

ARMY PUBLIC SCHOOL JAMMU CANTT
HOLIDAYS HOMEWORK-XII (2022-23)

Dear Children

We wish you happy and safe summer break. To maintain the educational continuum and to keep boredom at bay, your teachers have designed enriching assignments and projects which will keep you constructively busy.

**So, don your thinking cap and wear your magic mantle to unleash your creative side.
Have Fun!!!**



ENGLISH (301)



1. Write an article on the topic-‘The Loss and Benefits of AI’ or new education policy (NEP) in 100 words.
2. Collect invitation card and write format in the file.
3. Make a project file on the poem ‘Keeping Quiet’. Write the poetic device used in the poem and also the message which the poet wants to convey to the society.
4. Write a letter to the editor of a national daily highlighting the neglect of our national monuments and how these are being damaged in the present day world.
5. You are the secretary of Science club of your school. Write a notice for your School notice board encouraging the bright science students of class 11th and 12th to participate in the Inter School Science exhibition to be held next week in a neighboring school.
6. Learn and revise all the chapters and do practice of creative writing by selecting the topics from the newspaper (like reports and article) and try to convert it in your own words.

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**PHYSICS (042)**

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THEORY ASSIGNMENT
PRACTICALS:

Write down at least 8 Experiments on your practical notebook [with 4 from each section], to be performed by the students. Also record at least 6 Activities [with 3 each from section A and section B].

INVESTIGATORY PROJECTS – PHYSICS (2022-23):

As per C.B.S.E. guide lines all students have to prepare one Investigatory Project carrying 3 marks. All students are therefore, advised to prepare one Investigatory Project on any one of the following topics or any other topic of their choice based on concept of physics after consulting the teacher during the summer vacation.

POINTS FOR MAKING PROJECT FILE:

The material should be placed and bound in the following order:

1. The first page of your report should carry the following information in printed form or handwritten in neat block letters;
(i) Name of school (ii) Title of Project (iii) Name of Student (iv) Class sec. & Roll Number.
2. Aim of Project:
3. Apparatus required:
4. Principle/Theory:
5. construction with Labeled diagram:
6. Working:
7. Observations:
8. Calculation:
9. Result/Conclusion:
10. Applications:
11. Graphs If Any:
12. References/bibliography:
13. Back Cover of plastic: may be opaque or transparent:

List of Investigatory Projects:

1. To study and construct Gold leaf Electroscope.
2. To study and construct A.C. Generator/ Motor.
3. To study and construct Transformer.
4. To study and show Diffraction of light.
5. To investigate the dependence of the angle of deviation on the angle of incidence ,
Using a hollow prism filled, one by one, with different transparent fluids.
6. To study the variation in potential drop with length of the wire for a steady current.
7. To study the effect of intensity of light on LDR.
8. To study and construct half/full wave rectifier.

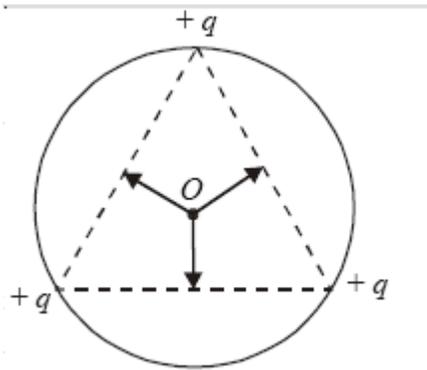
THEORY:

- Solve the CBSE previous year questions of chapter- Electric field and charges & Electric Potential and Capacitance.
- Solve the examples and NCERT Textbook exercises of chapter-1 & 2 in your notebook.
- Also solve the following questions.

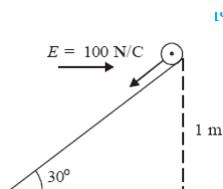
- Solve the CBSE previous year questions of chapter- Electric field and charges & Electric Potential and Capacitance.
- Solve the examples and NCERT Textbook exercises of chapter-1 & 2 in your notebook.

Also solve the following questions:

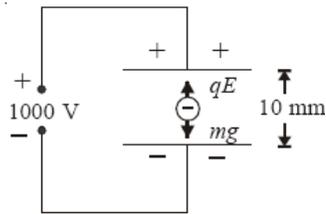
1. The weight of a positively charged oil drop is balanced by producing electric field between two parallel plates. What is the direction of the electric field?
2. Three small spheres each of a charge $+q$ are placed on the circumference of a circle such that they form an equilateral triangle. What is electric field intensity at the centre of the circle?



