

**Army Public School Hisar
Holidays Homework
Class – XII**

English

1. Flamingo - Revise Chapters 1, 2 and 3 and the poems done in class.
2. Vistas - Revise Chapter 1 & 4.
3. Write an analytical review of the prose/verse allotted to you as per your roll number and make a PowerPoint Presentation on Critical Appreciation or Criticism of the same.

Roll no 1 to 5 - Flamingo Chapter 1
Roll no 6 to 10 - Flamingo Chapter 2
Roll no 11 to 15 - Flamingo Chapter 3
Roll no 16 to 20 - Flamingo Poem 1
Roll no 21 to 25 - Flamingo Poem 3
Roll no 26 to 30 - Vistas Chapter 1
Roll no 31 to 35 - Vistas Chapter 4

4. Taking the theme of Covid-19 Pandemic into consideration, organise your thoughts in the form of a poem or paragraph. The title should be convincing. (To be submitted handwritten on either notebook page or A4 size sheets)
5. Revise the formats of Notice and Invitation Writing and do practice.
6. Design and make your own dictionary by picking up 5 new words on daily basis and writing their meanings. Learn those words and use them on daily basis.
7. Write a paragraph on "An Analysis of Education System of India" in about 250-300 words. (To be submitted handwritten on either notebook page or A4 size sheets)

Math

- Revise the chapters – 3 and 4 from NCERT.

Chapter 3 : Matrices

Chapter 4 : Determinants

- Do the given Assignments of chapter 3 and 4.

Matrices

Assignment

1. Find the no. of all possible matrices having order 3×4 with each entry 5 or 7.
2. Find Y , such that $\begin{bmatrix} 1 & -4 \\ 3 & -2 \end{bmatrix} Y = \begin{bmatrix} -16 & -6 \\ 7 & 2 \end{bmatrix}$.
3. If the matrix $A = \begin{bmatrix} 0 & 6 - 5x \\ x^2 & x + 3 \end{bmatrix}$ is symmetric, find the values of x .
4. If order of a matrix A is 3×4 and order of matrix B is 3×3 , then find the order of matrix AB .
5. Find a matrix X such that $X \cdot \begin{bmatrix} 3 & 2 \\ 1 & -1 \end{bmatrix} = \begin{bmatrix} 4 & 1 \\ 2 & 3 \end{bmatrix}$.
6. If B is a skew symmetric matrix, write whether the matrix (ABA') is symmetric or skew-symmetric matrix.
7. If $A = \begin{bmatrix} 3 & 1 \\ -1 & 2 \end{bmatrix}$ and $A^2 - 5A + 7I = O$ then using this result find A^4 .
8. If $A = \begin{bmatrix} 0 & 1 \\ 0 & 0 \end{bmatrix}$, show that $(a.I + b.A)^n = a^n I + n.a^{n-1}.b.A$ for all natural number n .
9. If $A = \begin{bmatrix} 5 & 3 \\ -1 & -2 \end{bmatrix}$, Express this matrix as a sum of symmetric and skew symmetric matrix.
10. Find A^{-1} , by using elementary column operations, where $A = \begin{bmatrix} 2 & -6 \\ 1 & -2 \end{bmatrix}$.
11. Find A^{-1} , by using elementary column operations,
Where $A = \begin{bmatrix} 2 & -1 & 3 \\ -5 & 3 & 1 \\ -3 & 2 & 3 \end{bmatrix}$.
12. If $A = \begin{bmatrix} a & b \\ 0 & 1 \end{bmatrix}$, $a \neq 1$, prove that $A^n = \begin{bmatrix} a^n & \frac{b(a^n - 1)}{a - 1} \\ 0 & 1 \end{bmatrix}$, $n \in N$.
13. Prove that the matrix which is both symmetric and skew-symmetric is a zero matrix. Illustrate with an example.

Determinants

Assignment

14. If a non-singular matrix A of order 9x9 with $|A| = 6$ then find $|A \cdot \text{adj}A|$

15. Using inverse of matrix, find Y, such that $\begin{bmatrix} 1 & -4 \\ 3 & -2 \end{bmatrix} Y = \begin{bmatrix} -16 & -6 \\ 7 & 2 \end{bmatrix}$.

