

# SUMMER VACATION



**JYANTI PRASAD DAV PUBLIC SCHOOL**  
GARHI JHANJHARA ROAD, GANAUR  
(UNDER THE DIRECT CONTROL OF DAV CMC, NEW DELHI)



HOLIDAYS' HOMEWORK SESSION:

2025-26

**CLASS: XII SCIENCE**

FOR ANY QUERY CONTACT: 0130-2450641, 9468043075

A fully English medium and the best school in area for  
all round development of students.

**TOGETHER WE CAN**

**FROM JUNE 01, 2025 TO JUNE 30, 2025**

## Dear parents

*We wish you a very happy and fruitful time with your children. Summer vacation is the most awaited time for the students as they want to play, enjoy and relish with their friends, neighbours and relatives. This is a time for them to stay away from the mundane schedule of daily life. They want to enjoy it in leaps and bounds. But we request you to keep their energy channelised. You should be a part of their enjoyment but time and again a check is required. Now it's your responsibility to make them stay connected with their studies along with fun and frolic & encourage them to do their homework in a neat and tidy manner.*

*Here are some of the suggested activities that you can do as a family:*

- 1. Prepare a well-being plan for self.*
- 2. Stick to routines or starting new ones.*
- 3. Get up and go to sleep at regular times.*
- 4. Help them explore new hobbies and interest.*
- 5. Do karaoke, read, solve puzzles, play board games, etc.*
- 6. Keep a gratitude journal. Writing down three things you are grateful for every day. Congratulate yourself and others on having a "MEGA DAY".*
- 7. Take out time for Reading, Music, Dance, Singing, and Laughing.*
- 8. Set Challenges- Encourage each other to take up new activities and complete them.*
- 9. Be Creative with Space- Find a corner in the house and allow yourself and your children to decorate it.*
- 10. Involve your children in household activities also.*
- 11 Learn foreign languages through online courses available.*
- 12. Take them for outing to place of their interest & let them explore the world.*
- 13. Communicate with your children and let them know you fully.*

**As parents you are requested to keep a watchful eye on your children and stop them from engaging in :**

1. Excessive use of mobile phones.
2. Playing online games
3. Spending a lot of time alone away from family members.

Be Safe



*We're doing our homework to make sure we're prepared. - Gary Gait*

**Thomas A. Edison says** “Genius is one percent inspiration and ninety-nine percent perspiration. As a result, a genius is often a talented person who has simply done all of his homework.”

**General Instructions:**

1. Do your Homework in a separate 3 in 1 notebook (classes 1 and 2) & cover it properly.
2. Do your Homework in separate 10 rs/- notebooks subject wise (classes 3 to 12) & cover it properly.
3. Mention your details on your holiday's homework.
4. Start your homework from very beginning of holidays to avoid stress and ensure high quality work as it has been assigned.
5. Dedicate a specific time each day on your homework.
6. Choose a dedicated area that is free from distraction to focus on your work.
7. Present your homework in a neat and logical manner.
8. Use clear handwriting, proper formatting and consistent spacing.

**Note:**

- **The best holiday homework of each class will be awarded.**
- **It is a part of internal assessment for the final examination.**

**Warm Regards**  
**PRINCIPAL**

## **SUBJECT-ENGLISH**

1. Read the following carefully and make a question bank containing at least 100 questions to be used in '**Interclass Quiz Competition**'.

### **Flamingo:**

- Lesson 1- The Last Lesson
- Lesson 2- Lost Spring
- Poem 1- My Mother at Sixty-Six
- Poem 2- Keeping Quiet

### **Vistas:**

- Lesson 1- The Third Level
- Lesson 2- The Tiger King

2. Write a Debate on the topic 'Should Countries Prioritize Counter terrorism efforts or Focus on Addressing the Root Cause of Terrorism'.

3. Write an article on the topic 'Nature has Become Revengeful' in 150-200.

4. You are going to celebrate the 50th marriage anniversary of your grandparents. You want to arrange a grand function. Draft an invitation for the same.

5. Make a catchy & elaborated project (15-20 pages) on any one of the following according to the roll numbers mentioned against each topic:

- a. Indian Mythology: Exploring the rich tradition of Indian mythology and its significance in Indian culture and society. (Roll No. 1-5)
- b. Social Media: Fifth Pillar of Society (Roll No. 6-10)
- c. Cyber Crime: Types, Ways to escape and laws against it (Roll No. 11-15)
- d. Moral Degradation in Indian Youth: Reason, consequences, ways to check etc. (Roll No. 16-20)
- e. Juvenile Delinquency (Roll No. 21-25)
- f. Trolley Problem (Roll No. 26-30)
- g. Old Age Homes (Roll No. 31-36)

6. **Anthology\* Creation:** Each and every student of the class will write a short story or poem (self-composed) based on the theme of 'School, Teachers, Parents and Students'.