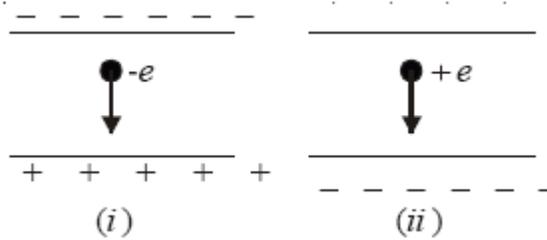
3. In Fig. the potential difference between points A and B is 240V. If the mid-point M of AB is earthed, what are the potentials of A and B?
4. An inclined plane making an angle of 30° with the horizontal is placed in a uniform horizontal electric field of 100N/C [See Fig.]. A particle of mass 1kg and charge 0.01C is allowed to slide down from rest from a height of 1m . If the co-efficient of friction is 0.2 , find the time taken by the particle to reach the bottom. ($g = 9.8\text{ms}^{-2}$).



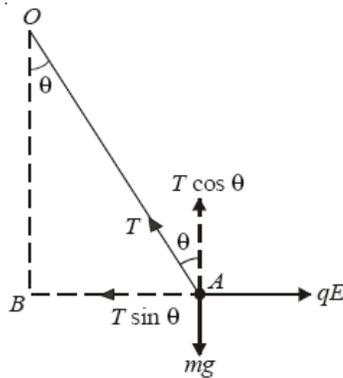
5. Two horizontal parallel plates 10mm apart have a p.d. of 1000V between them; the upper plate being at $+ve$ potential. If a negatively charged oil drop of mass $4.8 \times 10^{-15}\text{kg}$ is held stationary between the plates, find the number of electrons on the drop (Take $g = 10\text{ms}^{-2}$, electron charge, $e = 1.6 \times 10^{-19}\text{C}$).



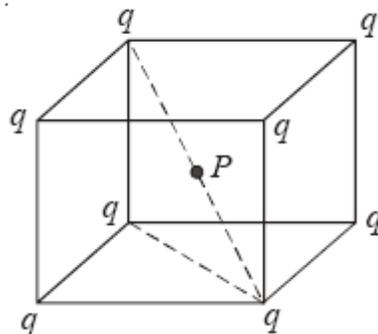
6. An electron falls through a distance of 4 cm in a uniform electric field of 3×10^4 N/C. When the direction of field is reversed, a proton falls through the same distance. Calculate the time of fall in each case. Why is the effect of gravity negligible in such cases?



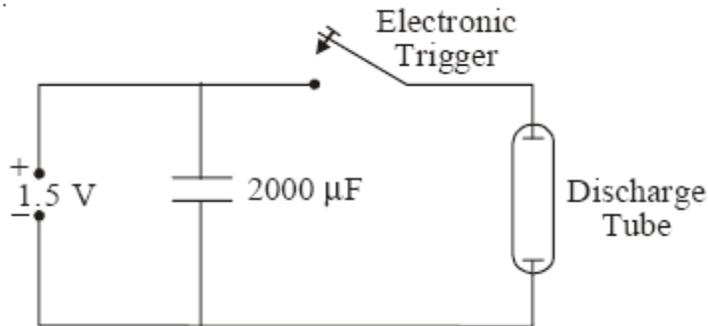
7. A pendulum bob of mass 80 milligram and carrying a charge of 2×10^{-8} C is at rest in a horizontal uniform electric field of 2×10^4 V/m. Find the tension in the thread of the pendulum and the angle it makes with the vertical.



8. A particle of mass 10^{-3} kg and charge $5 \mu\text{C}$ is thrown at a speed of 20 ms^{-1} against a uniform electric field of strength 2×10^5 N/C. How much distance will it travel before coming to rest momentarily?
9. A cube of side a has charge q at each of its vertices. Find the potential and electric intensity due to these charges at the centre of the cube.



10. Parallel metal plates 3 mm apart carry equal and opposite charge densities of $\pm 2 \mu\text{C}/\text{m}^2$. A proton ($q = e$ and $m = 1.67 \times 10^{-27} \text{ kg}$) is released from rest at the positive plate. What is the speed of proton just as it strikes the negative plate? Assume the space between the plates is a vacuum.
11. A parallel plate capacitor has three similar parallel plates. Find the ratio of capacitance when the inner plate is mid-way between the outers to the capacitance when inner plate is three times as near one plate as the other.
12. Fig. shows a circuit for a camera flash. A $2000 \mu\text{F}$ capacitor is charged by 1.5V cell. When a flash is required, the energy stored in the capacitor is made to discharge through a discharge tube in 0.1 ms giving a powerful flash. Calculate the energy stored in the capacitor and power of the flash.