16. If $x = -4$ is a root of $\begin{vmatrix} x & 2 & 3 \\ 1 & x & 1 \\ 3 & 2 & x \end{vmatrix} = 0$, then find the other two roots.

17. Find the maximum value of $\begin{vmatrix} 1 & 1 & 1 \\ 1 & 1 + \sin x & 1 \\ 1 & 1 & 1 + \cos x \end{vmatrix}$.

18. For what value of a, $\begin{bmatrix} 2a & -1 \\ -8 & 3 \end{bmatrix}$ is a singular matrix.

19. Using the properties of determinants, Prove that

$$\begin{vmatrix} a & b - c & c + b \\ a + c & b & c - a \\ a - b & b + a & c \end{vmatrix} = (a + b + c)(a^2 + b^2 + c^2).$$

20. If $A = \begin{bmatrix} 5 & 3 \\ -1 & -2 \end{bmatrix}$ satisfies the equation $x^2 - 3x - 7 = 0$ then find A^{-1} .

21. Prove that $\begin{vmatrix} a & b & ax + by \\ b & c & bx + cy \\ ax + by & bx + cy & 0 \end{vmatrix} = (b^2 - ac)(ax^2 + 2bxy + cy^2)$, by using properties of determinants.

22. Find A^{-1} , by using elementary column operations, where $A = \begin{bmatrix} 2 & -6 \\ 1 & -2 \end{bmatrix}$.

23. Using properties of determinants, prove that $\begin{vmatrix} x + y & x & x \\ 5x + 4y & 4x & 2x \\ 10x + 8y & 8x & 3x \end{vmatrix} = x^3$.

24. Prove that $\begin{vmatrix} a^2 & a^2 - (b - c)^2 & bc \\ b^2 & b^2 - (c - a)^2 & ca \\ c^2 & c^2 - (a - b)^2 & ab \end{vmatrix} = (a - b)(b - c)(c - a)(a + b + c)(a^2$

$+ b^2 + c^2)$, by using the properties of determinants.

25. If the points $A(a_1, b_1)$, $B(a_2, b_2)$ and $C(a_1 + a_2, b_1 + b_2)$ are collinear, show that $a_1 b_2 = a_2 b_1$.

26. Solve the following system of linear equations using matrix method:

$$x + y + z = 6,000$$

$$x + 3z = 11,000$$

$$x + z = 2y.$$

$$\left(\begin{array}{ccc} & & \end{array} \right) \left(\begin{array}{ccc} & & \end{array} \right)$$

27. Use the product $\begin{pmatrix} 1 & -1 & 2 & -2 & 0 & 1 \\ 0 & 2 & -3 & 9 & 2 & -3 \\ 3 & -2 & 4 & 6 & 1 & -2 \end{pmatrix}$ to solve the system of equations

$$x + 3z = -9, -x + 2y - 2z = 4, 2x - 3y + 4z = -3.$$

28. If $A = \begin{pmatrix} 1 & 1 & 1 \\ 1 & 2 & -3 \\ 2 & -1 & 3 \end{pmatrix}$, find A^{-1} , and use it to solve the system of linear equations using matrix method:

$$x + y + 2z = 0, x + 2y - z = 9 \text{ and } x - 3y + 3z = -14.$$

29. Three friends Rakhi, Mohini and Sonia visited market for purchasing fruits. Rakhi purchased 2kg mangoes, 3kg oranges and 1kg grapes and paid Rs. 420. Mohini purchased 3kg mangoes, 1kg grapes and 2kg oranges and paid Rs. 410. Sonia purchased 3kg mangoes, 2kg oranges and 2kg grapes and paid Rs. 500. Find the cost of each fruit per kg by matrix method.
30. If a, b, c are all positive and are p th, q th and r th terms of a G.P., then

$$\text{show that } \begin{vmatrix} \log a & p & 1 \\ \log b & q & 1 \\ \log c & r & 1 \end{vmatrix} = 0.$$