**Anthology** is a book that contains pieces of writings like short stories or poems on the same subjects, by different authors.

### **Note:**

Questions 1- 3 are to be done in fair notebook.

Question 3 is to be done on a drawing sheet.

Question 4 is to be done on drawing sheet and should be a creative presentation.

Question 5 is to be done on A4 assignment sheets. (Use good quality of Assignment sheets and file.)

**Question 5 & 6 are to be assessed as final project. Only the presentable and complete ones will be accepted.**

## **SUBJECT -PHYSICS:**

### **DO ALL WORK IN SEPARATE REGISTER**

#### **Chapter 1: Electric Charges and Fields**

##### **1. NCERT Questions:**

- Solve Exercise questions 1.10, 1.14, 1.20, 1.21, 1.23 from NCERT textbook.

**Intext Examples-** 1.5, 1.6, 1.10, 1.11, 1.12

##### **2. Exemplar Problems:**

- Solve problems from Exemplar, focusing on Coulomb's law and electric field, capacitance and electric potential, electric potential energy.

**Read the chapter attentively and find out 5 Assertion Reason based Questions.**

## **Chapter 2: Electrostatic Potential and Capacitance**

### **1. NCERT Questions:**

- Solve Exercise questions 2.1,2.4,2.5,2.8,2.11 from NCERT textbook.
- Discuss the concept of equipotential surfaces and their significance.

**Intext Examples-**2.3,2.4,2.5,2.9

### **2. Exemplar Problems:**

- Solve problems from Exemplar Chapter 2, emphasizing on potential due to point charges and capacitors.

**Read the chapter attentively and find out 5 Assertion Reason based Questions.**

## **Chapter 3: Current Electricity**

### **1. NCERT Questions:**

- Solve Exercise questions 3.3,3.5,3.6,3.7,3.8 from NCERT textbook.
- Discuss the drift velocity concept and its relevance in current electricity.

**Intext Examples-**3.2,3.3,3.4,3.5,3.6,3.7

### **2. Exemplar Problems:**

- Solve problems from Exemplar .
- Explore complex circuit problems to strengthen problem-solving abilities.

**Read the chapter attentively and find out 5 Assertion Reason based Questions.**

### **B.Derive the following derivations.**

- i) Electric field due to dipole at an axial point.
- ii) Electric field due to dipole at equatorial point.
- iii) Torque on an electric dipole in uniform as well as in non uniform electric field.
- iv) Electric potential due to dipole
- v) Potential energy of n charged system in the absence of field and presence of field.
- vi) capacitance of parallel plate capacitor
- vii) Energy stored in capacitor
- viii) Effect of dielectric slab on capacitance of parallel plate capacitor.
- ix) Combination of cells
- x) Relation between Current,drift velocity, relaxation time and Resistance.

**Do complete lab manual.**

### **List of practicals**

#### **SECTION -A**

- 1.To find the resistance of a given wire / standard resistor using a metre bridge.
2. To verify the laws of combination (series) of resistances using a metre bridge.
- 3.. To determine the resistance of a galvanometer by the half-deflection method and to find its figure of merit.
4. To find the frequency of AC mains with a sonometer

#### **SECTION -B**

1. To find the focal length of a convex mirror using a convex lens.
2. To find the focal length of a convex lens by plotting graphs between u and v or between  $1/u$  and  $1/v$ .
3. To find the focal length of a concave lens using a convex lens.
4. To find the refractive index of a liquid using a concave mirror and a plane mirror.

### **List of activities**

#### **Section -A**

1. To measure resistance, voltage (AC/DC), and current (AC) and check the continuity of a given circuit using a multimeter.
2. To assemble a household circuit comprising three bulbs, three (on/off) switches, a fuse and a power source.
- 3.To assemble the components of a given electrical circuit.



## Section-B

1. To observe refraction and lateral deviation of a beam of light incident obliquely on a glass slab.
2. To observe diffraction of light due to a thin slit.
3. To study the nature and size of the image formed by a (i) convex lens, or (ii) concave mirror, on

a screen by using a candle and a screen (for different distances of the candle from the lens/mirror)

## SUBJECT -CHEMISTRY:

1. Prepare investigatory **project** as discussed in class.
2. Complete **lab manual** as per prescribed curriculum.
3. Solve **previous year questions** of Chapter 1,2,6 in fair notebook. **(Atleast 50 in total)**
4. Do **NCERT exercise** of Ch-Haloalkanes and Haloarenes in fair notebook.