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**CHEMISTRY (043)**

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Learn and revise the following chapters:

1. Solid state
2. Solution(colligative properties)

Write complete notes and Solve NCERT questions of:

3. Chemical Kinetics

Solve NCERT textbook and NCERT exemplar problems of Chapter 2 Solution.

THEORY ASSIGNMENT

Solve NCERT exercises of the following chapters:

1. Solid state
2. Solution(colligative properties)
3. Electro chemistry

PRACTICAL WORK

Write following practical in your practical notebook:

- Preparation of sample of colloidal sol of starch
- Preparation of sample of aluminium hydroxide colloidal sol
- To study the effect of concentration on rate of reaction between sodium thiosulphate and hydrochloric acid.
- To study the effect of concentration on rate of reaction between sodium thiosulphate and hydrochloric acid.
- To separate pigments from extracts of leaves and flowers by paper chromatography and to determine their R_f values.
- To separate constituents present in an inorganic mixture containing two cations and to determine their R_f values
- Preparation of double salt of Potash alum
- Preparation of double salt of Ferrous ammonium sulphate
- To prepare 250 ml of M/40 oxalic acid.
- To determine molarity of given KMNO₄ solution by titrating it against a standard solution of oxalic acid.

Note: All work should done on respective copy/practical file in a neat and proper order as provided above

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**MATHEMATICS (041)**

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CHAPTER: 1. RELATIONS AND FUNCTIONS

1. If R_1 and R_2 are equivalence relations in a set A , show that $R_1 \cap R_2$ is also an equivalence relation.
2. Let R be the relation on set A of ordered pairs of positive integers defined by $(x, y) R (u, v)$ if and only if $xv = yu$. Show that R is an equivalence relation.
3. Show that the number of equivalence relations in the set $\{1, 2, 3\}$ containing $(1, 2)$ and $(2, 1)$ is two.
4. If $f(x) = \frac{x-1}{x+1}$, $(x \neq -1)$, show that $f \circ f^{-1}$ is an identity function.
5. If the function $f: \mathbb{R} \rightarrow \mathbb{R}$ is given by $f(x) = \frac{x+3}{2}$ and $g: \mathbb{R} \rightarrow \mathbb{R}$ is given by $g(x) = 2x - 3$, find $f \circ g$ and $g \circ f$. Is $f^{-1} = g$.
6. Let $f: \mathbb{N} \rightarrow \mathbb{R}$ be a function defined as $f(x) = 4x^2 + 12x + 15$. Show that $f: \mathbb{N} \rightarrow s$, where s is range of f , is invertible. Find also the inverse of f .

CHAPTER: 2. INVERSE TRIGONOMETRIC FUNCTIONS

1. Find the Principal value $\sec^{-1} 2$.
2. Evaluate $\tan^{-1} 1 + \sin^{-1} \left(-\frac{1}{2}\right) + \cos^{-1} \left(-\frac{1}{2}\right)$
3. Draw the graphs all the Inverse Trigonometric Functions.
4. Find the principal value of $\tan^{-1} \sqrt{3}$
5. Find the value of $\sin^{-1} \left(\frac{1}{2}\right) + \cos^{-1} \left(\frac{1}{2}\right) + \tan^{-1} \left(\frac{1}{\sqrt{3}}\right)$

CHAPTER: 3. MATRICES

1. If $A = \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$ and $B = \begin{bmatrix} 0 & 1 \\ 1 & 0 \end{bmatrix}$, then

(A) $A^3 = A, B^3 \neq B$	(B) $A^3 \neq A, B^3 = B$
(C) $A^3 = A, B^3 = B$	(D) $A^3 \neq A, B^3 \neq B$
2. Let $A = \begin{bmatrix} 2 & -1 \\ 3 & 4 \end{bmatrix}$, $B = \begin{bmatrix} 5 & 2 \\ 7 & 4 \end{bmatrix}$ and $C = \begin{bmatrix} 2 & 5 \\ 3 & 8 \end{bmatrix}$, find a matrix D such that $CD - AB = 0$.
3. If A and B are square matrices of same order and B is a skew symmetric matrix, then show that $A^T B A$ is a skew symmetric matrix.
4. Find the value of x , if $\begin{bmatrix} 1 & x & 1 \\ 2 & 5 & 1 \\ 15 & 3 & 2 \end{bmatrix} \begin{bmatrix} 1 \\ 2 \\ x \end{bmatrix} = 0$
5. Let $A = \begin{bmatrix} 2 & 3 \\ -1 & 2 \end{bmatrix}$ and $f(x) = x^2 - 4x + 7$. Show that $f(A) = 0$ and use this result to find A^5 .
6. If A is a matrix of order 2×3 and B is a matrix of order 3×5 , then what is the order of matrix $(AB)^T$?