31. Using elementary transformations, find the inverse of the matrix

$$A = \begin{pmatrix} 8 & 4 & 3 \\ 2 & 1 & 1 \\ 1 & 2 & 2 \end{pmatrix} \text{ and use it to solve the following system of linear equations}$$

$$8x + 4y + 3z = 19$$

$$2x + y + z = 5$$

$$x + 2y + 2z = 7.$$

Biology

- Learn and revise Ch- 1 and 2
- Prepare ppts of Ch -2
- Construct an innovative model based on biology concepts made from eco-friendly and low cost material for solving any problem of environment or society
- Prepare at least 20 MCQs from each Ch-1 and 2

Physics

- Learn and revise Ch- 1 and 2
- Prepare ppts based on Electric Field
- Construct an innovative model based on Physics concepts made from eco-friendly and low cost material for solving any problem of environment or society
- Prepare at least 20 MCQs from each Ch-1 and 2

Accountancy

- Do all the questions of Ratio Analysis, Common size and Comparative Analysis
 - Prepare notes for all the chapters
 - Make a comprehensive project on Accountancy

Business Studies

- Do all the questions of Chapter 1 and chapter 2
 - Prepare notes for all the chapters
 - Make a project on Management

Economics

- Do all the questions of NATIONAL INCOME, BUDGET
- Prepare notes for all the chapters
- Make a project on NATIONAL INCOME, BUDGET

Physical Education

- ✓ Read and learn chapter 'planning in sports'.
- ✓ Prepare 40 MCQs from the chapter.
- ✓ Prepare all the fixtures from the chapter.
- ✓ Learn all the formulae of the fixtures.

HISTORY

Prepare a detailed POWER POINT PRESENTATION on any one of the following topics.

Project 1:- HARAPPAN CIVILISATION

- Art and Craft Production or
- City Planning or
- Seals

Case study Project 2:- Compare and contrast the cities and society of Harappa with present cities and society.

Revise all the chapters done in class, and make notes on the basis of your understanding and learn them.

Psychology

1. Read chapter 1 and 3.
2. Complete the question answers of chapter 1 and 3 in your subject notebook and also learn them.

3. Draft fill in the blank type questions (at least 30) from chapter 1 and 3 in your notebook.
4. Watch any psychological theme-based movie and prepare a PowerPoint presentation explaining your understanding of human behavior in reference to movie.

Political Science

INSTRUCTIONS FOR COMPILATION OF HOLIDAY HOMEWORK

- All homework is to be done on A4 size sheets and compiled in a hard bound file /folder. Design an attractive cover for your file / folder.
- You may use different colour A4 size sheets for different subjects. Have a labeled cover page for each subject. All sheets of a subject should be put together/tied/stapled together and handed over to the respective subject teachers on the first day of rejoining after summer break.
- Attach all the worksheets along with the homework sheets.
- The written part should be superbly presented in your own handwriting.
- Remember a well presented “Holiday Home-Work” fetches appreciation of the teachers and classmates.
- Kindly submit your home work by the mentioned time positively.

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Q1. Revise all following the chapters given below:

Book: CONTEMPORARY WORLD POLITICS

1. The Cold War Era
2. The End of Bipolarity

Book: POLITICS IN INDIA SINCE INDEPENDENCE

1. Challenges of Nation Building

Q2. Design a collage on the Partition and the after-Partition challenges for the country in the future prospective?

Q3 Make a report on the latest projects introduced by our Prime Minister and their relevance in India's development.

Q4. Write a Case Study of BJP Political Party also explain about some popular leaders of BJP.

Q5. Through a poster shows the positive & negative impact of globalization on India.

Q6. Explain all the cartoons of chapter 1 & 2 from the book Contemporary World Politics.

Q7. Do a research work on the formation of a political party, note all the process, rules & regulations & make your own political party and demonstrate it with help of a ppt file. You can also add the chart / table could hold the following columns – Origin, Ideology, Electoral Result, Popular support and famous policies.

Work to be done on a-4 sheets and compiled in a file.