### Assignment :1

1. Why does the conductivity of a solution decrease with dilution?
2. Consider the reaction:  $\text{Cr}_2\text{O}_7^{2-} + 14\text{H}^+ + 6\text{e}^- \longrightarrow 2\text{Cr}^{3+} + 7\text{H}_2\text{O}$  What is the quantity of electricity in columbs needed to reduce 1 mol of  $\text{Cr}_2\text{O}_7^{2-}$  to  $\text{Cr}^{3+}$ ?
3. The conductivity of 0.20 M solution of KCl at 298 K is 0.0248 S/cm. Calculate its molar conductivity.
4. Express mathematically relationship among the resistance (R) and specific conductivity ?
5. Why is it not possible to measure the single electrode potential?
6. Why does an aqueous solution of NaI on electrolysis give  $\text{H}_2$  gas at the Cathode and not sodium metal?
7. How much charge is required for the reductions of 1 mol of  $\text{CH}_3\text{NO}_2$  to  $\text{CH}_3\text{NH}_2$ ?
8. Can you store copper sulphate solutions in a zinc pot? Given  $E^\circ \text{Cu}^{2+}/\text{Cu} = 0.34 \text{ V}$   $E^\circ \text{Zn}^{2+}/\text{Zn} = -0.76 \text{ V}$
9. Suggest a way to determine the molar conductivity value of water.
10. If a current of 0.5 ampere flows through a metallic wire for two hours, then how many electrons flow through the wire.

### Assignment2:

<https://edurev.in/t/169724/Previous-Year-Questions--2014-19--Haloalkanes>

## SOLVE QUESTIONS OF HALOALKANES AND HALOARENES

### Assignment 3:

<https://edurev.in/t/169672/NEET-Previous-Year-Questions--2014-20--Solutions>

## **SUBJECT -MATHEMATICS-**

After Making practice in Rough note-book, Do the following questions in Holiday Homework note-book neatly :

Chapter - 3 (Matrices)

Ex.- 3.1 : Q - 3, 4 (i),(iii), 6 (iii), 7, 9, 10

Ex.- 3.2 : Q - 2 (ii), 3 (ii) (v), 7 (ii), 10, 12, 13, 16, 18, 19, 20, 21, 22

Ex.- 3.3 : Q - 3, 4, 5 (i), 8, 10 (all parts)

Misc. Ex. : Full Exercise

Chapter - 4 (Determinants)

Ex.- 4.2 : Full Exercise

Ex.- 4.3 : Q - 3, 4

Ex.- 4.4 : Q - 4, 10, 11, 12, 14, 16, 17, 18

Ex.- 4.5 : Q - 4, 5, 6, 8, 11, 13, 14, 15, 16

Misc. Ex. : Full Exercise

Note : Do all examples of ch. 4 in Holiday Homework Note-book.

Chapter - 2 (Inverse Trigonometric Functions)

Ex.- 2.1 : Full Exercise

Ex.- 2.2 : Full Exercise

Misc. Ex. : Full Exercise

Note: Do all examples of ch. 2 in HH Note-book. Learn all Formulae of this chapter.

Chapter - 5 (Continuity & Differentiability)

Ex.- 5.2 : Full Exercise (except last two questions)

Ex.- 5.3 : Full Exercise

Ex.- 5.5 : Full Exercise

Note : All questions are compulsory. Test will be held of above questions after Summer vacations.

## **SUBJECT-BIOLOGY**

1. Prepare a project based on topics given in your group.

2. Project should be based on the following headings...

-Title of the project Index

-Reason/ relevancy for choosing the topic.

-Introduction of the topic

-Detailed Information of the topic

-Research work/ Case studies

-Conclusion

-Bibliography

3. Prepare your practical record and complete all practical in it.

4. Complete the given assignments in the fair notebook.

### **ASSIGNMENT -1**

Q1. Draw a T. S. of anther and explain it.

Q2. Explain megasporogenesis with diagrams.

Q3. Explain microsporogenesis.

Q4. Draw a labelled diagram of monocot and dicot seed.

Q5. Explain different types of pollination with example.

Q6. List post fertilization changes in angiosperms.

Q7. Define apomixis. How are apomictic seeds useful to farmers?