7. Let $f(x) = x^2 - 5x + 6$. Find $f(A)$, if $A = \begin{bmatrix} 2 & 0 & 1 \\ 2 & 1 & 3 \\ 1 & -1 & 0 \end{bmatrix}$

8. Use matrix multiplication to divide Rs30,000 in two parts such that the total annual interest at 9% on the first part and 11% on the second part amounts Rs3060.

9. Find the matrix A such that $\begin{bmatrix} 2 & -1 \\ 1 & 0 \\ -3 & 4 \end{bmatrix} A = \begin{bmatrix} -1 & -8 & -10 \\ 1 & -2 & -5 \\ 9 & 22 & 15 \end{bmatrix}$

10. If A is a matrix of order 2 x 3 and B is a matrix of order 3 x 5, then what is the order of matrix $(AB)^T$?

11. Let $A = \begin{bmatrix} 2 & 3 \\ -1 & 2 \end{bmatrix}$, then show that $A^2 - 4A + 7I = 0$. Using this result calculate A^3 .

12. A trust fund has Rs. 30,000 is to be invested in two different types of bonds. The first bond pays 5% interest per annum which will be given to orphanage and second bond pays 7% interest per annum which will be given to an N.G.O. cancer aid society. Using matrix multiplication, determine how to divide Rs 30,000 among two types of Bonds if the trust fund obtains an annual total interest of Rs. 1800.

ACTIVITIES

- To verify that R in set L of lines in a plane $R = \{(l,m) : l \text{ is perpendicular to } m\}$ is symmetric but neither reflexive nor transitive.
- To demonstrate a function which is not one one but is onto.

Note:

- ❖ *Formulate 10 MCQs from each chapter and write them on the notebook with correct option number.*
- ❖ *Prepare first three chapters for UNIT TEST-I.*

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**APPLIED MATHEMATICS (241)**  
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CHAPTER: MATRICES

1. If $A = \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$ and $B = \begin{bmatrix} 0 & 1 \\ 1 & 0 \end{bmatrix}$, then

(A) $A^3 = A, B^3 \neq B$

(B) $A^3 \neq A, B^3 = B$

(C) $A^3 = A, B^3 = B$

(D) $A^3 \neq A, B^3 \neq B$

2. Let $A = \begin{bmatrix} 2 & -1 \\ 3 & 4 \end{bmatrix}, B = \begin{bmatrix} 5 & 2 \\ 7 & 4 \end{bmatrix}$ and $C = \begin{bmatrix} 2 & 5 \\ 3 & 8 \end{bmatrix}$, find a matrix D such that $CD - AB = 0$.

3. If A and B are square matrices of same order and B is a skew symmetric matrix, then show that $A^T B A$ is a skew symmetric matrix.

4. Find the value of x , if $\begin{bmatrix} 1 & x & 1 \\ 2 & 5 & 1 \\ 15 & 3 & 2 \end{bmatrix} \begin{bmatrix} 1 \\ 2 \\ x \end{bmatrix} = 0$

5. Let $A = \begin{bmatrix} 2 & 3 \\ -1 & 2 \end{bmatrix}$ and $f(x) = x^2 - 4x + 7$. Show that $f(A) = 0$ and use this result to find A^5 .

6. If A is a matrix of order 2×3 and B is a matrix of order 3×5 , then what is the order of matrix $(AB)^T$?

7. Let $f(x) = x^2 - 5x + 6$. Find $f(A)$, if $A = \begin{bmatrix} 2 & 0 & 1 \\ 2 & 1 & 3 \\ 1 & -1 & 0 \end{bmatrix}$

8. Use matrix multiplication to divide Rs30,000 in two parts such that the total annual interest at 9% on the first part and 11% on the second part amounts Rs3060.

