aimed at improving academic output.

These activities will not only help you to revise what was taught, but will also enrich your knowledge. These projects will be assessed as Subject Enrichment Activity, Portfolio or Art Integrated activity.

We encourage parents to motivate and support the students to ensure the given work is completed in time, to the best of their ability. Your support and encouragement both have a huge impact on your child's learning ability.

The Holiday Home Work is to be done neatly with relevance to the questions asked and to be submitted to the subject teachers within a week of reopening of the school. **Homework submitted late will invite negative marking. It is important that deadlines are met.**

Wishing you a fun filled, safe summer vacation.

PRINCIPAL
ROOP VATIKA SCHOOL
JAGRAON

CLASS: XII | SESSION: 2025–26

SUBJECT: ENGLISH CORE

PROJECT WORK – NEWS REPORT WRITING
Dear Students,
As part of your English Core Holiday Homework, you are required to prepare a News Report Writing Project File. This project will help you enhance your journalistic writing skills and stay connected to current national events. Your task is to write a well-structured news report on the recent humanitarian mission:
TOPIC:
"Operation Sindoor – India's Humanitarian Rescue Mission"
OBJECTIVE:
To enable students to develop skills in news reporting, while improving their awareness of national disaster-response efforts and the role of the media.
INSTRUCTIONS:
1. Use A4-size ruled or plain sheets, and submit your work in a neatly labelled file or folder.
2. The project must have a Cover Page with the following details:
Title: News Report Writing – Operation Sindoor
Your Name, Roll Number, Class & Section
Subject Teacher's Name
School Name
3. Write the news report in the proper format:
Headline
Byline
Dateline
Body (Introduction, Details, Quotes, Conclusion)
4. **Word limit**: 150–200 words
5. Add photographs, sketches, newspaper clippings, or maps to make your file visually appealing.
6. **Avoid plagiarism**. Use your own words and creativity.
7. Submit your work on the first day after the holidays.
SUGGESTIONS FOR CONTENT:
What is Operation Sindoor?
Where and why was it launched?
Role of the Armed Forces, NDRF, and Government
Number of people rescued and areas affected
Any official statements or reactions
Your concluding remarks as a journalist

Subject: Chemistry

https://drive.google.com/file/d/1UqGpxEkdeqnKQ5x8Adgpc-FA9NNT4k2z/view?usp=drivesdk

Subject: Physics

 https://acrobat.adobe.com/id/urn:aaid:sc:AP:f7a4b378-1dae-42a0-80c7-dd21c11f49f8

https://acrobat.adobe.com/id/urn:aaid:sc:AP:aad4b1dd-8b6e-4135-a320-12148052f8e2

Subject – Physical Education (048)

Prepare Practical Record Book

Practical –(1) Fitness Test Administration (SAI Khelo India Test) and practice of fitness

test.

2) Procedure for Asanas ,Benefits , Contraindication for any Four Asanas for each lifestyle

disease .

3) Anyone IOA recognized Sports /Game (kho-kho, Volleyball, Badminton, Kabaddi ,

Cricket)of choice .Labelled diagram of Field & Equipment Also mentioned it's rules ,

terminologies and skills .

4) Practice of Yoga Asanas.

5) Revise Unit-1,2,3 ,4 Questions/Answers

Hindustani Music Vocal

Topic
Alankaar
Time theory Of Raga
Taal - Jhaptaal, Dhamaar, Roopak
Raaga with Notation Class 12 Hindustani Music Vocal
Sesson 2025-26
Assignment of Music
Topic
Alankaar
Time theory Of Raga

Taal - Jhaptaal, Dhamaar, Roopak
Raaga with Notation , Alaap, Taan,
Bada khyaal and chota khyaal
Bhairav And Bageshri, Alaap, Taan,
Bada khyaal and chota khyaal
Bhairav And Bageshri

IT

Make the Practical File on A4 Coloured Sheets With proper first Index page .
The writing should be neat and clean.
Note: (The file should be properly covered)
PDF is attached separately.

Fine Arts:-

Complete your 15 sheets of A2 size

Biology
Prepare an investigatory beautiful project on following topics for final submission.
1. Industrial uses of microbes. (Harman)
2. Bacterial, viral and protozoan diseases. (Jashan)
3. Pollination in flowering plants. (Arshveer)
4. Interactions in nature (last unit) (Vanshika)
5. DNA replication and transcription. (Kartik)
Complete practical file discussed during lectures.

Health care
Prepare a beautiful project file on following topics for final submission. (According to your name)
1. (partiksha
Describe different types of biomedical waste and their segregation. and Arman)
2. Elderly care and myths and facts about elder people. 3. Understanding common problems of elderly people. (Harman)
4. Structure of operation theatre . (Mishti and abhiraj)
5. Role of staff in operation theatre.(japneet)
6. Different types of records in hospital.(Arsh and Akam)
(jashan and jatin)