Q8. What is polyembryony. How is it formed?

Q9. What are cleistogamous flowers? Is cross pollination possible in them? Why or why not?

Q10. What are outbreeding devices? Explain.

Q11. A farmer wants to stop inbreeding depression in one of the plants. What method should he adopt to prevent it? Explain.

Q12. Give some characteristics of insect pollinated & wind pollinated flowers.

Q13. How does Vallisneria & hydrilla pollinate? Mention the process in brief.

**ASSIGNMENT:**

- Q1. Compare between oogenesis and spermatogenesis.
- Q2. Explain menstrual cycle in human females.
- Q3. Explain events of fertilization in humans.
- Q4. Define implantation and its events.
- Q5. How does placenta work as an endocrine tissue?
- Q6. What is colostrum? How is it important?
- Q7. Explain ART & its various methods.
- Q8. Removal of gonads is not considered as a good contraceptive method. Why?
- Q9. What are different types of contraceptives? Explain with working & example of each.
- Q10. What is amniocentesis? Why is it banned?
- Q11. What are the reasons of population explosion in India?
- Q12. Draw a well labelled diagram of human gametes.
- Q13. Define the following terms: Menarche, Gastrulation, Parturition, Lactational amenorrhea
- Q14. What is MTP? Under what conditions, should it be allowed?
- Q15. Mention the function of the followings in humans  
Ovary, Prostate gland, Epididymis, Leydig cells, Umbilical cord & Amniotic fluid

**SUBJECT- Physical education**

1. Make proper notes of unit 1, 2 , and 3 on your notebook .
2. Complete your practical file according to your class syllabus.

Do practice of all yoga asanas daily as mentioned in your syllabus.

**SUBJECT -INFORMATICS PRACTISE**

1. The count() function in MySql is an example of \_\_\_\_\_.
2. Write the output of the following SQL command  
select truncate(45.87,-1);
3. \_\_\_\_\_ is a network device used for modulation and demodulation of signals.
4. Write the SQL command that will display all database's names.
5. The \_\_\_\_\_ command can be used to make changes in the columns of a table in SQL.
6. Consider the table STUDENT given below:

RollNo	Name	Class	DOB	Gender	City	Marks
1	Anand	XI	6/6/97	M	Agra	430
2	Chetan	XII	7/5/94	M	Mumbai	460
3	Geet	XI	6/5/97	F	Agra	470
4	Preeti	XII	8/8/95	F	Mumbai	492
5	Saniyal	XII	8/10/95	M	Delhi	360
6	Maakhiy	XI	12/12/9	F	Dubai	256
7	Neha	X	8/12/95	F	Moscow	324

- (i) Write the command to display the name of the oldest student?
- (ii) State the command to display the average marks scored by students of each gender who are in class XII?
- (iii) Kavita has given the following command to obtain the lowest marks:-



Select max(marks) from student where group by class;

but she is not getting the desired result. Help her by writing the correct command.

(iv) Write the output of following command:-

Select RollNo,Marks from student order by DOB;

(v) State the output of following command :-

Select round(456.34,1) from student where class = 'XI';

7. Consider the following DataFrame **df** and write python command for any four questions from (i)-(v)

	<u>Color</u>	<u>Coun</u> <u>t</u>	<u>Price</u>
Apple	Red	24	20
Apple	Green	17	19
Pear	Red	22	18
Pear	Green	20	24
Lime	Green	20	18

- (i) Find all the rows with the label "Apple". Extract all columns.
- (ii) List fruits with count more than 17.
- (iii) List single True or False to signify if all prices are more than 10 or not.
- (iv) List 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> rows.
- (v) List only columns Color and Price using loc.

8. Consider the decimal number x with value 5236.5478. Write commands in SQL to:-

- i. round it off to a whole number
- ii. round it to 3 places **before** the decimal.

9. John writes the following commands with respect to a table employee having fields, empno, name, department, commission.

Command1 : Select count(\*) from employee;

Command2: Select count(commission) from employee;

He gets the output as 4 for the first command but gets an output 3 for the second command. Explain the output with justification.

10. Consider the following SQL string: "Coordinator"

Write command to display :-

- a. ORD
- b. the position of the substring 'nat' in the given string.