9. Find the matrix A such that $\begin{bmatrix} 2 & -1 \\ 1 & 0 \\ -3 & 4 \end{bmatrix} A = \begin{bmatrix} -1 & -8 & -10 \\ 1 & -2 & -5 \\ 9 & 22 & 15 \end{bmatrix}$

10. If A is a matrix of order 2×3 and B is a matrix of order 3×5 , then what is the order of matrix $(AB)^T$?

11. Let $A = \begin{bmatrix} 2 & 3 \\ -1 & 2 \end{bmatrix}$, then show that $A^2 - 4A + 7I = 0$. Using this result calculate A^3 .

12. A trust fund has Rs. 30,000 is to be invested in two different types of bonds. The first bond pays 5% interest per annum which will be given to orphanage and second bond pays 7% interest per annum which will be given to an N.G.O. cancer aid society. Using matrix multiplication, determine how to divide Rs 30,000 among two types of Bonds if the trust fund obtains an annual total interest of Rs. 1800.

CHAPTER: DETERMINANTS

1. Use the product $\begin{bmatrix} 1 & -1 & 2 \\ 0 & 2 & -3 \\ 3 & -2 & 4 \end{bmatrix} \begin{bmatrix} -2 & 0 & 1 \\ 9 & 2 & -3 \\ 6 & 1 & -2 \end{bmatrix}$ to solve the system of equations $x + 3z = 9$,
 $-x + 2y - 2z = 4$ and $2x - 3y + 4z = -3$

2. If $|A| = 3$ and $A^{-1} = \begin{bmatrix} 3 & -1 \\ -\frac{5}{3} & \frac{2}{3} \end{bmatrix}$, then write the adj A.

3. If A and B are square matrices of order 3 such that $|A| = -1$, $|B| = 3$, then find the value of $|2AB|$.

4. Using properties of determinants show that $\begin{vmatrix} 1 & 1 & 1+x \\ 1 & 1+y & 1 \\ 1+z & 1 & 1 \end{vmatrix} = xyz + yz + zx + xy$.

5. If a square matrix A, of order 3×3 has its determinant value as 5, find the value of $|AA^T|$

6. For what value of x, the matrix A is singular, if $A = \begin{bmatrix} 1+x & 7 \\ 3-x & 8 \end{bmatrix}$?

7. For a 3×3 matrix A, given that $|A| = 3$, then find $|\text{adj}(A)|$.

8. For what value of k, the matrix $\begin{bmatrix} 2-k & 4 \\ -5 & 1 \end{bmatrix}$ is not invertible?

9. Find the value of θ satisfying $\begin{vmatrix} 1 & 1 & \sin 3\theta \\ -4 & 3 & \cos 2\theta \\ 7 & -7 & -2 \end{vmatrix} = 0$.

10. In a Legislative assembly election, a political party hired a public relation firm to promote its candidate in three ways; telephone, house calls and letters. The numbers of contacts of each type in three cities A, B & C are (500, 1000, and 5000), (3000, 1000, 10000) and (2000, 1500, 4000), respectively. The party paid Rs. 3700, Rs.7200, and Rs.4300 in cities A, B & C respectively. Find the costs per contact using matrix method.

11. Solve the following equations by using Cramer's rule

(i) $2x + 3y = 7; 3x + 5y = 9$

(ii) $2x + y - z = 3, x + y + z = 1, x - 2y - 3z = 4$

(iii) $x + 4y + 3z = 2, 2x - 6y + 6z = -3, 5x - 2y + 3z = -5$

12. A commodity was produced by using 3 units of labour and 2 units of capital, the total cost is ₹ 62. If the commodity had been produced by using 4 units of labour and one unit of capital, the cost is ₹ 56. What is the cost per unit of labour and capital? (Use determinant method).

13. At marina two types of games viz., Horse riding and Quad Bikes riding are available on hourly rent. Keren and Benita spent ₹ 780 and ₹ 560 during the month of May.

Name	Number of hours		Total amount spent (in ₹)
	Horse Riding	Quad Bike Riding	
Keren	3	4	780
Benita	2	3	560

Find the hourly charges for the two games (rides). (Use determinant method).

Note:

- ❖ *Formulate 10 MCQs from each chapter and write them on the notebook with correct option number.*
- ❖ *Prepare first two chapters for UNIT TEST-I.*

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**BIOLOGY (044)**

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Do the practice questions related to following chapters :

1. Sexual Reproduction in flowering plants.
2. Reproductive Health

Note - Practice paper will be provided.