1. If A is a square matrix such that $A^2 = I$, then find the simplest value of $(A - I)^3 + (A + I)^3 - 7A$.
2. Write the number of all possible matrices of order 2 x 2 with each entry 1,2 or 3.
3. If $[2 \quad 1 \quad 3] \begin{pmatrix} -1 & 0 & -1 \\ -1 & 1 & 0 \\ 0 & 1 & 1 \end{pmatrix} \begin{pmatrix} 1 \\ 0 \\ -1 \end{pmatrix} = A$, the write the order of matrix A.
4. If $2\begin{bmatrix} 3 & 4 \\ 5 & x \end{bmatrix} + \begin{bmatrix} 1 & y \\ 0 & 1 \end{bmatrix} = \begin{bmatrix} 7 & 0 \\ 10 & 5 \end{bmatrix}$, then find (x-y).
5. Solve the following matrix equation for x. $(x \quad 1)\begin{bmatrix} 1 & 0 \\ -2 & 0 \end{bmatrix} = O$.
6. If matrix $A = \begin{bmatrix} 1 & -1 \\ -1 & 1 \end{bmatrix}$ and $A^2 = kA$, then write the the value of k.
7. In the interval $\frac{\pi}{2} < x < \pi$, find the value of x for which the matrix $\begin{bmatrix} 2\sin x & 3 \\ 1 & 2\sin x \end{bmatrix}$ is singular matrix.
8. For what value of x, $A = \begin{bmatrix} 2(x+1) & 2x \\ x & x-2 \end{bmatrix}$ is a singular matrix?
9. For what value of k, the system of linear equations
   $x + y + z = 2; 2x + y - z = 3; 3x + 2y + kz = 4$ has a unique solution?
10. If A is a square matrix of order 3 such that $|adjA| = 64$, find the $|A|$.

    Short Answer (2 marks)
11. If $\begin{vmatrix} x & \sin\theta & \cos\theta \\ -\sin\theta & -x & 1 \\ \cos\theta & 1 & x \end{vmatrix} = 8$, then write the value of x.
12. If $A = [3 \quad 5], B = [7 \quad 3]$ then find matrix C such that $AC = BC$.
13. If $A = \begin{bmatrix} 0 & 0 \\ 5 & 0 \end{bmatrix}$ find A^{16}.
14. If $A = \begin{bmatrix} cos\alpha & sin\alpha \\ -sin\alpha & cos\alpha \end{bmatrix}$, find α satisfying $0 < \alpha < \frac{\pi}{2}$ when $A + A^T = \sqrt{2}I_2$; where A^T is transpose of A.
15. Show that $\begin{bmatrix} 2 & -1 & 3 \\ -5 & 3 & 1 \\ -3 & 2 & 3 \end{bmatrix}$ is inverse of the matrix $\begin{bmatrix} -7 & -9 & 10 \\ -12 & -15 & 17 \\ 1 & 1 & -1 \end{bmatrix}$.
16. Find the matrix A such that $\begin{bmatrix} 2 & -1 \\ 1 & 0 \\ -3 & 4 \end{bmatrix} A = \begin{bmatrix} -1 & -8 & -10 \\ 1 & -2 & -5 \\ 9 & 22 & 15 \end{bmatrix}$.
17. The co-operative store of a particular school has 10 dozen physics books, 8 dozen chemistry books and 5 dozen mathematics books. Their selling prices are Rs. 45, 40 and 30 each respectively. Find the total amount the store will receive by selling all books.
18. Let $f(t) = \begin{vmatrix} cost & t & 1 \\ 2sint & t & 2t \\ sint & t & t \end{vmatrix}$ then find $\lim_{t \to 0} \frac{f(t)}{t^2}$
19. A total amount of Rs.7000 is deposited in three different saving bank accounts with annual interest rates 5%, 8% and $8\frac{1}{2}$% respectively. The total annual interest from these three accounts is Rs.550. Equal amounts have been deposited in the 5% and 8% savings accounts. Find the amount deposited in each of the three accounts, with the helps of matrices.
20. Given that $A = \begin{bmatrix} -4 & 4 & 4 \\ -7 & 1 & 3 \\ 5 & -3 & -1 \end{bmatrix}$ and $B = \begin{bmatrix} 1 & -1 & 1 \\ 1 & -2 & -2 \\ 2 & 1 & 3 \end{bmatrix}$ find AB. Use this result to solve the following system of linear equations : x-2y+z=4; x-2y-2z=9; 2x+y+3z=1.
21. Find A^{-1} if $A = \begin{bmatrix} -1 & 2 & 5 \\ 2 & -3 & 1 \\ -1 & 1 & 1 \end{bmatrix}$ and hence, solve the system of linear equations :
    -x+2y+5z=2; 2x-3y+z=15; -x +y +z=-3..

RELATIONS AND FUNCTIONS:

1. Check whether the relation R in the set {1, 2, 3} given by R = {(1,3),(3,1)} is transitive.
2. If f: R → R defined by f(x)= 3x+2 defined f[f(x)].
3. Let A be the set of all students of a boys school. Show that the relation R in A given by R = { (a,b) ; a is sister of b } is the empty relation and $R' = $ { (a,b) : the difference between heights of a and b is less than 3 meters } is the universal relation.
4. Show that the relation R in the set Z of integers given by R = {(a, b) : 2 divides a – b } is an equivalence relation. Find the equivalence class [0].
5. Show that the number of equivalence relations in the set { 1, 2, 3 } containing (1, 2) and (2, 1) is two.
6. Show that the relation ' is a factor of ' on the set N of all natural numbers is reflexive and transitive but not symmetric.

12. If f : A → B and g: B → C are onto functions , then show that gof: A → C is also onto.