11. Consider the same string : "Coordinator"

Write command to display :-

- a. the last 4 letters of the string
- b. number of character in the string

12. A relation “CAR” is given below :

V_no	Type	Company	Price	Qty
AW125	Wagon	Maruti	250000	25
J0083	Jeep	Mahindra	4000000	15
S9090	SUV	Mitsubishi	2500000	18
M0892	Mini van	Datsun	1500000	26
W9760	SUV	Maruti	2500000	18
R2409	Mini van	Mahindra	350000	15

Write SQL commands to:

- Display the maximum price of each type of vehicle having quantity less than 30.
- Count the type of vehicles manufactured by each company.
- Display the average price of all the types of vehicles.

13. Write a program in Python Pandas to create the following DataFrame Student from a Dictionary:

RNO	Name	Term1	Term2
1	Ravi Kishan	90	80
2	Geeta Goel	65	45
3	Shiv Kumar	70	90
4	Shyam Garg	80	76

Perform the following operations on the DataFrame :

- Add the Marks of both terms of the student and assign to column “Total”.
- Display the lowest score in both Term1 and Term2 of the DataFrame.
- Display the Dataframe.

14. Write the SQL functions which will perform the following operations:

- To display the name of the month of the current date .
- To remove spaces from the beginning and end of a string, “ Panorama “.
- To display the name of the day eg, Friday or Sunday from your date of birth, dob.
- To display the starting position of your first name(fname) from your whole name(name).
- To compute the remainder of division between two numbers, n1 and n2

15. Consider the following table “GYM” :-

ICODE	INAME	PRICE	OPENING DATE	BRANDNAME
G1	Power Fit Exercise	20000	29-10-2019	Power Gynea
G2	Aqufit Hand Grip	1800	13-03-2018	Reliable
G3	Cyber Bike	14000	18-03-2017	Ecobike
G4	Protoner Extreme Gym	30000	31-12-2018	Coscore
G5	Message Belt	5000	23-01-2010	Message Expert

Write SQL queries using SQL functions to perform the following operations:

- Display brand name and price after rounding off to zero decimal places.
- Display the seven characters from item name starting from fifth character.
- Display the position of occurrence of the string “ik” in item names.

- d. Display the month name for the opening date of Gym in capital letters.
- e. Display the name of the weekday for the opening date of Gym in small letter

## **Assignment – 2**

1. Write outputs for SQL queries (i) to (iii) which are based on the given table  
Table COURSE:

CID	CNAME	FEES	STARTDATE	TID
C201	AGDCA	12000	2018-07-02	101
C202	ADCA	15000	2018-07-15	103
C203	DCA	10000	2018-10-01	102
C204	DDTP	9000	2018-09-15	104
C205	DHN	20000	2018-08-01	101
C206	O LEVEL	18000	2018-07-25	105

- i. SELECT LENGTH(CNAME) FROM COURSE WHERE  
FEES<10000;
- ii. SELECT CNAME FROM COURSE WHERE  
MONTH (STARTDATE)=8;
- iii. SELECT MOD (FEES, DAY(STARTDATE)) FROM Course  
WHERE ID=104;

Consider the given table Faculty, write suitable SQL queries for the following:

Faculty_Id	First_name	Last_name	Hire_date	Salary
101	Sarika	Mishra	12-10-1997	25000
102	Naveen	Vyas	23-12-1994	18000
103	Rakesh	Sharma	25-08-2003	32000
104	Rashmi	Malhotra	18-09-2004	21000
105	Amit	Srivastava	05-06-2007	28000

Write SQL command to:

- a. To display details of those faculty members whose First\_name ends with 't'.
- b. Display all records in descending order of Hire\_date.
- c. Find the maximum and minimum salary.

Q Discuss the significance of Order by clause in detail with the help of suitable example.

2. Write suitable SQL query for the following:

- i. Display 5 characters extracted from 3<sup>th</sup> left character onwards from the string 'INDIA RISING'.
- ii. Display the position of occurrence of string 'FUNDA' in the string 'PYTHON FUNDAMENTALS'.
- iii. Round off the value 453.668 to two decimal place.
- iv. Display the remainder of 120 divided by 7.
- v. Remove all the expected leading and trailing spaces from a column student\_id of the table **'student'**.

Explain the following SQL functions using suitable examples.

- i. LCASE()
- ii. TRIM()
- iii. SUBSTR()
- iv. MONTHNAME()
- v. TRUNCATE()

### **SUBJECT -MUSIC**

Prepare practical File

1 Tanpure ka itihaas

2 Rupak Taal

3. Taal Jhaptaal

4. Dhamar taal

5. Raag bhairav

6. Raag Bageshree

7. Raag malkouns

8. Bade Ghulam Ali Khan

9. Faiyaaz khan

10. Pandit Krishan rao shankar