Revise the following chapters:

1. Sexual reproduction in flowering plants
2. Reproductive health
3. Human reproduction (Upto female reproductive system)

PRACTICAL WORK

Write down following practicals in your practical file

1. Prepare a temporary mount to observe pollen germination.
2. Flowers adapted to pollination by different agencies (wind, insects, birds).
3. Pollen germination on stigma through a permanent slide or scanning electron micrograph.
4. Identification of stages of gamete development, i.e., T.S. of testis and T.S. of ovary through permanent slides (from grasshopper/mice).
5. Prepare a temporary mount of onion root tip to study mitosis.
6. Meiosis in onion bud cell or grasshopper testis through permanent slides.

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**COMPUTER SCIENCE (083)**  
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Revise the following chapters:

1. Python Revision Tour-I
2. Python Revision Tour-II
3. Working with Functions

PRACTICAL WORK

Instructions regarding CS Practical File.

1. Purchase Computer Science Practical File (Sangam).
2. Write all the following programs in the file in the same sequence.
3. You have to write the code on the ruled sheet and the output on the plain sheet of the file.
4. Don't write two programs on the same sheet.
5. Use blue pen to write the code and pencil to write the output.
6. You have to also perform the practical and make a pdf of the executed code as well as output.

S. No.	NAME OF PRACTICAL
1	Write a program in python to check a number whether it is prime or not.
2	Write a program to check a number whether it is palindrome or not.
3	Write a program to display ASCII code of a character and vice versa.
4	Write a function SwapNumbers() to swap two numbers and display the numbers before swapping and after swapping.
5	Write a program to find the sum of all elements of a list using recursion.
6	Write a program to calculate the factorial of an integer using recursion.
7	Write a program to print Fibonacci series using recursion.
8	Write a recursive python program to test if a string is palindrome or not.
9	Write a program to generate random numbers between 1 to 6 and check whether a user won a lottery or not.
10	Write a program to count the number of vowels present in a text file.
11	Write a program to write those lines which have the character 'p' from one text file to another text file.
12	Write a program to count number of words in a file.
13	Write a python program to write student data in a binary file.
14	Write a python program to read student data from a binary file..
15	Write a python program to modify/update student data in a binary file.
16	Write a python program to delete student data from a binary file.
17	Write a python program to search a student record in a binary file.

18	Write a program to perform read and write operation with .csv file.
19	Write a program to create a library in python and import it in a program.
20	Write a program for linear search.
21	Write a program for bubble sort.
22	Write a menu based program to perform the operation on stack in python.
23	Write a menu based program to perform the operation on queue in python.
	SQL Queries :
24	Queries using Create database, Show databases, USE, Create table, Show Tables, Describe, Rename, Alter, Select, From, Where, Insert, Update commands.
25	Queries using DISTINCT, BETWEEN, IN, LIKE, IS NULL, ORDER BY, GROUP BY, HAVING.
26	Queries for Aggregate functions- SUM(), AVG(), MIN(), MAX(), COUNT().
27	Write a program to connect Python with MySQL using database connectivity and perform the following operations on data in database: Fetch, Update and delete the data.

ART INTEGRATED ACTIVITY

Make a PowerPoint presentation on the following topics:

GROUP	GROUP MEMBERS	TOPIC
Group-I	Nilanjan B Mitra, Vansh Kumar, Anurag Yadav & Nishant Singh Saini	Computer Network and its Types.
Group-II	Karan Sharma, Mohd Haroon, Devyanshu Negi & Ajitpal Singh	Mobile Telecommunication Technologies
Group-III	Ashish Bhardwaj, Kartik Viyas, Saroj & Arjun Balagopal	Wired and Wireless Transmission Media
Group-IV	Sherry Patras, Diya, Shailja Singh, Kiranjot Kour & Kamakshi Sharma	Network Topologies and its Types.

Note: Each group member has to prepare his/her own PowerPoint presentation.

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**INFORMATICS PRACTICES (065)**

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Revise the following chapters:

4. Python Pandas-I
5. Python Pandas-II

PRACTICAL WORK

Instructions regarding IP Practical File.

1. Purchase Informatics Practices Practical File (Sangam).
2. Write all the following programs in the file in the same sequence.
3. You have to write the code on the ruled sheet and the output on the plain sheet of the file.
4. Don't write two programs on the same sheet.
5. Use blue pen to write the code and pencil to write the output.
6. You have to also perform the practical and make a pdf of the executed code as well as output.

S. No.	NAME OF PRACTICAL
1	Create a pandas series from a dictionary of values and an ndarray.
2	Given a Series, print all the elements that are above the 75th percentile.
3	Create a Data Frame quarterly sales where each row contains the item category, item name, and expenditure. Group the rows by the category, and display total expenditure.
4	Create a data frame based on ecommerce data and generate descriptive statistics (mean, median, mode, quartile, and variance).
5	Create a data frame for examination result and display row labels, column labels data types of each column and the dimensions.
6	Filter out rows based on different criteria such as duplicate rows.
7	Find the sum of each column, or find the column with the lowest mean.
8	Locate the 3 largest values in a data frame.
9	Subtract the mean of a row from each element of the row in a Data Frame.
10	Replace all negative values in a data frame with a 0.
11	Replace all missing values in a data frame with a 999.
12	Importing and exporting data between pandas and CSV file
13	Importing and exporting data between pandas and MySQL database.
14	Given the school result data, analyze the performance of the students on different parameters, e.g subject wise or class wise.
15	For the Data frames created above, analyze and plot appropriate charts with title and legend.
16	Take data of your interest from an open source (e.g. data.gov.in), aggregate and summarize it. Then plot it using different plotting functions of the Matplotlib.

17	SQL Queries :
18	Create a student table with the student id, name, and marks as attributes where the student id is the primary key.
19	Insert the details of a new student in the above table.
20	Delete the details of a particular student in the above table.
21	Use the select command to get the details of the students with marks more than 80.
22	Create a new table (order ID, customer Name, and order Date) by joining two tables (order ID, customer ID, and order Date) and (customer ID, customername, contactname, country).
23	Create a foreign key in one of the two tables mentioned above.
	Find the min, max, sum, and average of the marks in a student marks table.
24	Find the total number of customers from each country in the table (customer ID, customer Name, country) using group by.
25	Create a new table (name, date of birth) by joining two tables (student id, name) and (student id, date of birth).
26	Write a SQL query to order the (student ID, marks) table in descending order of the marks.

ART INTEGRATED ACTIVITY

Make a PowerPoint presentation on the following topics:

GROUP	GROUP MEMBERS	TOPIC
Group-I	Anzel Sharma & Harshita Prasad	Computer Network and its Types.
Group-II	Jatten Singh & Shohib Aziz	Computer Topologies and its Types.

Note: Each group member has to prepare his/her own PowerPoint presentation.

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**PHYSICAL EDUCATION (048)**  
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Revise and complete the notes of the following chapters:

1. Management of Sporting Events
2. Children and Women in Sports
3. Yoga as Preventive measure for Lifestyle Disease

PRACTICAL WORK

Make a Record File that shall include the following practical:

1. Lifestyle Disease: Procedure for asanas, benefits & contraindication of any two asanas for each lifestyle disease.

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**NCC (076)**

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Do the following in your NCC notebook:

1. Cut and paste or draw all the ten Standard Obstacle Courses in your NCC notebook, explain each of them. [Unit -8 Common Subject - Adventure and Obstacle Training (same as you did in class 11)]
2. Write types of Pollution, Effect of different types of Pollution, Measures to control the different types of Pollution, in your NCC notebook. (From unit-9)
3. Explain waste management and types of Waste. (From unit-9)

ART INTEGRATED ACTIVITY

Make a pdf of the following chapters as per your roll numbers.

- a) Weapon Training (1-2)
- b) Drill (3-4)
- c) Map Reading (5,6 ,7,8)
- d) Personality Development (9,10,11)

Revise the following chapters (syllabus done):

1. National Integration
2. Drill
3. Weapon Training
4. Personality Development
5. Armed Forces
6. Map – Reading

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ACCOUNTANCY (055)  
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Revise all the chapters done so far and complete your notes.

- 1. Do 10 numerical (from the exercise) of each of the following chapters, in your note book.**
 1. Issue and forfeiture of shares.
 2. Issue of Debentures.
- 2. Every student has to compulsorily undertake project on the following topics:**
 1. Ratio analysis
 2. Cash flow statement.

Detailed Guidelines:

Students need to cover the company profile, assessment of financial statements and specific report analysis so that they are able to:

- Study the proper use of different tools of “Financial statements analysis” Accounting Ratios and cash flow statement.
- Create comparative and common size statement with relevant data.
- The format of Project work:
 - (a) Statement of the Problem/Name of the Project
 - (b) objectives
 - (c) Period of study
 - (d) Tools of Analysis used
 - (e) Processing and Tabulation of data
 - (f) Diagrammatic/Graphic presentation, pie-charts, bar charts and graphs.
 - (g) Derivations, interpretation and conclusion.
 - (h) Assumptions (if any)

Note:

- ❖ *The project must be made on the assignments sheets.*
- ❖ *It must not be less than 20 pages.*
- ❖ *Use of pictures is mandatory.*

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**ECONOMICS (030)**

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Revise the following units for UT-1 and complete your notebook.

1. National income and related aggregates.
2. Money and Banking.

PROJECT WORK

Every student has to compulsorily undertake one project work. Following topics for project work are allotted to you according to your roll nos.

XII-C

S.NO.	TOPICS	ROLL NO
1	Organic Farming – Back to the Nature	1,14
2	Sustainable development a need of time.	2,15
3	Rural Development a mission of Government in India.	3,16
4	Infrastructure an engine of economic growth.	4,17
5	Bumper Production- Boon or Bane for the farmer	5,18
6	COVID-19 and its impact on Indian economy	6,19
7	Contemporary Employment situation in India	7,20
8	Made In India Programme	8,21
9.	Role of Agriculture in Indian Economy	9,22
10	Disinvestment policy of the government	10,23
11	Food Supply Channel in India	11,24,26
12	Exchange Rate determination – Methods and Techniques	12,25,27
13	Alternate fuel – types and importance	13,28,29

XII-D

Sr.No	TOPICS	ROLL NO
1	Health Expenditure (of any state)	2,17,33
2	Rain Water Harvesting – a solution to water crises	4,20
3	Bumper Production- Boon or Bane for the farmer	7,21
4	Digital India- Step towards the future	9,22
5	Micro and Small Scale Industries	10,23
6	Livestock – Backbone of Rural India	11,24
7	Human Development Index	12,31
8	MGNRAGA – Cost Ratio Benefits	14,32

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**POLITICAL SCIENCE (028)**

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Revise the following units for UT-1 and complete your notebook.

1. End of bipolarity
2. New centers of power.

PROJECT WORK

Every student has to compulsorily undertake one project work. Following Topics for project work are allotted to you according to your roll nos:

TOPICS	ROLL NO
India's Relations with its neighbor	01-05
India's Relations with China	06-10
United Nations in the 21 st Century	11-15
Partition of India	16-20
Indira Gandhi and the National Emergency	21-25
Cold War and Nonaligned Movement	25-30
India -Pakistan Relations	31-35

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**GEOGRAPHY (029)**

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Revise the following chapters:

BOOK 1 (Fundamentals of Human Geography)

1. Human Geography Nature and Scope
2. The World Population Distribution, Density and Growth
3. Population Composition
4. Human Development

BOOK 2 (India People and Economy)

1. Population : Distribution, Density, Growth and Composition

Note: Practice sample board questions as well as graph based and source based questions

MAP WORK

Do practice map work of the chapters (both India and World)

1. State with highest level of urbanization and lowest level of urbanization
2. One state with highest level of HDI & One lowest level of HDI
3. State with higher level of population density & one state with lowest level of population density (2011) and largest country of each continent

PRACTICAL WORK

Do first two chapters of practical work.

1. Data – its source and compilation
2. Data processing

ART ACTIVITY

- ❖ Make a PPT of 10-15 slides on Human Geography.
- ❖ Make a brochure on World population Distribution, Density & Growth
- ❖ Make a poster on Migration.

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**HISTORY (027)**

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Revise the following themes with map work:

1. Bricks, Beads and Bones
2. Kings, Farmers and Towns

Pre-read the following theme:

1. Kingship, Caste and Class

Suggestive Topics for practical:

2. The Indus valley Civilization-archeological excavations and new perspectives
3. The History and Legacy of Mauryan Empire
4. Mahabharata – The great epic of India.

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**BUSINESS STUDIES (054)**

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1. Write 15 very short answer type questions of ch-1 to ch-3.
2. Write 10 short answer type questions with answers of ch-1 to ch-3.
3. Write 10 long answer type questions with answers of ch-1 to ch-3.
4. Do at least 15 case studies each of ch-1 to ch-3.

PROJECT WORK

a) Visit a fast food outlet and observe the application of scientific techniques of management where all observation tools are clearly documented. e.g. worksheets, questionnaire, interviews, organizational chart etc.

-Principles of Management (Roll no.1 to 15)

b) Changes in the pattern of import and export of different products reflecting various economic, social, political, legal and technological changes. Also mention changes as per New Economic Policy 1991.

-Business Environment (Roll no.16 onwards)

ART INTEGRATED ACTIVITY

What is the economic and social impact of changes in the celebrations of festivals in business in India(special mention Tamil Nadu and J&K)Make a PPT using datas, graphs and other relevant things.
